APPENDIX A

Notice of Preparation (NOP), Initial Study, Scoping Meeting Materials, and NOP and Scoping Meeting Comments

ESA

A-1 Notice of Preparation

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

NOTICE OF PREPARATION

OF ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING

June 30, 2017

CASE NO.: ENV-2016-4676-EIR
PROJECT NAME: Times Mirror Square
PROJECT APPLICANT: Onni Times Square LP
PROJECT ADDRESS: 121, 145, 147 S. Spring Street; 100, 102, 106, 108, 110, 118, 120, 124, 126, 128, 130, 140, 142 S. Broadway; 202, 212, 214, 220, 224, 228, 230, 234 W. 1st Street; 205, 211, 221 W. 2nd Street, Los Angeles, California 90012
COMMUNITY PLANNING AREA: Central City Community Plan Area
COUNCIL DISTRICT: 14 - Huizar
PUBLIC COMMENT PERIOD: June 30, 2017 – July 31, 2017
SCOPING MEETING: 5:00 P.M.–7:00 P.M., July 25, 2017. See below for additional information.

The City of Los Angeles (City) intends to prepare an Environmental Impact Report (EIR) for the proposed Times Mirror Square Project (Project). In accordance with Section 15082 of the California Environmental Quality Act (CEQA) Guidelines, the City has prepared this Notice of Preparation to provide the public, nearby residents and property owners, responsible agencies, and other interested parties with information regarding the Project and its potential environmental effects. The EIR will be prepared by outside consultants under the supervision of the City of Los Angeles, Department of City Planning.

The City requests your written comments as to the scope and contents of the EIR, including mitigation measures or project alternatives to reduce potential environmental impacts from the project. Comments must be submitted in writing according to directions below. If you represent a public agency, the City seeks written comments as to the scope and content of the environmental information in the EIR that are germane to your agency's statutory responsibilities in connection with the project. Your agency may need to use the EIR prepared by the City when considering your permit or other approval for the project.

A Public Scoping Meeting will be held to receive input as to what environmental topics the EIR should study. No decisions about the project are made at the Public Scoping Meeting. Additional project details, meeting information, and instructions for public comment submittal are listed below.

PROJECT LOCATION AND EXISTING ON-SITE USES: The Project Site is located on an approximately 3.6-acre (five parcels totaling approximately 160,578 square feet [sf]) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway in the Center City/Historic Core District of Downtown Los Angeles. This district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets, includes Los Angeles City Hall, Los Angeles County courts and law library, federal offices and courts, LAPD Headquarters, Caltrans Regional Offices, Grand Park, and other civic facilities. The Project Site is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building, resulting in a total of approximately 559,863 sf (See attached Project Location Map).

PROJECT DESCRIPTION: The Project would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 376,105 sf of offices and/or other retail and commercial uses, including an approximately 50,000 sf grocery store. These three buildings are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the Site and construct two mixed-use towers (North and South Towers).

The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include approximately 34,572 sf of retail uses, which would be located at ground level. With the addition of retail uses, total new construction would amount to 1,135,803 sf. Inclusive of the existing buildings to be retained and rehabilitated, the project would include a total of 1,511,908 sf of floor area for a resulting floor-area ratio (FAR) of approximately 9.42:1.

The Project would include a pedestrian paseo constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. Approximately 72,902 sf of common open space, including the approximately 15,708 sf paseo, would be provided as part of the North and South Towers component. With the addition of approximately 56,349 sf of private balconies, combined private and common open space would be approximately 129,477 sf.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023.

Existing Uses

Existing Uses	Existing Square-Footage
Commercial Land Uses	
Executive Building	
Office*	176,258 sf
Bank*	7,500 sf
Executive Building Subtotal	*183,758 sf*
Times Building	
Office	116,113 sf
Times Building Subtotal	*116,113 sf*
Mirror Building	
Office	169,402 sf
Mirror Building Subtotal	*169,402 sf*
Plant Building	
Cafeteria	11,250 sf
Office	79,340 sf
Plant Building Subtotal	*90,590 sf*
Total	**559,863 sf**
*Indicates uses to be removed. The existing Executive Building at the corner of W. 1st Street and S. Broadway and the parking structure at the corner of W. 2nd Street and S. Broadway would be demolished. The Times, Mirror, and Plant Building would be retained and rehabilitated, and would contain the mix of uses specified below in the Proposed Uses table.	

Proposed Uses

Proposed Uses	Maximum Size
North and South Towers	
Commercial Land Uses	
Retail	34,572 sf
Total Commercial	**34,572 sf**
Residential Land Uses	
	1,127 units
Total Residential	**1,127 units /1,101,231 sf**
Total Proposed Floor Area (New Construction)	**1,135,803 sf**
Times, Plant and Mirror Buildings Rehabilitation	
Commercial Uses	
Office	285,088 sf
Ground-floor Restaurant	18,817 sf
Upper-floor Restaurant	22,200 sf
Grocery Store	50,000 sf
Total Commercial (Times, Plant and Mirror Rehabilitation)	**376,105 sf**
Total Proposed Project Floor Area	**1,511,908 sf**
Open Space	
Level 1 – Paseo/Plaza	15,708 sf
Level 1 – Lounge (North Tower)	1,270 sf
Level 1 – Lounge (South Tower)	1,755 sf
Level 6 – Amenity (North Tower)	13,331 sf
Level 6 – Amenity (South Tower)	12,287 sf
Level 6 – Garden Plaza	28,777 sf
Private Balconies	56,349 sf
Total Open Space	**129,477 sf**

REQUESTED PERMITS/APPROVALS: The project applicant is requesting the following entitlements from the City of Los Angeles:

(1) Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site);
(2) Vesting Conditional Use Permit to permit floor averaging within a unified development;
(3) Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces;
(4) Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (LAMC Sec. 17.15). The Applicant is requesting to provide parking per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums;
(5) Construction permits, including building, grading, excavation, foundation, and associated permits;
(6) Haul Route Permit, as may be required; and

(7) Other approvals and permits as needed.

POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROJECT: Based on an Initial Study, the proposed project could have potentially significant environmental impacts in the following topic areas, which are to be addressed in the EIR: Air Quality, Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services, Recreation, Transportation and Traffic, Tribal Cultural Resources, and Utilities and Service Systems.

PUBLIC SCOPING MEETING: A Public Scoping Meeting will be held in **an open house format** to share information regarding the proposed project and the environmental review process and to receive written public comments regarding the scope and content of the environmental analysis to be addressed in the EIR. City staff, environmental consultants, and project representatives will be available, but no formal presentation is scheduled. You may stop by at any time between 5:00 P.M. and 7:00 P.M. to view materials, ask questions, and provide written comments. The City encourages all interested individuals and organizations to attend this meeting. Written comments may be submitted, but there will be no verbal comments or public testimony taken at the Scoping Meeting. No decisions about the project will be made at the Scoping Meeting. A separate public hearing for Municipal Code entitlement requests, will be scheduled after the completion of the EIR. The date, time, and location of the public scoping meeting are as follows:

Date: **Tuesday, July 25, 2017**

Time: **5:00 P.M. – 7:00 P.M.**

Location: Ronald F. Deaton Civic Auditorium
LAPD Police Administration Building
100 W. 1st Street
Los Angeles, CA 90012

Paid parking is available at: 200 S. Spring Street, Los Angeles, CA 90012.

FILE REVIEW AND COMMENTS: The enclosed materials reflect the scope of the project. The environmental file is available for public review at the City of Los Angeles, Department of City Planning, 200 N. Spring Street, Room 750, Los Angeles, CA 90012, during office hours Monday - Friday, 9:00 A.M. - 4:00 P.M. A copy of this notice and the Initial Study prepared for the project may be viewed with the environmental file or online at http://planning.lacity.org by clicking on the "Environmental Review" tab, then "Notice of Preparation & Public Scoping Meetings".

The City will consider all written comments regarding the potential environmental impacts of the project and issues to be addressed in the EIR. **Written comments must be submitted to this office by 4:00 pm, July 31, 2017.** Written comments will also be accepted at the scoping meeting described above.

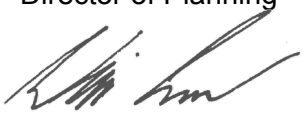
Please direct your comments to:

Mail: William Lamborn
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 750
Los Angeles, CA 90012
E-mail: William.lamborn@lacity.org

ACCOMMODATIONS: As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability. The Public Scoping Meeting facility and its parking are wheelchair accessible. Sign language interpreters, assistive listening devices, or other auxiliary aids and/or services may be provided upon request. Other services, such as translation between English and other

languages, may also be provided upon written request submitted a minimum of seven (7) working days in advance to: per.planning@lacity.org. Be sure to identify the language you need English to be translated into, and indicate if the request is for oral or written translation services. If translation of a written document is requested, please include the document to be translated as an attachment to your email.

VINCENT P. BERTONI, AICP
Director of Planning



William Lamborn
Major Projects Section
Department of City Planning
(213) 978-1470

Attachments:
Project Location Map & Scoping Meeting Location
Existing On-Site Uses
Project Site Plan

Puede obtener información en Español acerca de esta junta llamando al (213) 978-1300.



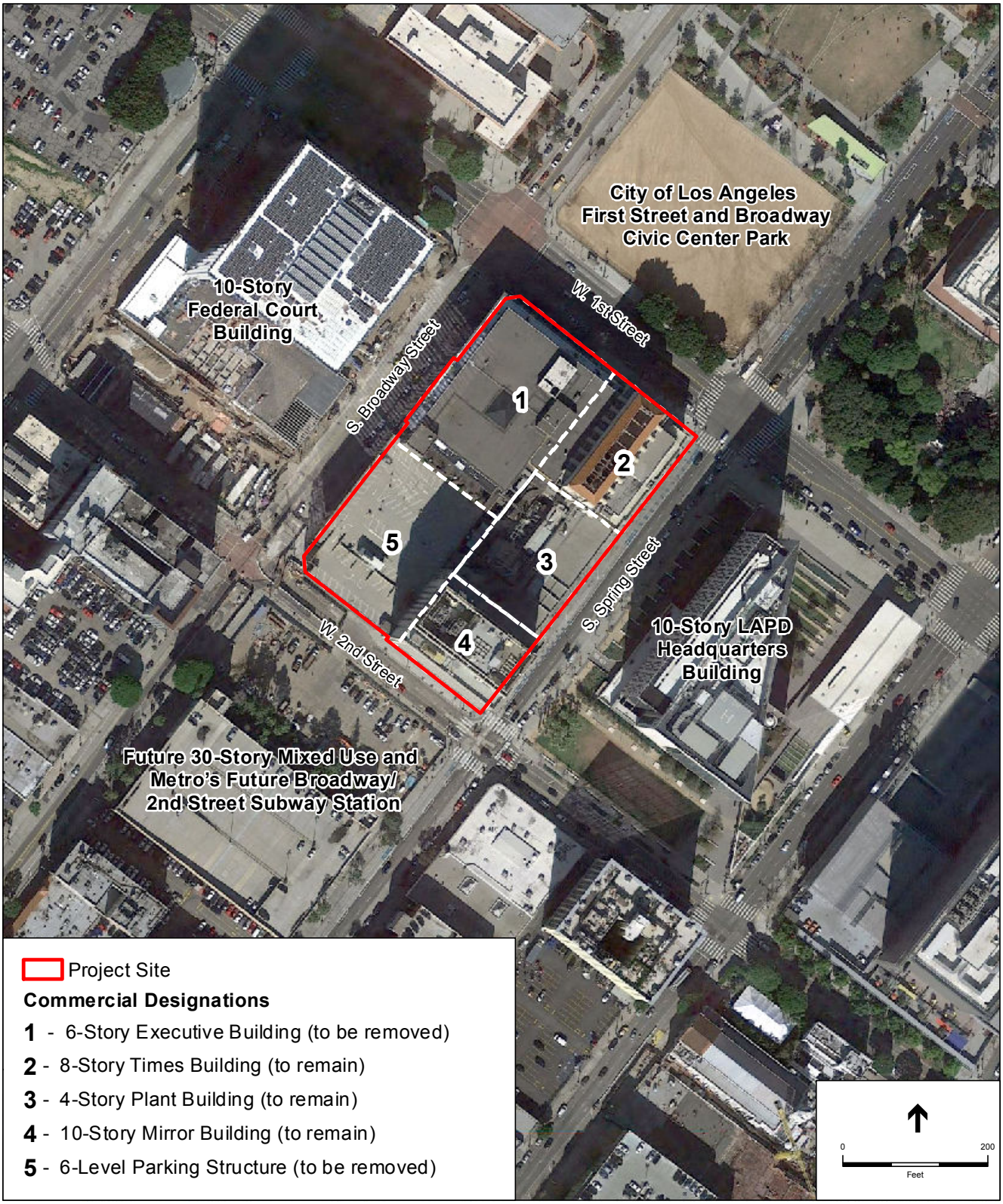
SOURCE: Open Street Map, 2016.

Times Mirror Square Project

Exhibit 1

Project Location Map and Scoping Meeting Location

ESA PCR



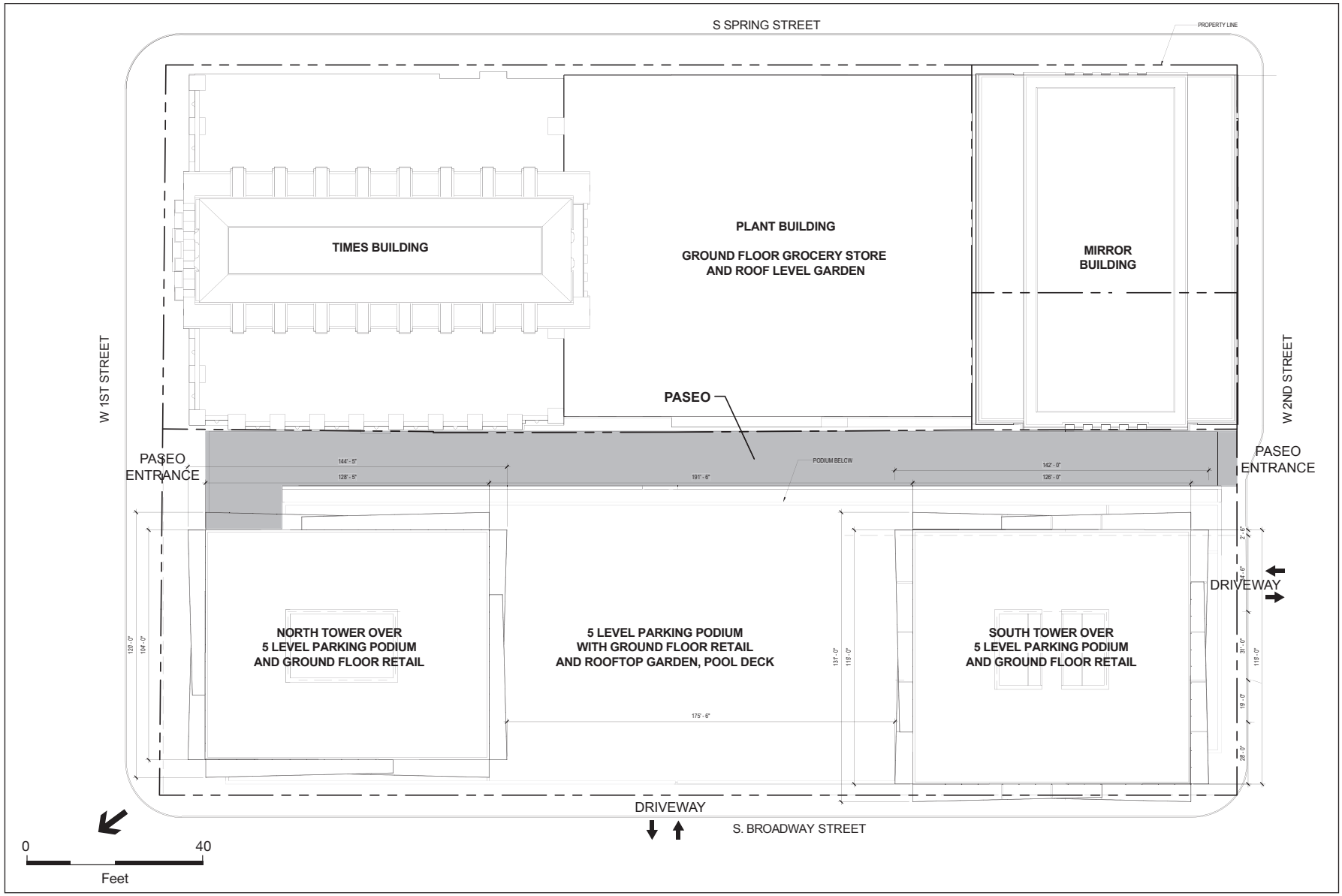
SOURCE: Google Maps, 2016 (Aerial), ESA PCR, 2017

Times Mirror Square Project

Exhibit 2

Existing On Site Uses

ESA PCR



SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Exhibit 3

Project Site Plan

ESA PCR

A-2 Initial Study

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
CITY HALL 200 NORTH SPRING STREET LOS ANGELES CA 90012

INITIAL STUDY

Times Mirror Square Project

Case Number: ENV-2016-4676-EIR

Project Addresses: 121, 145, 147 S. Spring Street; 100, 102, 106, 108, 110, 118, 120, 124, 126, 128, 130, 140, 142 S. Broadway; 202, 212, 214, 220, 224, 228, 230, 234 W. 1st Street; 205, 211, 221 W. 2nd Street, Los Angeles, California 90012

Community Plan Area: Central City

Council District: 14 - Huizar

Project Description: The Times Mirror Square Project would develop a new mixed-use development and rehabilitate the Times, Plant, and Mirror Buildings on the approximately 3.6-acre city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway Street in the Center City/Historic Core District of Downtown Los Angeles (Project). New development, consisting of the 37-story "North Tower" and 53-story "South Tower" would be located in the west sector of the block, which is oriented toward S. Broadway, with frontages on W. 1st Street and W. 2nd Street. The existing Executive Building at the corner of W. 1st Street and S. Broadway and parking garage at the corner of W. 2nd Street and S. Broadway would be demolished to allow for the development of the Project's new mixed-use component (North and South Towers). The North and South Towers, which would be constructed above a five-story parking podium, would contain a total of approximately 1,127 residential units and approximately 34,572 square feet of commercial floor area. The parking podium would be an above-ground structure forming the streetfront of the new development and base for the residential towers. The space below the podium would contain an additional nine levels of subterranean parking. The combined commercial and residential floor area would total approximately 1,135,803 square feet. The existing Times, Plant, and Mirror Buildings have a combined floor area of 376,105 square feet. In total, including new construction and existing buildings to remain, the Project proposes approximately 1,511,908 square feet of floor area. This would result in a floor area ratio (FAR) of 9.42:1 Please see Attachment A for further detail.

PREPARED FOR:
The City of Los Angeles
Department of City Planning

PREPARED BY:
ESA PCR

APPLICANT:
Onni Times Square LP

June 2017

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CITY OF LOS ANGELES

OFFICE OF THE CITY CLERK
ROOM 360, CITY HALL
LOS ANGELES, CALIFORNIA 90012

CALIFORNIA ENVIRONMENTAL QUALITY ACT

INITIAL STUDY
AND APPENDIX G CHECKLIST

LEAD CITY AGENCY	COUNCIL DISTRICT	DATE
City of Los Angeles, Department of City Planning	14	June 30, 2017

RESPONSIBLE AGENCIES

City of Los Angeles, Department of City Planning

PROJECT TITLE/NO.	CASE NO.
Times Mirror Square	ENV-2016-4676-EIR

PREVIOUS ACTIONS CASE NO.	
N/A	☐ DOES have significant changes from previous actions. ☒ DOES NOT have significant changes from previous actions.

PROJECT DESCRIPTION:

The Project proposes to construct a new mixed-use development and to rehabilitate the Times, Plant, and Mirror Buildings on the approximately 3.6-acre city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway Street in the Center City/Historic Core District of Downtown Los Angeles ("Project"). New development, consisting of the 37-story "North Tower" and 53-story "South Tower" would be located in the west sector of the block, which is oriented toward S. Broadway, with frontages on W. 1st Street and W. 2nd Street. The existing Executive Building at the corner of W. 1st Street and S. Broadway and parking garage at the corner of W. 2nd Street and S. Broadway would be demolished to allow for the development of the Project's new mixed-use component. The North and South Towers, which would be constructed above a 5-story parking podium, would contain a total of approximately 1,127 residential units and approximately 34,572 square feet of commercial floor area. The parking podium would be an above-ground structure forming the street front of the new development and base for the residential towers. The space below the podium would contain an additional nine levels of subterranean parking. The combined commercial and residential floor area would total approximately 1,135,803 square feet. The existing Times, Plant, and Mirror Buildings have a combined floor area of 376,105 square feet. In total, including new construction and existing buildings to remain, the Project proposes approximately 1,511,908 square feet of floor area. This would result in a floor area ratio ("FAR") of 9.42 on the 3.6-acre site.

An open-to-the-sky pedestrian paseo ("Paseo") leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the renovated Times, Plant, and Mirror Buildings. The First and Broadway Civic Center Park would be visible from throughout the Paseo. Ground level retail uses would be located along the Paseo and along the base of the parking podium facing W. 1st Street, S. Broadway, and W. 2nd Street. A 50,000-square-foot grocery store would be accessed via the Paseo and the location of the original loading docks on S. Spring Street. The Project anticipates the re-use of the Times, Plant, and Mirror Buildings for office, retail, and restaurant purposes appropriate to the Downtown setting, and as the location of the grocery store.

The Project Site is zoned C2-4D-SN, which permits general commercial and multi-family residential uses. The 4D Height District establishes a Floor Area Ratio (FAR) of 6.0:1, but does not specifically limit building heights. The Project Site is also located within the Central City TFAR area, Greater Downtown Housing Incentive Area, Downtown Adaptive Reuse Area, Downtown Design Guide Project area, and the Central City and Downtown parking districts. The Downtown TFAR designation allows for the transfer of floor area rights from a donor site to increase FAR over the existing zoning designation. The Greater Downtown Housing Incentive Area was established to encourage the construction of new, economically diverse urban infill housing. The Project Site is also located within a Transit Priority Area (TPA) because of proximity to Metro's Civic Center/Grand Park Station, located approximately 750 feet to the northwest, and directly across W. 2nd Avenue from Metro's 2nd Street/Broadway Station, one of the three stations on Metro's Regional Connector Line, currently under development.

The entitlements being requested for the Project include, but may not be limited to, the following:

- Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site) (LAMC Sec. 14.5.6-B).
- Vesting Conditional Use Permit to permit floor averaging within a unified development (LAMC Sec. 12.24-W,19).
- Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces (LAMC Sec. 12.24-W,1).
- Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (LAMC Sec. 17.15). The Applicant is requesting to provide parking per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums.
- Construction permits, including building, grading, excavation, foundation, and associated permits.
- Haul Route Permit, as may be required.
- Other approvals as needed.

ENVIRONMENTAL SETTING:

The Project Site is located within the northern portion of the City of Los Angeles Center City/Historic Core. This district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets, includes Los Angeles City Hall, Los Angeles County courts and law library, federal offices and courts, LAPD Headquarters, CalTrans Regional Offices, Grand Park, and other civic facilities. The Project Site is currently developed with five buildings, including the Times Building, Mirror Building, Plant Building, Executive Building, and a six-level parking structure. The Times, Mirror, and Plant Buildings are listed in the National Register of Historic Places and the California Register of Historic Places. The Mirror Building was also recommended as eligible at the local level through SurveyLA. The City's Historic Core, which is centered on S. Spring Street and S. Broadway, forms the spine through the Downtown that links the Financial District and Bunker Hill to the west, South Park and the Convention Center to the south, the South Markets to the southeast, and Little Tokyo and the Arts District to the east. The Downtown area is characterized by a concentration of government-related uses, high- and mid-rise office buildings, residential buildings, hotels, retail uses, museums, and cultural districts, including the "Arts" and "Markets" districts. The Historic Core/Center City also contains a concentration of architecturally significant buildings, including a number of nationally recognized historic theater buildings, Los Angeles City Hall, Walt Disney Concert Hall, and buildings within the Project Site.

PROJECT LOCATION:

100 S. Broadway, Los Angeles, CA 90012

PLANNING DISTRICT	**STATUS:**
Central City Community Plan	☐ **PRELIMINARY** ☐ **PROPOSED** ☒ **ADOPTED**

EXISTING ZONING	**MAX. DENSITY ZONING**	☒ **DOES CONFORM TO PLAN**
C2-4D-SN	FAR of 6.0:1 (based on Height District 4D)	
GENERAL PLAN LAND USE & ZONE(S)	**MAX. DENSITY PLAN**	☐ **DOES NOT CONFORM TO PLAN**
Regional Center Commercial	FAR of 6.0:1 (Land Use Map Footnote 3, allows floor area up to 10.0:1 or 13.0:1, with transfer of floor area.)	
SURROUNDING LAND USES	**PROJECT DENSITY**	☐ **NO DISTRICT PLAN**
See Attachment A, Project Description, for further discussion.	FAR 9.42:1	

☞ **DETERMINATION (To be completed by Lead Agency)**

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions on the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



SIGNATURE

__City Planning Associate_____

TITLE

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less that significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of a mitigation measure has reduced an effect from "Potentially Significant Impact" to "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described in (5) below, may be cross referenced).

5) Earlier analysis must be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR, or negative declaration. Section 15063 (c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated

7) Supporting Information Sources: A sources list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whichever format is selected.

9) The explanation of each issue should identify:

    a) The significance criteria or threshold, if any, used to evaluate each question; and

    b) The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☒ Hazards & Hazardous Materials	☒ Public Services
☐ Agriculture and Forestry Resources	☒ Hydrology/Water Quality	☒ Recreation
☒ Air Quality	☒ Land Use/Planning	☒ Transportation/Traffic
☐ Biological Resources	☐ Mineral Resources	☒ Tribal Cultural Resources
☒ Cultural Resources	☒ Noise	☒ Utilities/Service Systems
☒ Geology/Soils	☒ Population/Housing	☒ Mandatory Findings of Significance
☒ Greenhouse Gas Emissions		

INITIAL STUDY CHECKLIST (To be completed by the Lead City Agency)

☞ **BACKGROUND**

PROPONENT NAME	**PHONE NUMBER**
Onni Times Square LP	(213) 629-2041

PROPONENT ADDRESS

315 W. 9th Street, Suite 801, Los Angeles, CA 90015

AGENCY REQUIRING CHECKLIST	**DATE SUBMITTED**
City of Los Angeles, Department of City Planning, Major Projects Section	June 30, 2017

PROPOSAL NAME (If Applicable)

Times Mirror Square

☞ **ENVIRONMENTAL IMPACTS** (Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒
II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b. Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, PM_{10}, and $PM_{2.5}$**)** under an applicable federal or state ambient air quality standard?	☒	☐	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e. Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California of Fish and Game or U.S. Fish and Wildlife Service ?	☐	☐	☐	☒
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES: Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?	☒	☐	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
VI. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, caused in whole or in part by the project's exacerbation of existing environmental conditions. Refer to Division of Mines and Geology Special Publication 42.	☒	☐	☐	☐
ii. Strong seismic ground shaking caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☒	☐	☐	☐
iii. Seismic-related ground failure, including liquefaction caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☒	☐	☐	☐
iv. Landslides caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☐	☐	☐	☒
b. Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☒	☐	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property caused in whole or in part by the project's exacerbation of the existing environmental conditions?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
VII. GREENHOUSE GAS EMISSIONS. Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☒	☐	☐	☐
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment caused in whole or in part from the project's exacerbation of existing environmental conditions?	☒	☐	☐	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project have the potential to exacerbate current environmental conditions so as to result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project have the potential to exacerbate current environmental conditions so as to result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands, caused in whole or in part from the project's exacerbation of existing environmental conditions?	☐	☐	☐	☒
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned land uses for which permits have been granted)?	☐	☐	☒	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in an manner which would result in flooding on- or off site?	☒	☐	☐	☐
e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
f. Otherwise substantially degrade water quality?	☒	☐	☐	☐
g. Place housing within a 100-year flood hazard area as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j. Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒
X. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?	☐	☐	☒	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☒	☐	☐	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒
XI. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒
XII. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☒	☐	☐	☐
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
XIII. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☒	☐	☐	☐
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIV. PUBLIC SERVICES. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	☒	☐	☐	☐
b. Police protection?	☒	☐	☐	☐
c. Schools?	☒	☐	☐	☐
d. Parks?	☒	☐	☐	☐
e. Other public facilities?	☒	☐	☐	☐
XV. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☒	☐	☐	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☒	☐	☐	☐
XVI. TRANSPORTATION/TRAFFIC. Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Result in inadequate emergency access?	☒	☐	☐	☐
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☒	☐	☐	☐
XVII. TRIBAL CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k)?	☒	☐	☐	☐
b. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	☒	☐	☐	☐
XVIII. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☒	☐	☐	☐
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☒	☐	☐	☐
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☒	☐	☐	☐

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☒	☐	☐	☐
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☒	☐	☐	☐
g. Comply with federal, state, and local statutes and regulations related to solid waste?	☒	☐	☐	☐
XVX. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☒	☐	☐	☐
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

☞ DISCUSSION OF THE ENVIRONMENTAL EVALUATION (Attach additional sheets if necessary)

PREPARED BY	TITLE	TELEPHONE #	DATE
Jay Ziff ESA PCR 233 Wilshire Blvd., Ste. 150 Santa Monica, CA 90401	Principal Associate	(310) 451-4488	June 30, 2017

INITIAL STUDY

Attachment A: Project Description

A. Introduction

The Project proposes to develop the Times Mirror Square Project (Project) which would include construction of two new mixed-use towers along with rehabilitation of three existing buildings, including an eight-story building (Times Building), a four-story building (Plant Building) and a 10-story building (Mirror Building) within the Times Mirror Square site. The Times Mirror Square site (Project Site) comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. The Project Site totals approximately 160,578 square feet of lot area or approximately 3.6 acres. The proposed rehabilitated buildings, the Times, Plant, and Mirror Buildings, which have a total existing floor area of approximately 376,105 square feet, are located in the east sector of the block aligned with S. Spring Street, with frontages on W. 1st Street and W. 2nd Street. New development, consisting of the 37-story "North Tower" and 53-story "South Tower", would be constructed in the west sector of the block, which is aligned with S. Broadway with frontages on W. 1st Street and W. 2nd Street. The existing Executive Building at the corner of W. 1st Street and S. Broadway and the parking structure at the corner of W. 2nd Street and S. Broadway would be demolished to allow for the development of the Project towers. The North and South Towers, which would be constructed above a five-story parking podium (Podium), would contain a total of approximately 1,127 residential units, approximately 34,572 square feet of commercial floor area, and a combined floor area of approximately 1,135,803 square feet.[1] The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. Ground level retail uses would be located along the base of the Podium facing W. 1st Street, S. Broadway, and W. 2nd Street, and the Paseo.

1 Project Floor Area numbers throughout this section are calculated in accordance with Los Angeles Municipal Code Section 12.03, unless otherwise noted.

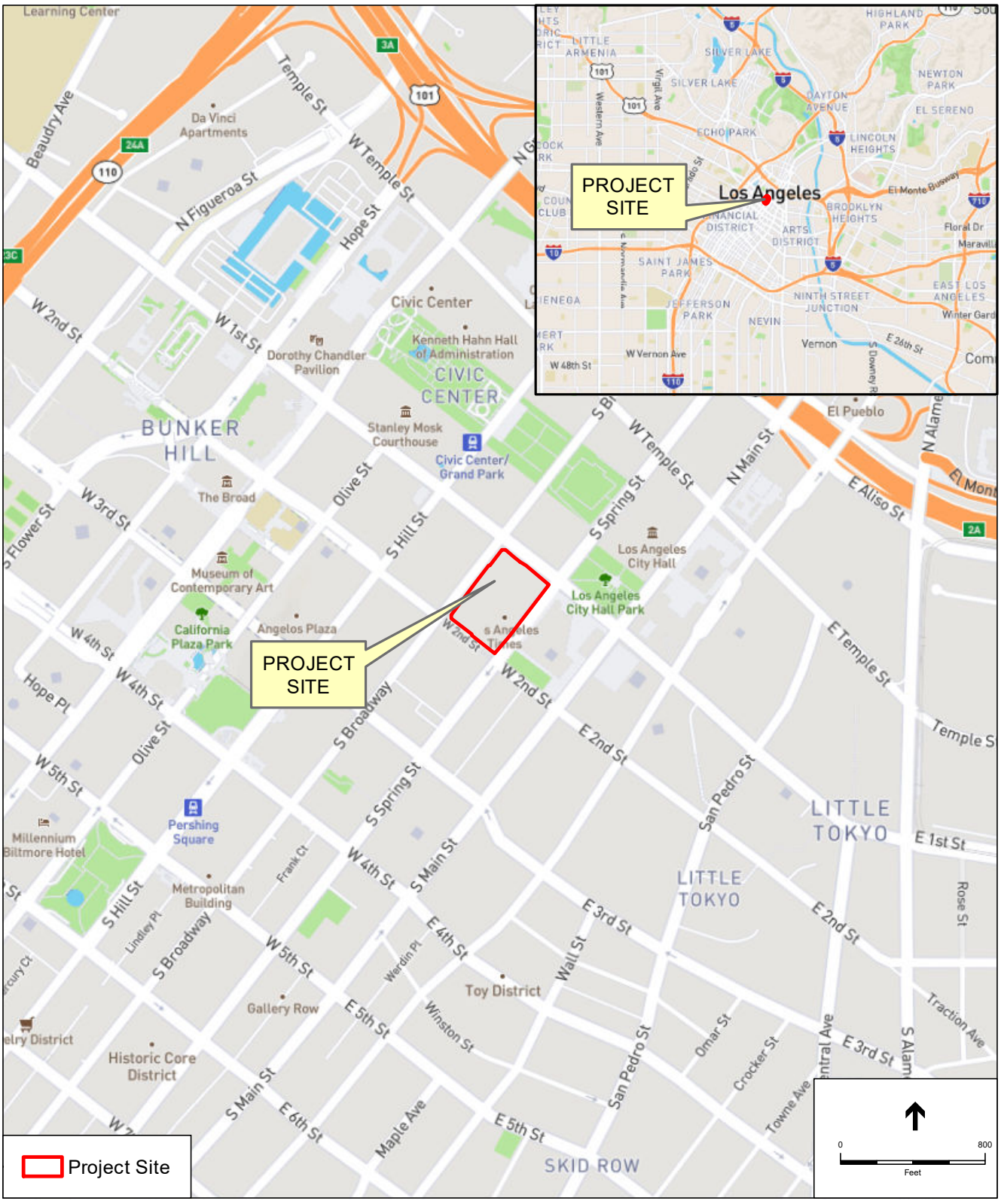
B. Project Location and Surrounding Uses

The Project Site, bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway, is located within the northern portion of the City of Los Angeles (City) Central City Community Plan Center City/Historic Core district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets. As discussed in the Central City Community Plan, the Historic Core, which is centered on S. Spring Street and S. Broadway, forms the spine through Downtown that links the Financial District and Bunker Hill to the west, South Park and the Convention Center to the south, the South Markets to the southeast, and Little Tokyo and the Arts District to the east.[2] Downtown is characterized by a concentration of government-related uses, high- and mid-rise office buildings, residential buildings, hotels, retail uses, museums, and cultural districts, including the Arts and Markets districts. The Historic Core/Center City contains a concentration of historically and architecturally significant buildings, including the iconic City Hall, Walt Disney Concert Hall, and the historic Times, Plant and Mirror Buildings, which are components of the Project. The general vicinity and relationship of the Project Site to surrounding streets is illustrated in **Figure A-1**, *Regional and Project Vicinity Map*. Surrounding land uses are shown in **Figure A-2**, *Aerial View of the Project Site and the Surrounding Uses.*

1. Land Uses to the North

Land uses to the north of W. 1st Street consist of the Los Angeles Civic Center, and Grand Park, a 16-acre park extending from City Hall to the south of N. Spring Street to the Dorothy Chandler Pavilion (Los Angeles Music Center) to the north of Grand Avenue. Immediately to the north of the Project Site is the 1.96-acre First and Broadway Civic Center Park, a public park currently under development and anticipated for completion in 2019. Adjoining the south side of Grand Park along the E. 1st Street frontage are the seven-story Los Angeles County Law Library, the 10-story Los Angeles County Stanley Mosk Courthouse, and the 10-story Kenneth Hahn Hall of Administration. The 20-story Clara Shortridge Folz Criminal Justice Center adjoins the north side of Grand Park directly north of the Project Site. The recently rehabilitated Los Angeles County Hall of Justice is located just to the north of the Criminal Justice Center. City Hall is located just to the northeast of the Project Site and the United States Courthouse is located just to the north of City Hall. The Hollywood Freeway (US-101) is located immediately north of the group of government buildings. Los Angeles Union Station, the region's major transit hub, is located just to the north of the US-101 Freeway.

[2] City of Los Angeles Department of Planning, Central City Community Plan, Figure 1, Downtown Neighborhoods and Districts.



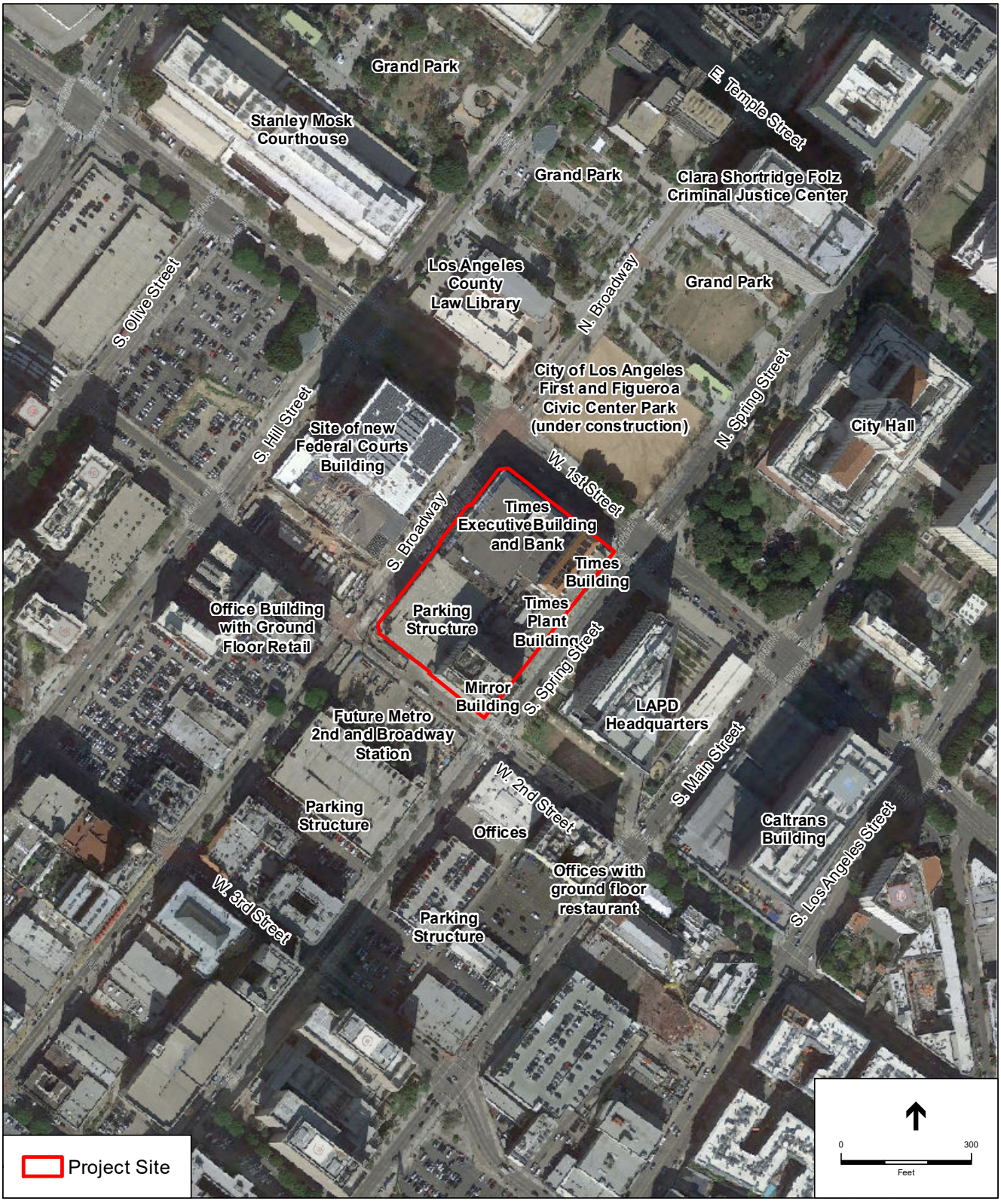
SOURCE: Open Street Map, 2016.

Times Mirror Square Project

Figure A-1

Regional and Project Vicinity Map

ESA PCR



SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square Project

Figure A-2

Aerial View of the Project Site and the Surrounding Uses

ESA PCR

2. Land Uses to the East

The 10-story Los Angeles Police Department (LAPD) Headquarters Building, which replaced Parker Center as the LAPD headquarters in October 2009, occupies the block bounded by S. Spring Street, E. 1st Street, S. Main Street, and E. 2nd Street, immediately to the east of the Project Site. The approximately 29-story Los Angeles City Hall is located diagonally across S. Spring Street and W. 1st Street from the Project Site. The LAPD Headquarters Building is oriented toward City Hall and is characterized by 75-foot setbacks on three sides. The LAPD Headquarters Building's deep setbacks accommodate a main plaza along E. 1st Street. In addition, the deep setback on the south of the Headquarters Building supports a one-acre park along E. 2nd Street. The park is landscaped open space edged with planters and benches. City Hall Park is located directly across E. 1st Street from the LAPD Headquarters Building's main plaza, at the south side of City Hall. City Hall Park is also aligned across N. Spring Street with the First and Broadway Civic Center Park (under construction), just to the north of N. Spring Street.

Public parks and plazas are also associated with City Hall along N. Main and N. Los Angeles Streets, and include Los Angeles Civic Center Mall. The existing Grand Park, the under-construction Civic Center Park, public plazas and parks at the LAPD Headquarters Building and City Hall will contribute to a growing, inviting pedestrian environment for the area's employees and residents. Land uses to the east of the LAPD Headquarters building include the State of California Caltrans Building, occupying the block bounded by S. Main Street, E. 1st Street, S. Los Angeles Street, and E. 2nd Street. The approximately 21-story Double Tree Hotel is located to the south of the Caltrans Building, south of S. Los Angeles Street. At this point, Los Angeles Street forms the north edge of the City's Little Tokyo Community, which, with the Arts District, is located farther to the east of the Project Site. The Little Tokyo Community features plazas and paseos that further enhance pedestrian activity.

3. Land Uses to the South

Low- and mid-rise office buildings, enclosed parking structures, and surface parking lots are the predominant land uses to the south of the Project Site. A surface parking lot and a 7-level enclosed parking structure are currently located directly across W. 2nd Street from the Project Site. The site was selected for Metro's proposed 2nd and Broadway Subway Station, one of three subway stations making up the Regional Connector Transit Project. Construction for the Regional Connector Transit Project at the 2nd Street and Broadway Station is currently underway. Completion of the entire Regional Connector Transit Project is anticipated in May 2021. A current development proposal for the subway station site includes demolition of the existing parking structure for the construction of a 30-story mixed-use building. The building would integrate the subway station and provide ground level retail uses. Diagonally across W. 2nd Street and S. Spring Street from the Project Site (to the southeast) is a single-story office building, to the south of which is an approximately 6-level enclosed parking building. To the east of the single-story office building is an older, 10-story residential building with ground level retail uses, including a restaurant and shops along E. 2nd Street and S. Spring Street. Directly to the east of the 10-story building, across S. Main Street is the former Cathedral of St. Vibiana. The building and its associated plaza are now owned by the City and used for public events, and the property also houses the Little Tokyo Branch Public Library.

4. Land Uses to the West

The new 10-story Federal Courthouse, completed in October 2016, is located directly to the west of the Project Site in the block bounded by W. 1st Street, S. Broadway, W. 2nd Street, and S. Hill Street. The building rests on a podium structure, which provides a horizontal base relative to the rise along W. 1st Street. The podium structure and the rising topography of the site require broad staircases from S. Broadway and W. 1st Street to reach the building's entrance. The west frontage of the building is at grade with S. Hill Street. The building sits behind a deep setback from W. 2nd Street, which allows exposure of the building to natural sunlight. The Los Angeles County Law Library, which is adjacent to Grand Park, is located diagonally across W. 1st Street and S. Broadway from the Project Site. A modern, 10-story office building with ground floor retail uses is located diagonally across W. 2nd Street and S. Broadway from the Project Site. To the west of the Federal Courthouse, 2nd Street enters the 2nd Street tunnel, passing under Bunker Hill and emerging at S. Figueroa Street. The Bunker Hill District is located approximately one block west of the Project Site and is bounded by W. 1st Street on the north; S. Hill Street on the east, the Pasadena/Santa Monica Freeway (I-10) on the west; and W. 5th Street on the south. Bunker Hill includes a concentration of downtown high rise development, such as the Library Tower, the Wells Fargo Tower, and the California Plaza Towers.

C. Existing Conditions

1. On-Site Conditions

The approximately 3.6-acre Project Site is currently occupied by five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to 10 stories in height. The buildings include the eight-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the six-story parking structure, and the six-story Executive Building. The Times Building, which occupies the northeast corner of the Project Site, was designed by architect Gordon B. Kaufmann in the P.W.A Moderne style and constructed in 1935. The building's Globe Lobby features 10-foot-high murals painted in 1934 by Hugo Ballin, who also painted the Griffith Observatory rotunda. The Times Building is also noted for the prominent clocks on its north- and south-facing towers. The Plant Building, which was originally constructed with two stories in 1935 and expanded to four stories between 1947 and 1948, is located along the mid-block of S. Spring Street and emulates the Times Building's P.W.A. Moderne architectural style. In 1948, architect Rowland H. Crawford designed the 10-story Mirror Building in the Late Moderne style to emulate the style of the Times Building. The Los Angeles Times continues some newspaper operations out of the Times, Plant, and Mirror Buildings, all three of which are listed in the California Register of Historical Resources.

In 1973, the Executive Building, a six-story glass and steel International Style building, was designed by the architectural firm William L. Pereira & Associates on the northwest corner of the block. Once constructed, this building became the corporate headquarters for the Times-Mirror Company. Pereira's Executive Building abuts the west wall of the Times Building. Bank of

America occupies the ground floor of the Executive Building. The locations of existing on-site buildings are illustrated in **Figure A-3**, *Existing On-Site Uses*.

Combined, the Times, Plant, Mirror, and Executive Buildings have a total floor area of approximately 559,863 square feet. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, and an approximately 11,250 square-foot cafeteria in the Plant Building. Table A-1, *Existing Uses*, provides a breakdown of existing land uses by building on the Project Site.

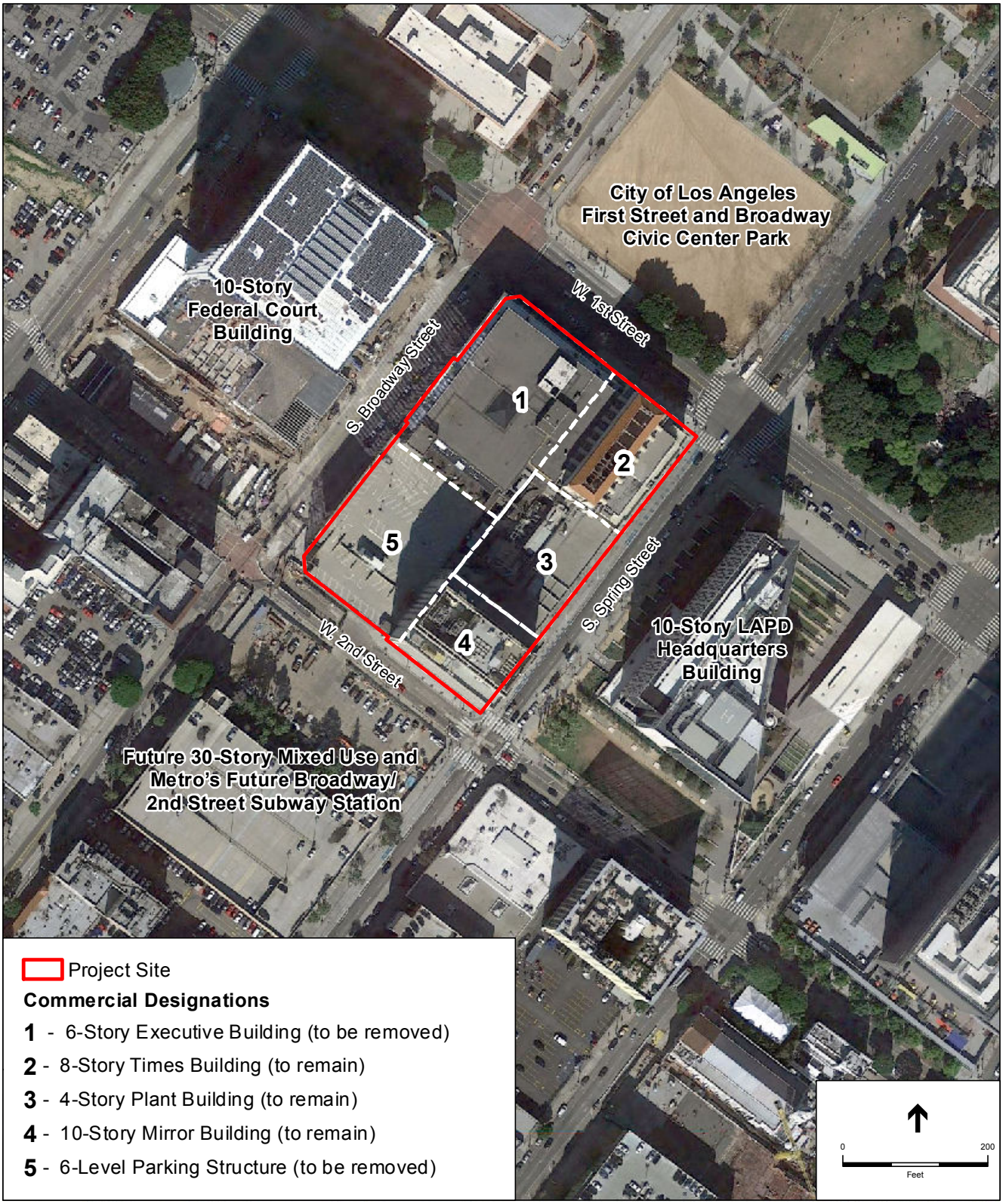
TABLE A-1
EXISTING LAND USES

Building	Use	Developed Floor Area (square feet)
Times	Office	**116,113**
Plant	Office	79,340
	Cafeteria	11,250
	Total Building Subtotal	***90,590***
Mirror	Office	**169,402**
Executive	Office	176,258
	Bank	7,500
	Total Building Subtotal	***183,758***
Total Floor Area		**559,863**

SOURCE: ESA PCR, 2017

The sidewalks adjoining the Project Site are landscaped with 29 uniform and young or mature California sycamore trees, although potted plants or planters are also provided along some sections of W. 1st Street, S. Spring Street, S. Broadway, and the corners of W. 1st Street and Broadway and W. 2nd Street and Broadway. Existing trees are discussed in detail in Subsection E.5, below.

Vehicle access to the existing parking structure is provided via a driveway on S. Broadway and a driveway on W. 2nd Street. These two driveways provide vehicle access for the Times, Executive, Plant, and Mirror Buildings, which all have interior connections to the parking structure. Driveways for interior shipping bays, waste collection, and other vehicle activity at the Mirror Building and Plant Building are located on W. 2nd Street (to the east of the previously described parking structure driveway), and on S. Spring Street. The loading dock driveway is on S. Broadway north of the parking structure driveway. Spring Street, a one-way, southbound roadway, contains a dedicated southbound bike lane. No parking is allowed along the curb lane, which is marked for bus transit and lined with benches and bus stops. Metered, on-street parking is provided along W. 1st Street and S. Broadway, both of which are two-way streets. Pedestrian light standards, consistent with the upright/double light theme throughout the Civic Center are provided on all four street frontages.



SOURCE: Google Maps, 2016 (Aerial), ESA PCR, 2017

Times Mirror Square Project

Figure A-3

Existing On Site Uses

ESA PCR

The entire block was identified by SurveyLA, the citywide historic resources survey of Los Angeles. SurveyLA noted that the Times, Plant, and Mirror Buildings are listed in the California Register and evaluated the Executive Building as eligible for listing in the California Register and for designation as a Los Angeles Historic-Cultural Monument for its association with the growth and maturation of the Los Angeles Times as well as the career of Otis Chandler, who was the newspaper's publisher from 1960 to 1980.

2. Transit Access

Metro's Los Angeles Civic Center/Grand Park Station (Metro Station) is located approximately 750 feet to the northwest of the Project Site.

The Civic Center/Grand Park Station is a heavy rail subway station that serves two subway lines, the Red Line and Purple Line. The Red Line connects the Civic Center to Union Station, Hollywood, and North Hollywood. The Purple Line connects Union Station with the Wilshire/Western Station. The Red and Purple Lines provide further connection to three light rail transit lines serving downtown Los Angeles: the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station.

The Project Site is also located adjacent to Metro's future 2nd Street and Broadway Station, one of the three subway stations that are part of Metro's Regional Connector Project.[3] The Connector Project, a 1.9-mile subway segment, will extend from the Metro Gold Line Little Tokyo/Arts District Station to the 7th Street/Metro Center Station in downtown Los Angeles, with transfers to Blue, Expo, Red and Purple Lines, bypassing Union Station. The 1.9-mile alignment will serve Little Tokyo, the Arts District, Civic Center, the Historic Core, Broadway, Grand Avenue, Bunker Hill, Flower Street and the Financial District. From the Metro Gold Line, passengers will be able to travel from Azusa to Long Beach and from East Los Angeles to Santa Monica without transferring lines. Forecasted opening of the 2nd Street and Broadway Station is 2021. New stations include the Historic Broadway Station at W. 2nd Street and Broadway, adjacent to the Project Site; the Little Tokyo/Arts District Station at E. 1st Street and Central Avenue; and the Grand Avenue Arts/Bunker Hills Station at 2nd Place and Hope Street.

Several bus lines serve the vicinity of S. Spring Street and W. 1st Street, including LADOT's Dash Downtown "D" line, which travels a circuit from the City Hall area throughout the Downtown; Metro's Rapid Line 770, which travels to Union Station and El Monte to the east; Metro's Rapid Line 745, which travels between Downtown and Metro's Harbor Freeway Station; Metro's Rapid Line 733, which travels from the Civic Center to Santa Monica; and Metro's Rapid Line 728, which travels between Union Station and Century City. In addition, numerous local lines are located in the Project vicinity, including Metro's Bus Lines 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Broadway and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street.

3 Los Angeles Metro, Regional Connector Transit Project, https://www.metro.net/projects/connector/. Accessed January 20, 2017.

The Project Site is also well located to allow pedestrian access to numerous county, state, and federal buildings in the Civic Center. The Project Site has direct access to Grand Park, which provides landscaped pedestrian pathways between City Hall, the Los Angeles Music Center, and other uses along Grand Avenue. It is also located a few blocks from Bunker Hill to the west, the City's Financial Center to the southwest, Little Tokyo and the Arts District to the east; and Union Station and Olvera Street to the north. Thousands of jobs within walking distance are represented by the surrounding combination of office towers, the Arts District, and the Civic Center, which constitutes the heaviest concentration of government employment outside of Washington D.C.[4] The Project Site is also served by dedicated bike lanes in southbound Spring Street and northbound Main Street.

3. Circulation

The Project Site is bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. These four streets are part of the Downtown Los Angeles grid, and even for those streets extending beyond the City center, the heaviest traffic loads are in the vicinity of the Civic Center. In the Project area, W. 1st Street is a designated Modified Boulevard II in the City of Los Angeles Mobility Plan 2035, with a required right-of-way of 110 feet. To the west of the I-110 Freeway, W. 1st Street merges with W. 2nd Street to form Beverly Boulevard. To the east, E. 1st Street ends at Atlantic Boulevard in the City of Monterey Park. In the Project area, W. 1st Street's required half right-of-way would be 55 feet and comprise a 37-foot roadway and 18-foot sidewalk. In addition, the Downtown Design Guide requires an additional 6-foot private easement from the sidewalk public right-of-way.

S. Spring Street, which adjoins the Project Site to the east, is a designated Modified Avenue II and is required to have a right-of-way of 80 feet. To the south, S. Spring Street merges with S. Main Street in the vicinity of S. 9th Street. South Main Street continues south to the City of Carson. To the north, N. Spring Street merges with Caesar Chavez Avenue to the north of the US-101 Freeway. South Spring Street's required half right-of-way in the Project Area would be 40 feet, and would comprise a 26-foot roadway and 14-foot sidewalk. In the Project area, S. Spring Street operates as a one-way, southbound highway, with a dedicated bike lane.

Adjoining the Project Site to the south, 2nd Street is a designated Modified Avenue III and is required to have a right-of-way of 74 feet. To the west at Hill Street, W. 2nd Street passes under the 2nd Street tunnel below Bunker Hill, emerging in the vicinity of Figueroa Street. To the east, E. 2nd Street terminates prior to the railyards and the Los Angeles River. In the Project area, W. 2nd Street's half right-of-way would be 37 feet, and would comprise a 26-foot roadway and 14-foot sidewalk.

Broadway, adjoining the Project Site to the west, is a designated Modified Avenue II and is required to have a right-of-way of 80 feet in the Project area. To the south, S. Broadway follows the Harbor Freeway (I-110) to the approximate vicinity of the San Diego Freeway (I-405), where

4 LA Metro, 2nd St./ Broadway Station, https://www.metro.net/projects/connector/2nd-stbroadway-station/. Accessed January 23, 2017.

is merges with Main Street. To the north, N. Broadway terminates in the community of Lincoln Heights. In the Project area, S. Broadway's half right-of-way would be 40 feet and would comprise a 28-foot roadway and 12-foot sidewalk. In addition, the Downtown Design Guide requires an additional 5-foot private easement from the sidewalk public right-of-way.

D. Planning and Zoning

1. Central City Community Plan

The Project Site is located within the Central City Community Plan area and is designated as Regional Center Commercial. The General Plan Framework designates the entire Central City area as a Downtown Center. Other Planning efforts described in the Central City Community Plan are the Downtown Strategic Plan, the Los Angeles Civic Center Shared Facilities and Management Plan, and Angel's Walk. The Downtown Strategic Plan recognizes the need to significantly increase the residential presence in the Central City community.[5] Angel's Walk is a plan to link transit and pedestrian districts of historic Downtown and ties public investment in bus and rail transit to urban design improvements that make the City attractive to pedestrians.[6] Los Angeles Civic Center Shared Facilities and Management Plan proposes a plan that would induce both economic and environmental benefits by defining the boundaries of the Civic Center as the distance an average person can walk in 10 minutes. Beginning at City Hall, the Angel's Walk area encompasses the Project site Little Tokyo, El Pueblo de Los Angeles, Union Station, the Music Center, Bunker Hill, and Pershing Square.[7] Primary issues presented in the Central City Community Plan are the need to increase housing for all incomes, particularly middle income households; the lack of sufficient housing investment; and the lack of neighborhood businesses to support residential uses.[8] Community Plan Objectives 1-2 and 1-3 are to increase the range of housing choices available to Downtown employees and residents and to foster residential development which can accommodate a full range of incomes.

2. Zoning

The Project Site is zoned Commercial (C2-4D-SN), which permits general commercial and multi-family residential uses. The 4D Height District establishes a Floor Area Ratio (FAR) of 6.0:1, but does not specifically limit building heights.

The SN designation indicates a Signage Supplemental Use, in this case the Historic Broadway Supplemental Sign Use District.[9] The Historic Broadway Supplemental Sign Use District, which applies to S. Broadway between W. 1st Street and W. 12th Street, regulates signage that cannot otherwise be provided for in the underlying C2 zone. The Supplemental Sign Use District allows signage programs that complement and protect the character-defining features of historic

5 City of Los Angeles Department of Planning, Central City Community Plan, page I-12
6 City of Los Angeles Department of Planning, Op. Cit., page I-13.
7 Op. Cit, Angels' Walk Pedestrian Plan, page I-13.
8 Op. Cit, page I-14.
9 The Historic Broadway Sign Supplemental Use District was adopted by City Council, January 20, 2016, under ZI No. 2457.

buildings, encourage new infill investment on Broadway on vacant and underutilized sites, support strong pedestrian activity, reduce blight along the corridor, encourage economic development, and encourage the revitalization of the Broadway Theater and Entertainment District.

The Project Site is also located within the Central City TFAR area, Greater Downtown Housing Incentive Area, Downtown Adaptive Reuse Area, Downtown Design Guide Project area, and the Central City and Downtown parking districts.

The Downtown TFAR designation allows for the transfer of floor area rights from a donor site to increase FAR over the existing zoning designation. The Greater Downtown Housing Incentive Area was established to encourage new, economically diverse urban infill housing.

The Downtown Adaptive Reuse Area designation encourages the adaptation of an economically obsolete building for a more productive purpose through the provision of incentives and certain waivers. The Downtown Design Guide Project establishes context-sensitive street standards that emphasize walkability, sustainability and transit options, and urban design standards to reinforce the community character of Downtown. The Central City and Downtown Parking Districts designation establishes a ratio of parking for residential and commercial uses that reflects the area's greater access to multi-modal transit and lower per capita automobile use.

3. Transit Priority Area

City of Los Angeles Department of Planning, Zoning Information (ZI) File No. 2452 was developed in response to Senate Bill (SB) 743, to allow for transit priority areas (TPAs) and exemptions to aesthetics and parking evaluations within TPAs pursuant to CEQA. Specifically, Section 21099 (d)(1) of the Public Resources Code (PRC) states that a project's aesthetic and parking impacts shall not be considered a significant impact on the environment if (1) the project is a residential, mixed-use residential, or employment center project, and (2) the project is located on an infill site within a transit priority area. PRC Section 21099 defines the criteria for an employment center, infill site, and TPAs. Specifically, "infill site" is defined as a location within an urban area that has been previously developed, or a vacant site where at least 75 percent of the perimeter of the site adjoins an improved public right-of-way. "TPAs" are defined as areas within one-half mile of a major transit stop that is existing or planned. A "major transit stop" is defined as a site containing an existing rail transit station or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. Under ZI File No. 2452, a project shall be considered to be within a TPA if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the major transit stop. The "Citywide Transit Priority Areas" map contained in ZI File No. 2452 illustrates overlapping TPAs within Downtown Los Angeles.

Because the Project comprises mixed uses including residential uses, and the Project Site is a previously developed "infill" site located within 750 feet of Metro's Los Angeles Civic Center/Grand Park Station and directly across W. 2nd Street from Metro's 2nd Street and Broadway Station (currently under construction), the Project meets the criteria of SB 743 and ZI File No. 2542. As discussed in ZI File No. 2542, visual resources, aesthetic character, shade and

shadow, light and glare, and scenic vistas, and any other aesthetic impact as defined in the City's CEQA Threshold Guide shall not be considered an impact, unless evaluation is required under other land use regulations of the Municipal Code.

4. Other Applicable Plans

Los Angeles Enterprise Zone

The Project Site is designated as an Enterprise Zone/Employment and Economic Incentive Program Area (EZ), shown in the City's Zoning Information and Map Access System (ZIMAS) as the Los Angeles State Enterprise Zone.[10] EZs are geographic areas designated by City Council Resolution, with approval by the California Department of Commerce under either the Enterprise Zone Act Program or Employment and Economic Incentive Act Program. Under this designation, federal, state, and city governments may provide economic incentives to stimulate local investment and employment through tax and regulation relief and improvement of public services. As listed in LAMC Section, 12.21-A,4(x)(3), the EZ program allows for lower parking ratios for commercial office, business, retail, restaurant, bar and related uses, trade schools, or research and development buildings.

Greater Downtown Housing Incentive Area

The Project Site is located within the Greater Downtown Housing Incentive Area, which under Los Angeles Zoning Information File ZI No. 2385 (Ordinance No. 179,076) modifies several Municipal Code requirements for projects within the Greater Downtown. Adopted in 2007, the purpose of the Greater Downtown Housing Incentive Area is to provide incentives to produce housing in the designated area. Within the boundaries of the Greater Downtown Housing Incentive Area, the maximum unit per lot area was eliminated and density is unlimited (within the relevant FAR). No yard requirements apply except as required by the Urban Design Standards and Guidelines, prepared by the Community Redevelopment Agency and approved by the City Planning Commission. The Buildable Area is the considered the same as Lot Area and the percentages of private and common open space were eliminated. However, the total per unit open space requirement shall still be provided.

Downtown Streetcar Project Area

The Downtown Streetcar Project Area consists of the construction and operation of streetcar service in downtown Los Angeles, along a 3.8-mile one-way loop. The Project alignment route would begin at 1st Street and Broadway and proceed south, turn west on 11th Street, north on Figueroa, and east on 7th Street, north on Hill Street, back to its beginning at 1st Street. Potential inclusion of a Grand Avenue extension would also provide a two-way alignment spur. All applicants seeking Planning clearance are required to obtain approval from the Bureau of Engineering Streetcar Division to ensure that all construction activity, utility installation and/or

[10] City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS), Parcel Profile Report: 202-220 W. 1st Street. Generated January 25, 2017.

utility relocation in the public right-of-way shall not conflict with the Downtown Streetcar Project.[11]

Downtown Design Guide

The Downtown Design Guide document is intended to provide guidance for creating a livable and more sustainable Downtown community. The Design Guide places an emphasis on walkability and the making of great streets, districts and neighborhoods. More specifically, the Design Guide focuses on the relationship of buildings to the street, including sidewalk treatment, character of the building as it adjoins the sidewalk, and connections to transit. The Design Guide notes that these key features provide high quality development at a human scale, when paired with the details of a project in the first 30-40 vertical feet. Specific topics that the Design Guide addresses include: Sustainable design; Sidewalks and setbacks; Ground floor treatment; Parking and access; Massing and street wall; On-site open space; Architectural detail; Streetscape improvements; Signage, Public art and; Civic and cultural life. As shown on Figure 1-1, of the Design Guide, the Project Site is located within the Civic Center South District.

Redevelopment Area

It is noted that the Project Site is adjacent to the City Center Redevelopment Project area, which incorporates the Historic Downtown, South Park, and City Markets subareas. The City Center Redevelopment Project area is located to the south of 2nd Street, just to the south of the Project Site. As such, it is not applicable to the Project Site.

E. Description of Proposed Project

1. Design and Architecture

The Project layout and relative location of Project components are illustrated in **Figure A-4**, *Project Site Plan*. As shown in Figure A-4, the Times, Plant, and Mirror Buildings, which would be preserved, are located along the S. Spring Street frontage. The Executive Building and parking structure would be demolished, and the new North Tower and South Tower would replace these structures along the S. Broadway frontage. The proposed Paseo would separate the existing Times, Plant, and Mirror Buildings from the new towers and intersect the Project Site between the W. 1st Street and W. 2nd Street sidewalks. **Figure A-5**, *Simulated Aerial View of the Project from the Northeast*, provides a conceptual drawing and approximate scale with respect to the Project's Downtown Los Angeles setting. As shown in Figure A-5, the Times Building would regain its original visual character along W. 1st Street by removing the Executive Building, which currently abuts and extends over the Times Building's west façade. The fifth and sixth stories of the Times Building have been altered by rooftop additions dating from the 1940s and 1960s. These alterations would be reversed, with the intent of restoring the original 1935 design. As shown in **Figure A-6**, *Level 6 – Office Terrace*, the mechanical equipment that currently occupies the rooftop of the four-story Plant Building would be relocated and replaced with an office

[11] City of Los Angeles, Zoning Information File ZI-2450, Downtown Streetcar Project, http://zimas.lacity.org/documents/zoneinfo/ZI2450.pdf.

terrace. The office terrace would provide conference/presentation and break space for office employees of the Times/Plant/Mirror Buildings and would not be available to the general public. Views of the office terrace would be visible from surrounding structures higher than four stories, including, but not limited to, the proposed Project to the west, north, and south, City Hall to the northeast, Los Angeles Police Department Headquarters to the east, and the future 232 W. 2nd Street Project to the south. **Figures A-7** through **A-10** show the historic, existing, and future views of the Project Site from 1st Street, 2nd Street, and Broadway. **Figures A-11** through **A-13** show the existing ground level view at 1st Street and the future views of the ground level at 1st Street and the Paseo. **Figures A-14** and **A-15** show the existing and future views at Spring Street.

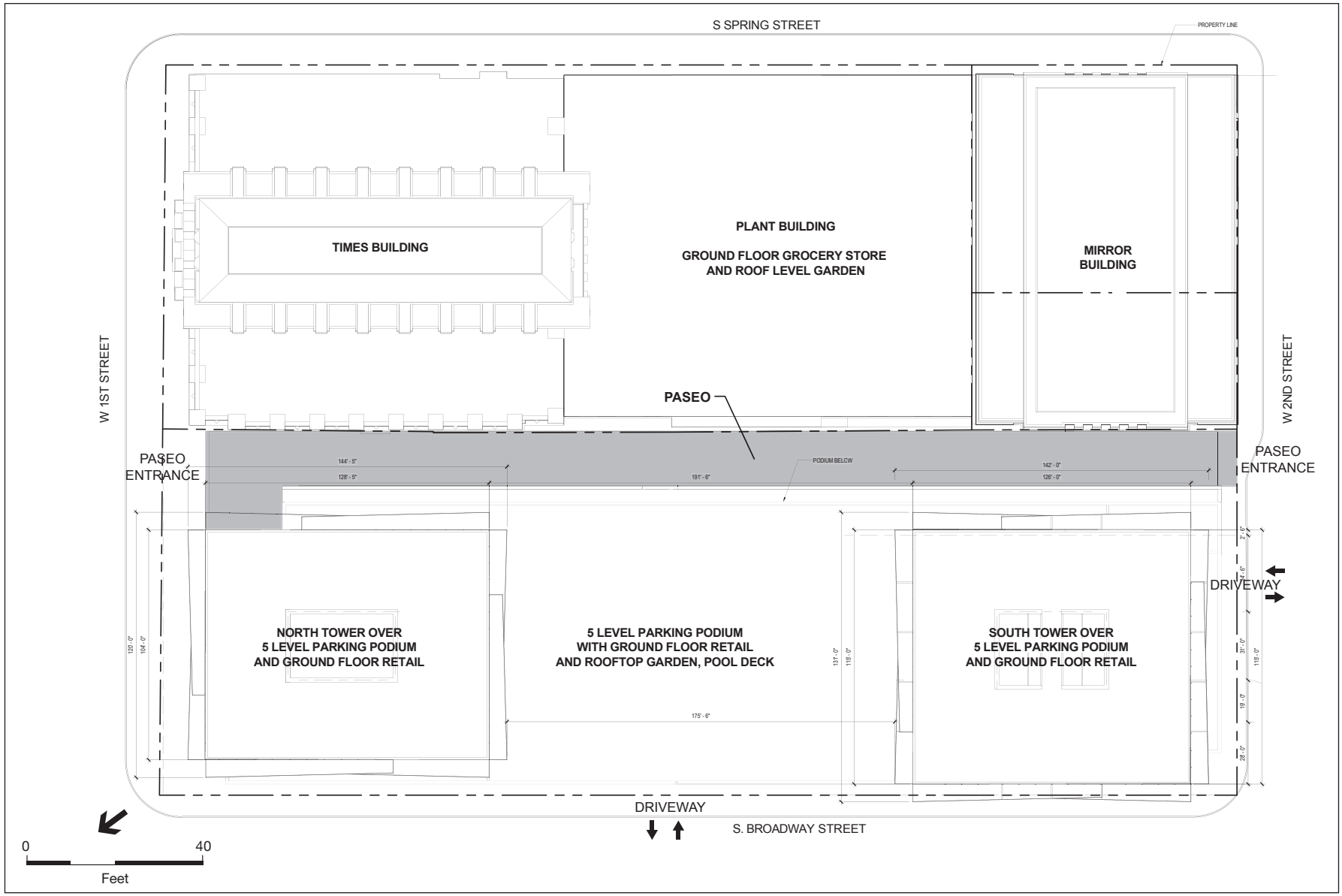
A key design objective of the Project is to provide a full retail and service base at street level along all four edges of the Podium, including 1st Street, Broadway, 2nd Street, and the Paseo. The four frontages would provide high-quality, interconnected streetscape environments. The design includes articulated retail facades, the use of cantilevered canopies to define retail entries, and landscaping that buffers the scale and height of the new buildings and enhances the pedestrian experience.

The intersection of 1st Street and Broadway provides a gateway to the Civic Center. The design responds by creating an activity-centered place for pedestrians at this corner incorporating retail, shops and restaurants, and the portal entrance to the Paseo. The Paseo, with clearly defined landscaped entrances at 1st and 2nd Streets, provides a pedestrian corridor connecting the Project Site with adjacent areas. With landscaping, benches, pavement treatment and adjacent retail shops, the tree-lined Paseo would facilitate pedestrian use and provide aesthetic and visual relief. Open Space and Landscaping for the Project is discussed in detail in Section 5 of this document.

Key design strategies of the Project include:

- Rehabilitating and reusing the Times, Plant, and Mirror Buildings to add new useful life to the buildings and to benefit the Civic Center and the City through historic preservation;
- Providing architecture and design for new construction that is cohesive with and complements the architecture of the rehabilitated Times, Mirror, and Plant Buildings;
- Strengthening existing and new pedestrian connections and streetscapes through the use of wider sidewalks, landscape, street trees, street furniture, lighting and signage;
- Providing pedestrians a safe, accessible, comfortable and interesting walking space, that includes open space, landscaping and public art;
- Incorporating sidewalk-oriented uses and an urban Paseo to enhance the pedestrian experience, provide pedestrian interaction, and provide pedestrian gathering places and destination points at the corners of the Project Site;
- Using street lighting and architectural lighting to enhance building features, safety and the pedestrian experience.

The Moderne style reflected in the architecture of the Times and Mirror Buildings incorporates the principles of geometric shapes characterized by smooth lines, streamlined forms, strong compositional gestures, horizontal lines, vertical and punched expressions, mass and volume; a base, body and top formal expression, as well as symmetrical and asymmetrical gestures.



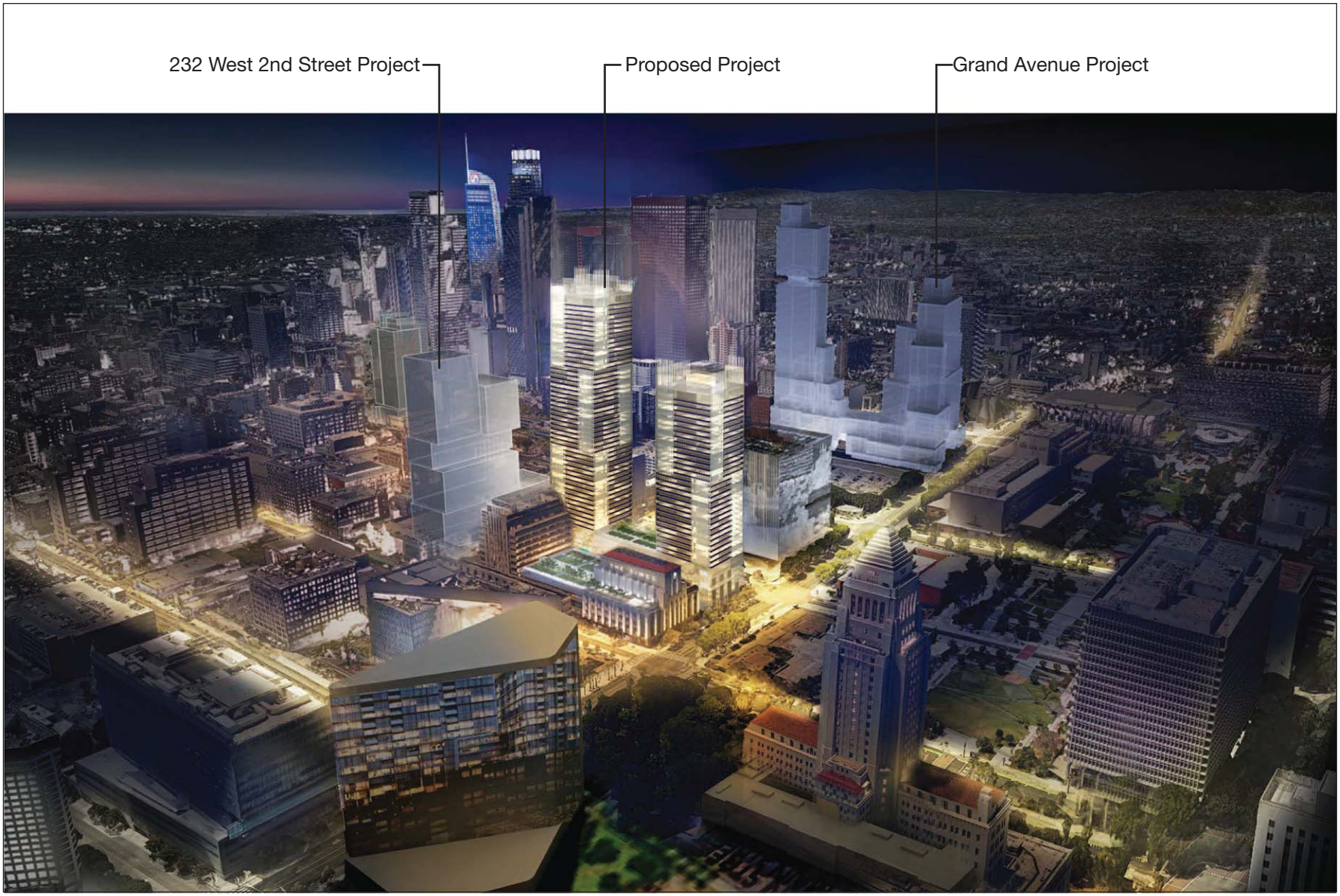
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-4

Project Site Plan

ESA PCR

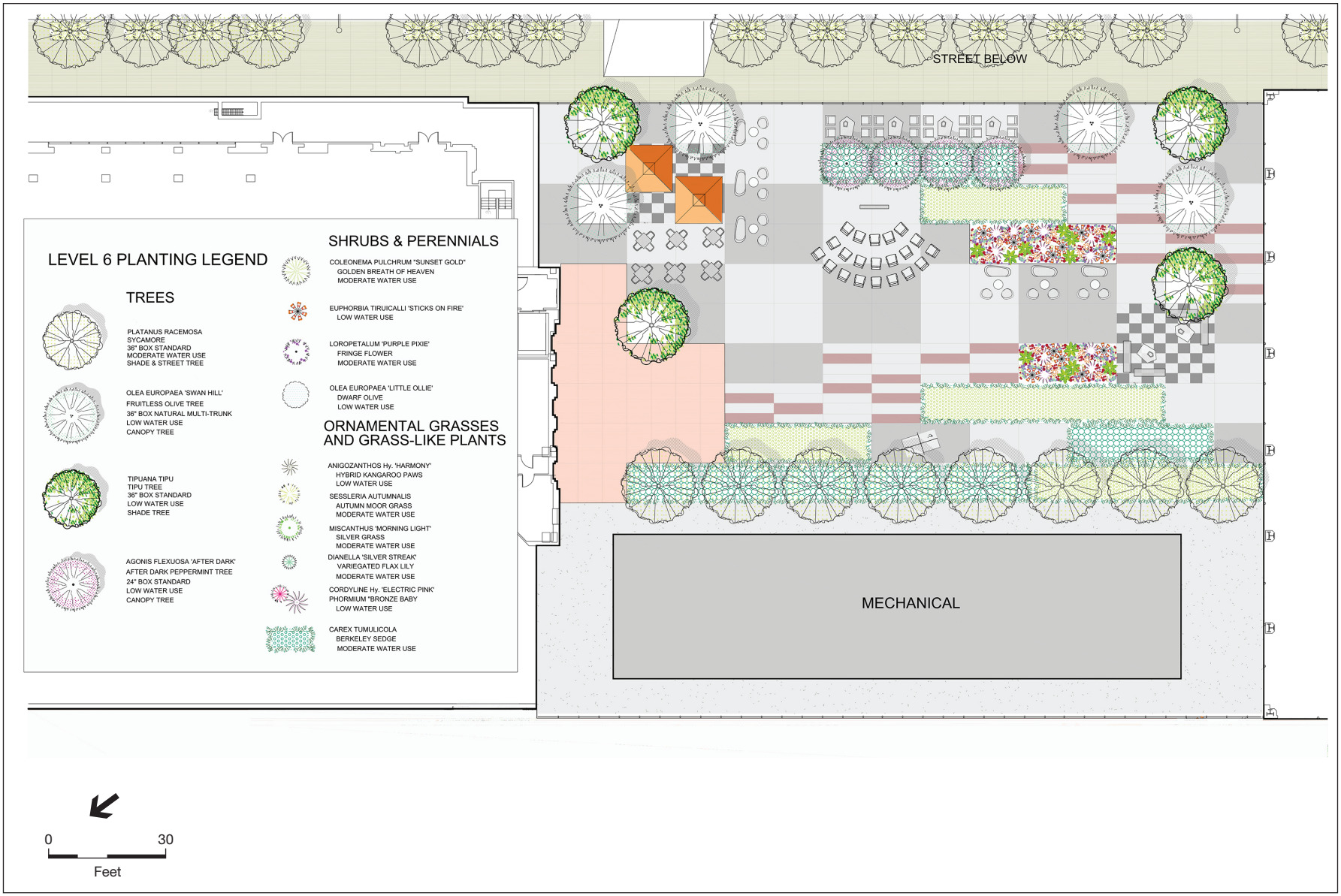


SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-5
Simulated Aerial View from the Northeast

ESA PCR



SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-6

Level 6 – Office Terrace

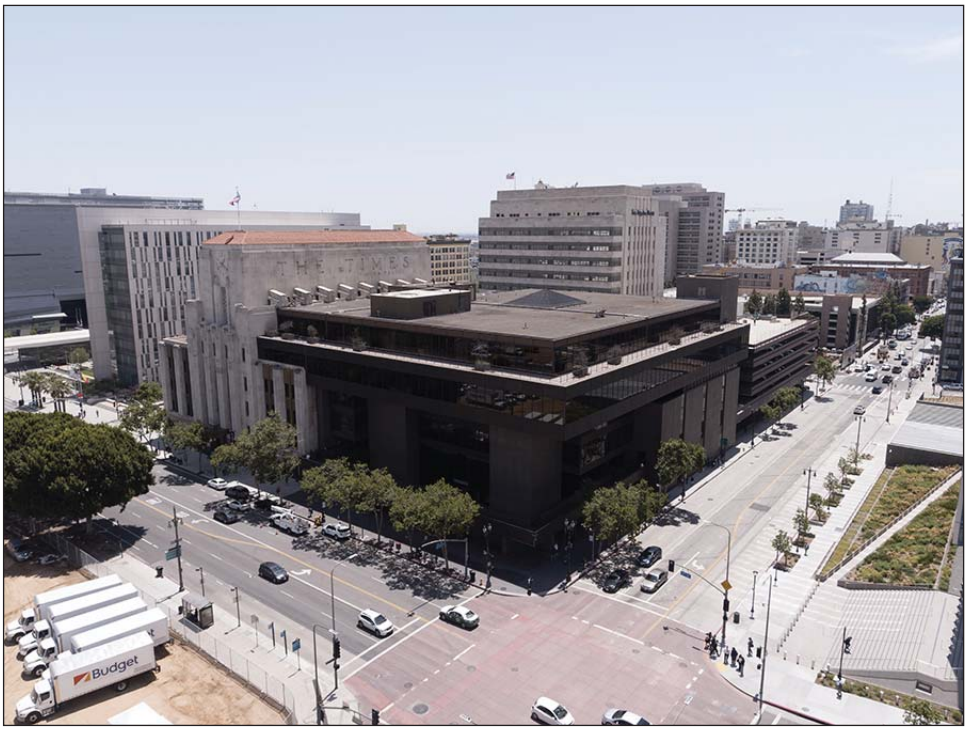
ESA PCR



Times Mirror Square Project

Figure A-7

Historic View – 1st Street Aerial, looking southeast from Hill Street



PHOTOGRAPH 1. Intersection of 1st Street and Broadway Avenue facing Southeast towards the Executive Building.



PHOTOGRAPH 2. Intersection of 2nd Street and Broadway Avenue facing Northeast towards the Parking Structure.



SOURCE: AC Martin, 2017

Times Mirror Square Project

Figure A-9

Future Rendering - Intersection of 1st Street and Broadway Avenue facing Southeast

ESA PCR



SOURCE: AC Martin, 2017

Times Mirror Square Project

Figure A-10

Future Rendering – Intersection of 2nd Street and Broadway Avenue facing northeast

ESA PCR



Times Mirror Square Project

Figure A-11

Existing View – 1st Street Ground Level

ESA PCR



SOURCE: AC Martin, 2017

Times Mirror Square Project

Figure A-12

Future Rendering – 1st Street Ground Level

ESA PCR



SOURCE: AC Martin, 2017

Times Mirror Square Project

Figure A-13

Future Rendering – 1st Street Paseo

ESA PCR



Times Mirror Square Project

Figure A-14

Existing View - Southwest facing Plant and Mirror Buildings on Spring Street

ESA PCR



SOURCE: AC Martin, 2017

Times Mirror Square Project

Figure A-15

Future Renderings - Southwest facing Plant and Mirror Buildings on Spring Street

ESA PCR

The architecture and design of proposed new development is intended to complement to the Moderne style of the existing buildings. The scale of the Podium supporting the new residential towers would be articulated with a contemporary base, body, and rooftop. The Podium would incorporate solid and transparent glazed materials and strong compositional features, punched and vertical articulation, and mass, to complement the architecture of the existing Times, Mirror, and Plant Buildings, which are to be rehabilitated. The solid portions of the Podium base would incorporate similar materials, textures, and color values to the Mirror Building to visually link the entire development.

The residential towers, which would exhibit prominent window elements, would rise from the Podium and incorporate external balconies for residential units on all four sides of each tower. The architecture of the towers would incorporate horizontal and vertical features that would complement the Moderne architectural style of the existing Times, Plant, and Mirror Buildings.

2. Times, Plant, and Mirror Buildings Rehabilitation

Under the Project, the Times Building, Plant Building, and Mirror Building would be rehabilitated and adaptively re-used. The three buildings, which have a total floor area of approximately 376,105 square feet, currently include office and cafeteria uses, and are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. Under the Project, there would be approximately 285,088 square feet of commercial office uses, approximately 41,017 square feet of commercial restaurant uses, and an approximately 50,000 square-foot grocery store. Although the total floor area of 376,105 square feet and the proportional mix of commercial uses would not change, the Project would allow flexibility in how the uses are allocated among the three existing buildings. The three historic buildings would be separated from the west side of the block by the Paseo.

After the Executive Building and parking structure are removed, the lower floors of the western facades of the Times, Plant, and Mirror Buildings would be compatible with the historic character of the three existing buildings, but distinguishable as new.

The interiors of all three historic buildings have been heavily altered over time. The two original and architecturally distinctive interior spaces, the lobbies of the Times Building and Mirror Building, would be preserved. The upper floors contain little if any historic fabric, as it was removed as a result of past structural improvements and office modernizations. The upper floors would be reconfigured for office tenants, if required. The exteriors of all three buildings would be cleaned and repaired as necessary.

Times Building

The rehabilitation of the Times Building would involve reconstruction of the upper floors of the west elevation, which abuts the Executive Building. The reconstruction would be based upon the original plans of the Times Building as well as extant physical evidence. Likewise, the rooftop addition on the fourth story of the east elevation would be removed and the elevation restored to its original character. Thus, the original massing and stepped-down form from the clock tower would be reinstated. The Times Building would continue to be used as an office building.

Plant Building

On the ground level, the original loading docks would be reopened for the proposed grocery store or other commercial use[12] with access to both S. Spring Street and the Paseo. The upper stories would be rehabilitated and used for offices. As shown in Figure A-6, the existing mechanical equipment on the roof of the Plant Building would be relocated and reconfigured for an office terrace, which would be used by office tenants. This area would provide conference/presentation areas and eating/break areas and would not be accessible to the general public. The western façade of the building would remain unchanged.

Mirror Building

The Mirror Building would be rehabilitated and continue to be used as an office building. The exterior of the building would be cleaned and repaired as necessary. As discussed above, the lobby area would be preserved. The west side of the building, which currently provides connections to the existing parking structure, would be altered by the demolition of the parking structure. This side of the building would be evaluated and reconstructed for compatibility with the historic character of the three existing buildings, but distinguishable as new.

Project elevations illustrating the exterior of the Times, Plant, and Mirror Buildings are available in Section 4, Figures A-16 through A-19, of this chapter. **Table A-2**, *Proposed Uses within the Times, Plant, and Mirror Buildings*, shows the proposed land uses and developed floor area for the rehabilitated buildings.

TABLE A-2
PROPOSED USES WITHIN THE TIMES, PLANT, AND MIRROR BUILDINGS

Land Use	Developed Floor Area (sf)
Office	285,088 sf
Ground-floor Restaurant	18,817 sf
Upper-floor Restaurant	22,200 sf
Grocery Store	50,000 sf
Proposed Adaptive Reuse Floor Area	**376,105 sf**

SOURCE: ESA PCR, 2017

3. North and South Towers

The Project's North Tower and South Tower mixed-use components would be constructed on the western side of the Project Site in the area currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would be constructed near W. 1st Street and S. Broadway, and the South Tower would be constructed near W. 2nd Street and S. Broadway. The Towers would be constructed over a 5-story Podium and, from street grade, the North Tower

12 As described, although the total floor area of approximately 376,105 square feet and the proportional mix of commercial uses would not change, the Project would allow flexibility in how the uses are allocated among the three existing buildings.

would rise 37 stories or approximately 495 feet above grade. The South Tower would rise 53 stories or approximately 665 feet above grade.

Table A-3, *Proposed New Development*, below, summarizes the number of proposed residential units, open space, and retail floor area associated with the North and South Towers. As shown in Table A-1, the North Tower would contain 450 residential units and the South Tower would contain 677 residential units, for a total of 1,127 residential units. Total residential floor area within the two towers would be approximately 1,071,692 square feet. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 square feet.

TABLE A-3
PROPOSED NEW DEVELOPMENT[a]

	North Tower	South Tower	Total Residential Units
North and South Towers Uses			
Residential Uses			
Studio	90 Units	0	90 Units
I Bedroom	166 Units	380 Units	546 Units
1 Bedroom + Den	60 Units	100 Units	160 Units
2 Bedroom	132 Units	192 Units	324 Units
3 Bedroom	0 Units	4 Units	4 Units
Penthouse	2 Units	1 Unit	3 Units
Total Residential Units	**450 Units**	**677 Units**	**1,127 Units**
Floor Area			
Total Residential Units Floor Area			1,071,692 SF
Amenities Floor Area			23,956 SF
Lounges			2,997 SF
Loading			2,586 SF
Retail			34,572 SF
Total New Construction			**1,135,803 SF**
Outdoor Common Space and other Common Space Amenities	**Area Type**		**Area**
LAMC Required Open Space			125,325 SF
Level 1	Paseo/Plaza[a]		15,708 SF
Level 1	Lounge – North Tower		1,270 SF
Level 1	Lounge – South Tower		1,755 SF
Level 6	Amenity – North Tower		13,331 SF
Level 6	Amenity – South Tower		12,287 SF
Level 6	Residential Terrace		28,777 SF
Subtotal Common Open Space			73,128 SF
Private Balconies			56,349 SF
Total Project Open Space			**129,477 SF**
Other Uses			
Parking			**1,744 spaces**
Bicycle Spaces			**1,274 spaces**

[a] Available for public use

SOURCE: AC Martin, Plans for Onni Times Square, 2017

The towers would include approximately 34,572 square feet of retail uses, which would be located at ground level and oriented to W. 1st Street, S. Broadway, and W. 2nd Street, while also fronting the Paseo. The Paseo would be constructed along the east edge of Tower A and Tower B, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. The open-to-the-sky Paseo would accommodate pedestrian and shopper access through the block, as well as provide an open vista toward Civic Center Park and the First and Broadway Civic Center Park, which is under construction to the north. The Paseo would also serve to physically and visually separate the towers from the original Times, Plant, and Mirror Buildings. Project elevations illustrating the exteriors of the North and South Towers are provided in Section 4, in Figures A-15 through A-18, of this chapter.

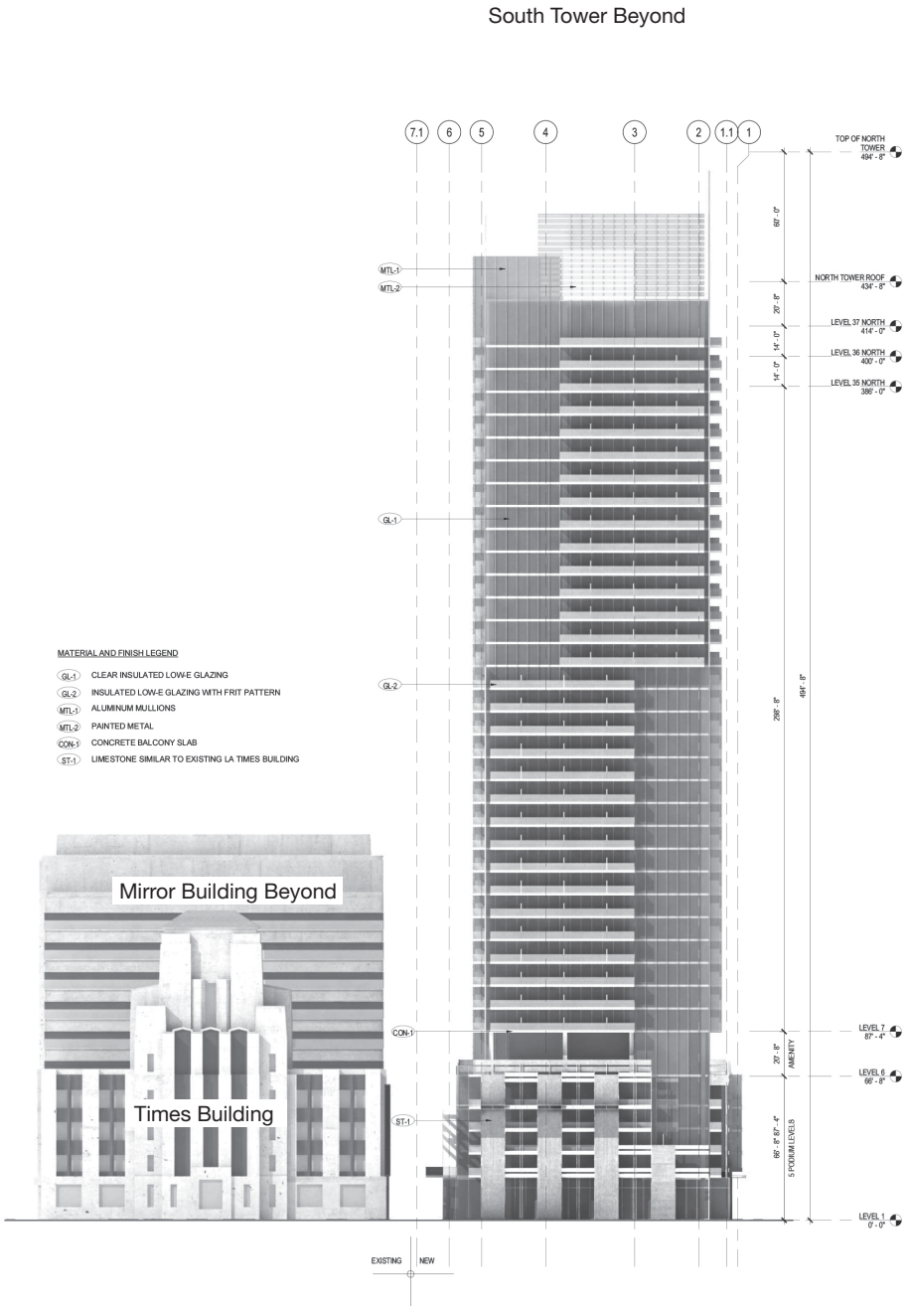
As also shown in Table A-3, open space amenities available to residents of the North and South Towers include an approximately 28,777-square-foot residential terrace (Residential Terrace) on the rooftop of the five-story Podium (Level 6). The Residential Terrace is represented in Figure A-22, *Level 6 – Residential Terrace*, below. The Residential Terrace, which is located on the rooftop of the Podium between the North and South Towers, would be open to sky and provide approximately 7,700 square feet of landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and other amenities such as dining tables and fire-side seating. As shown in Table A-1, the Project would provide other amenities at the 6th floor level, as well as ground-floor lounges in each of the tower buildings. These amenity areas are expected to include a gym, club rooms, meeting rooms, film screening room, private dining, and potentially other common areas to serve residents.

Approximately 73,128 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. Of the common open space, only the Paseo is available for public access. The remaining 57,420 square feet are provided as common use for the Project's residents. With the addition of approximately 56,349 square feet of private balconies, combined private and common open space would be approximately 129,477 square feet.

4. Project Elevations

Project elevations are provided in Figures A-16 through A-19. The elevations illustrate the relative scale of the Project and the relationship between the rehabilitation component (Times, Plant, and Mirror Buildings) and the North and South Towers. **Figure A-16**, *North Elevation as Viewed from W. 1st Street*, illustrates the Project as it would be viewed from the north, including Grand Park and the City's Civic Center Park. In this elevation, the 37-story North Tower and the 8-story existing Times Building would appear in the foreground, while the upper stories of the 53-story South Tower would appear in the background. Similar to existing conditions, the 10-story Mirror Building would be visible behind the Times Building.

Because of the setback and open space afforded by Grand Park and Civic Center Park, broad views of the Project would be available from land uses to the north of Spring Street, including City Hall, civic buildings lining Civic Center Park, the Los Angeles Music Center, and uses to the north of the Hollywood Freeway.



SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-16

North Elevation as Viewed from W. 1st Street

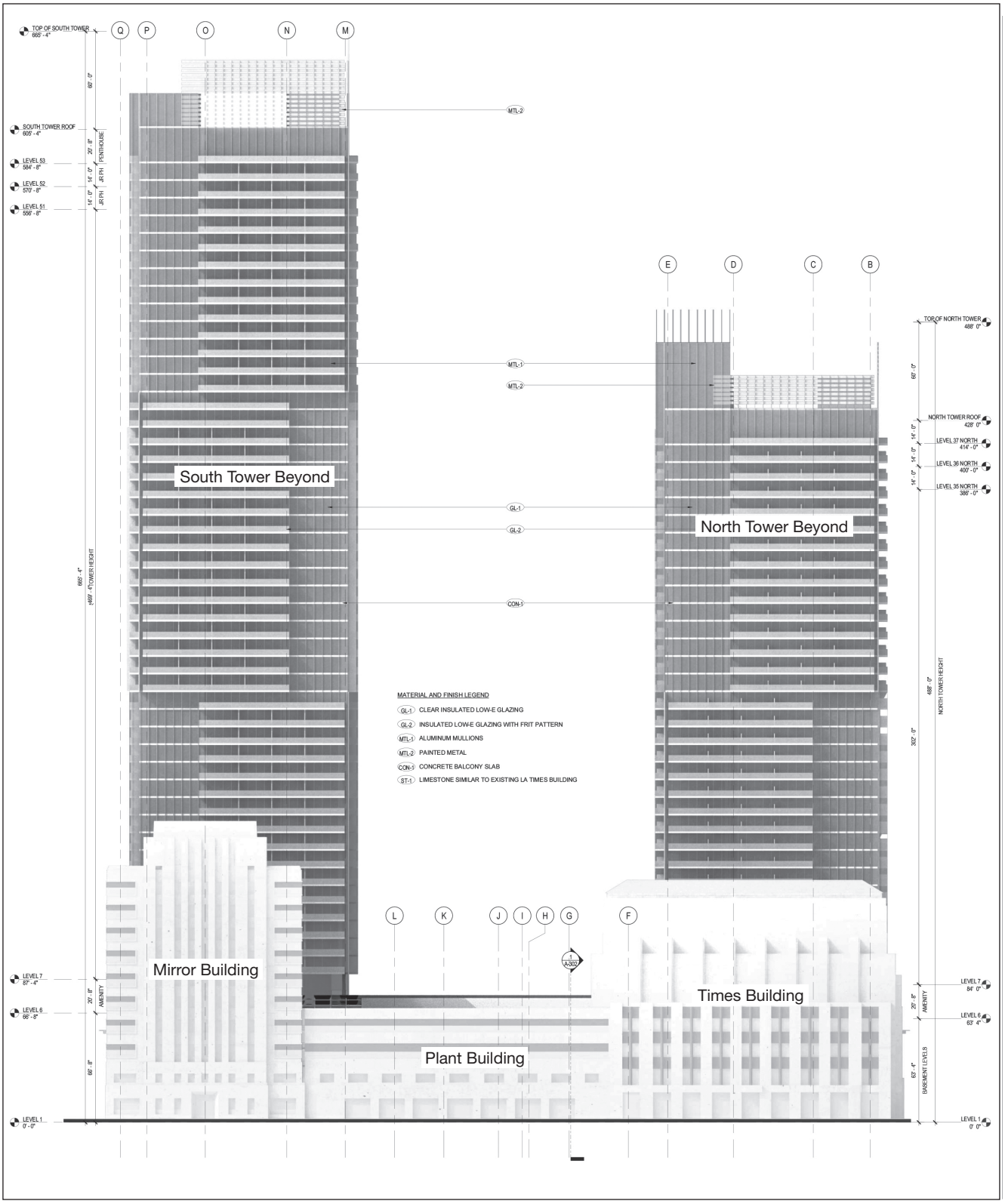
ESA PCR

Figure A-16 also illustrates the architectural treatment of the North Tower, including the strong horizontal plane at the base of the building and horizontal features that define the vertical walls of the towers. This feature complements the distinctive vertical lines of the Times Building and balances the horizontal planes that define the Mirror Building. The Paseo running between W. 1st Street and W. 2nd Street would separate the Times Building from the North Tower and allow for the rehabilitation of the Times Building's west façade as viewed from the north.

Figure A-17, *East Elevation as Viewed from S. Spring Street*, illustrates the appearance of the Project as viewed from the area to the east of S. Spring Street. The 10-story LAPD Headquarters Building would block most near, direct west-facing views of the Project. However, the Project's east elevation would be visible from the E. 1st Street and E. 2nd Street corridors, from City Hall Park, and from LAPD Headquarters' south plaza. In more distant views from the east, the Project would be a component of the City's skyline, with high-rise buildings in Bunker Hill and the City's Financial District forming the background. Because Bunker Hill and the Financial District are topographically higher than the Project Site, the Project would not obscure the City's existing high-rise profile. As shown in Figure A-17, the strong horizontal planes of the North Tower and South Tower would complement the distinctive horizontal planes of the lower Plant Building separating the two towers and the vertical planes of the Times Building and Mirror Building. The roof of the Plant Building in the foreground would be used as a garden seating area.

Figure A-18, *South Elevation as Viewed from W. 2nd Street*, illustrates the appearance of the Project as viewed from the area to the south. This elevation also illustrates the relative height differences between the 10-story Mirror Building and 53-story South Tower. In this elevation, the 53-story South Tower would obscure the 37-story North Tower. A proposed 30-story building just to the south of W. 2nd Street would block direct views of the Project Site from the south; however, the Project would be visible from the Metro's proposed 2nd Street/Broadway Station, planned just to the south across W. 2nd Street. It would also be highly visible through the S. Spring Street and S. Broadway corridors. The strong horizontal architectural component of the South Tower would complement the horizontal component of the Mirror Building. The proposed Paseo between W. 2nd Street and W. 1st Street would create a visual and physical separation between the South Tower and the Mirror Building.

Figure A-19, *West Elevation as Viewed from S. Broadway*, illustrates the appearance of the Project as viewed from the area to the west. The new 10-story Federal Court Building directly to the west, which is located at a relatively higher ground elevation, would block direct views of the Project Site from the west. However, the Project's South Tower would be visible through the W. 1st Street corridor and the North Tower would be visible through the W. 2nd Street corridor. The base of the two towers provide a strong horizontal component, which forms a continuous retail street front between W. 1st Street and W. 2nd Street. Ground-level retail uses would be located in the 5-level Podium, which occupies the length of the block between W. 1st Street and W. 2nd Street. The roof of the Podium would provide space for an open garden, pool deck, and other recreational amenities for tower residents. The separation between the towers created by the lower 5-level Podium and the 4-story Plant Building in the background would allow light and visual relief from the mass of the North and South Towers, as viewed from the Federal Court Building and other uses to the west.



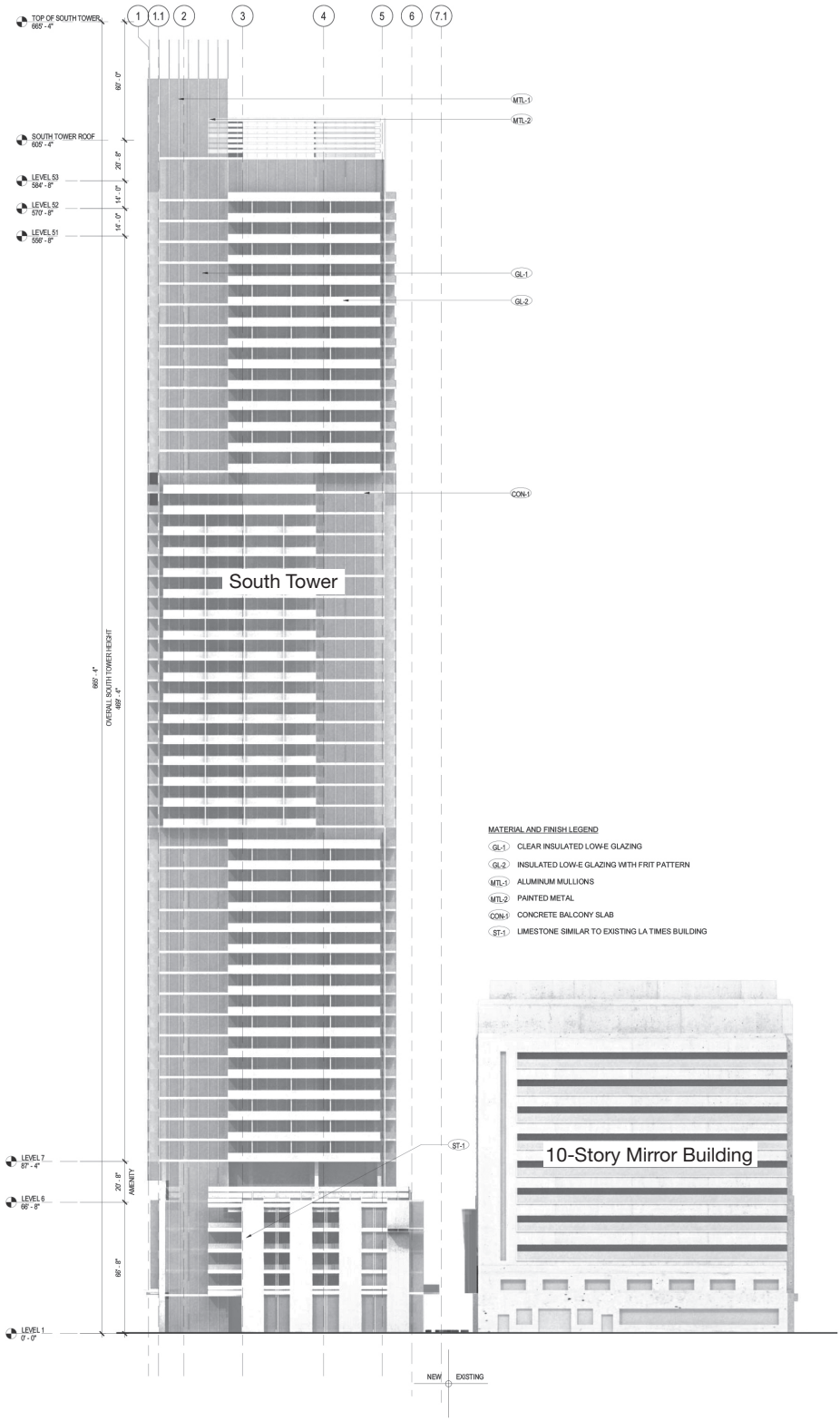
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-17

East Elevation as Viewed from S. Spring Street

ESA PCR



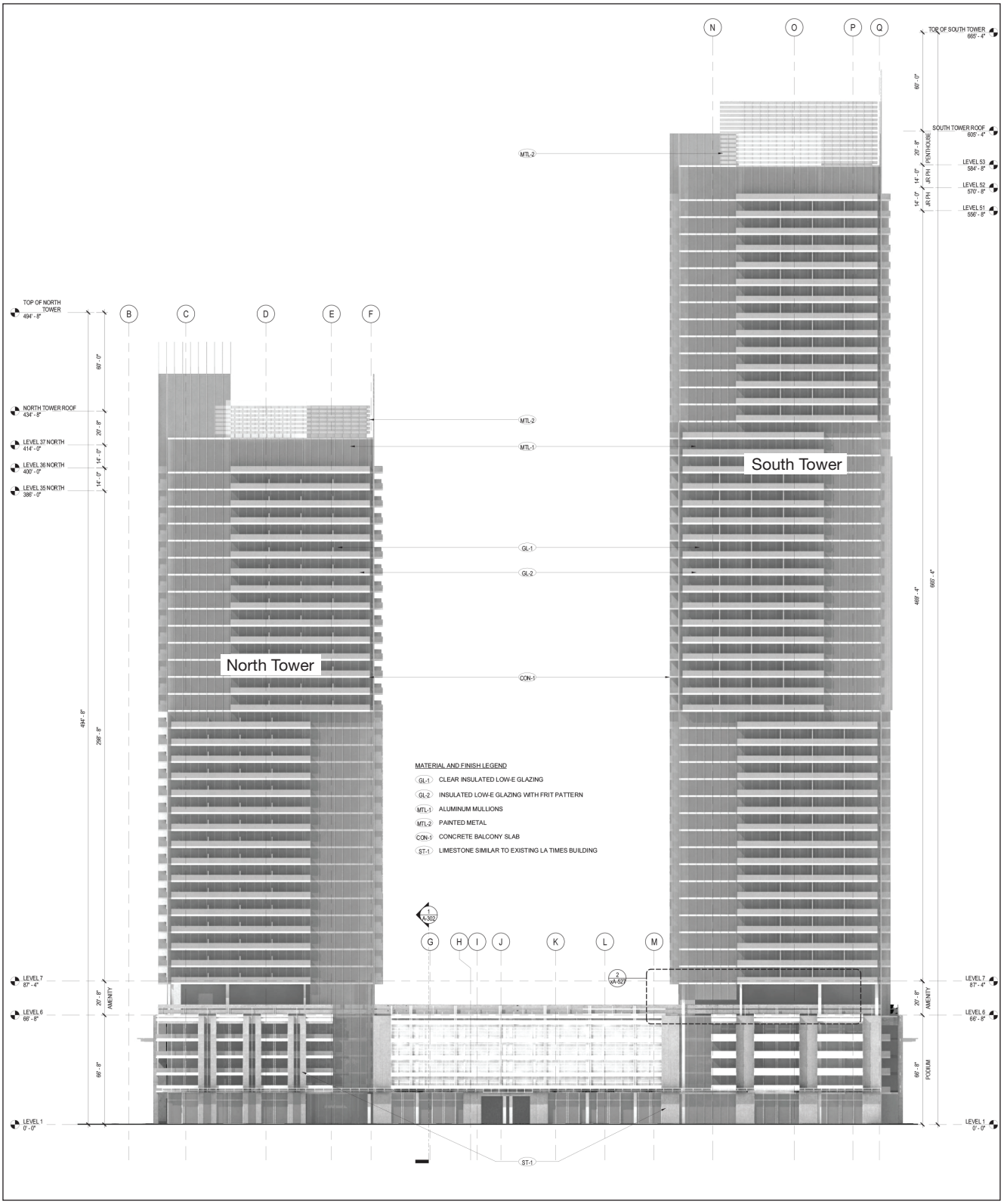
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-18

South Elevation as Viewed from W. 2nd Street

ESA PCR



SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-19

West Elevation as Viewed from S. Broadway

ESA PCR

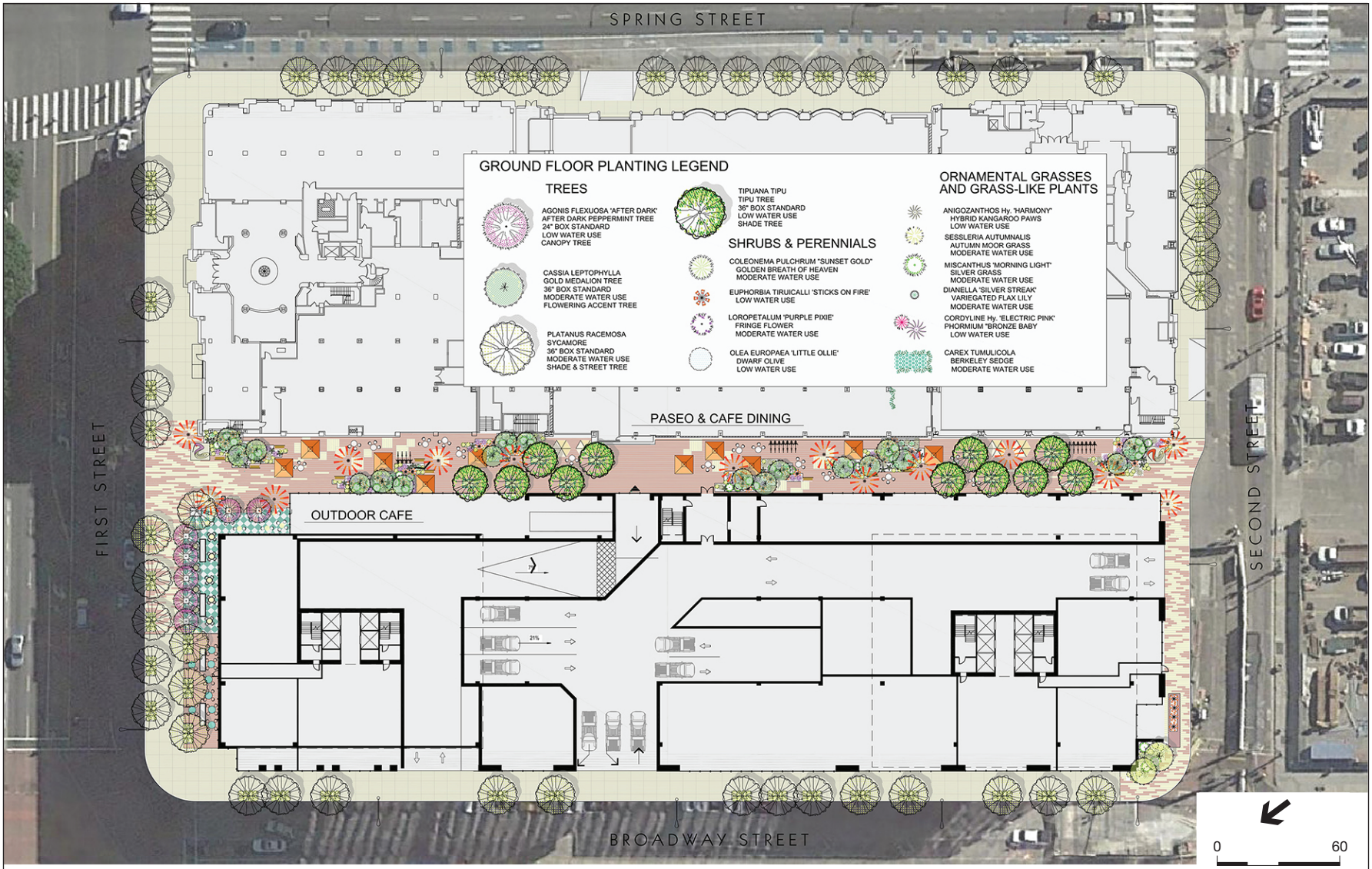
5. Open Space and Landscaping

Figures A-6, A-20, A-21, and A-22 illustrate proposed landscaping and open space associated with the Proposed Project. **Figure A-20**, *Ground Level Overall Landscape Plan*, shows that the overall landscape plan at the ground level. There are 29 existing California Sycamores, nine trees along W. 1st Street, 7 trees along S. Broadway, and 13 trees along Spring Street, and all would remain in place under the Project. The Project would add an additional four California Sycamores along W. 1st Street to create a double row near the corner of W. 1st Street and S. Broadway. In addition, the Project would add six California Sycamores along S. Broadway to fill in the existing trees on S. Broadway and create a continuous line of California Sycamores along the street edge. The Project would also add three additional California Sycamores along S. Spring Street and four California Sycamores along W. 2nd Street. The Project would plant two trees, Sweet Shade (*Hymenosporum flavum*), at the corner of S. Broadway and W. 2nd Street. The Sweet Shade tree is generally smaller than the California Sycamore but produces clusters of fragrant yellow flowers. Groups of Sweet Shade trees, a total of approximately twenty-five in all, would be planted along the pedestrian Paseo, which bisects the Project Site passing from W. 1st Street to W. 2nd Street.

As shown in Figure A-20 and **Figure A-21**, *Paseo and Outdoor Cafe*, the Paseo would be lined with an outdoor café, food court, and retail uses. Decorative pavement would be installed along W. 2nd Street and W. 1st Street, leading to the Paseo entrance, which would also be similarly paved. Bench planters, public art, bicycle parking, and trees would be located throughout the Paseo, as well as at the corners of W. Broadway and W. 2nd Street. The Paseo would also allow views to Civic Center Park immediately to the north of W. 1st Street. With the proposed landscaping, benches, public art, bicycle parking, pavement treatment, and adjacent retail shops, the tree-lined Paseo would facilitate pedestrian use and provide aesthetic and visual relief.

Figure A-22, *Level 6 – Residential Terrace*, illustrates open space amenities at the roof level of the five-story Podium. This area, which would be used by residents of the North Tower and South Tower, is represented by the setback between the North Tower and the South Tower, shown in Figure A-19, above. The base of the North Tower would be set back from the street edge of the Podium. The setback area would be accessible as a walkway and feature a line of approximately twenty laurel trees along the base of the North Tower, from the pool deck toward W. 1st Street.

Several fruitless olive trees would be planted behind the laurels at the pool deck. As also shown in Figure A-22, approximately twelve Golden Italian Cypress leading from the row of laurels (to the left of the laurels in the Level 6 - Residential Terrace) would be planted along the edge of the rooftop. To the north of the rooftop dog run, these would be backed by a group of After Dark Peppermint trees. A similar grouping would also be planted along the east edge of the Podium, overlooking the ground-level Paseo. Other groups of trees, as shown in Figure A-22, would be planted throughout the Podium rooftop. The trees on the Podium roof would enhance to the visual character of the Project as viewed from S. Broadway and the Paseo. Reductions in water demand for irrigation would be achieved through drought-tolerant/California native plant species selection and artificial turf, landscape contouring to minimize precipitation runoff, irrigation system efficiency, alternative water supplies (e.g., stormwater retention for use in landscaping), smart irrigation systems (e.g., weather-based controls), and water-saving pool equipment.



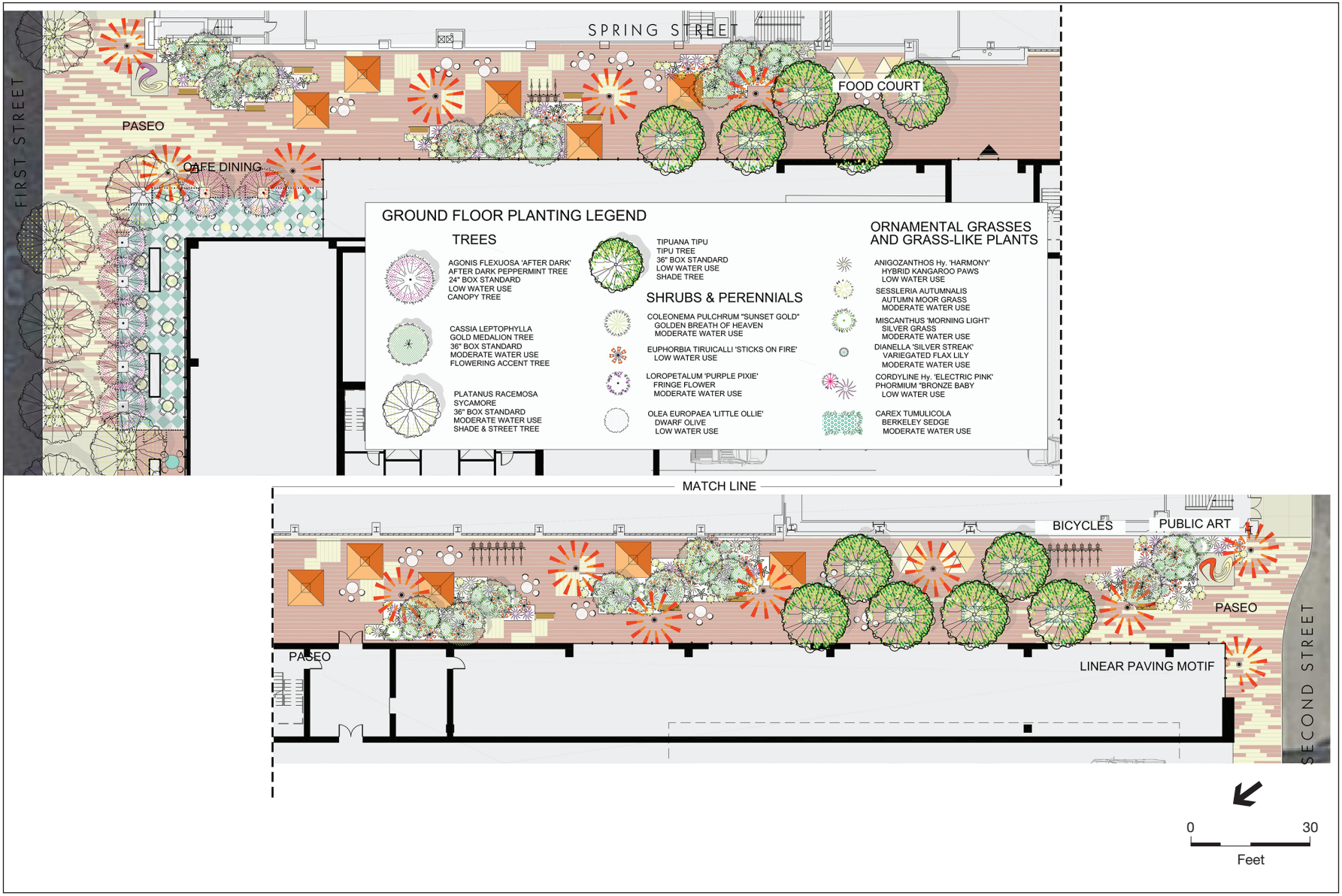
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-20

Ground Level Overall Landscape Plan

ESA PCR



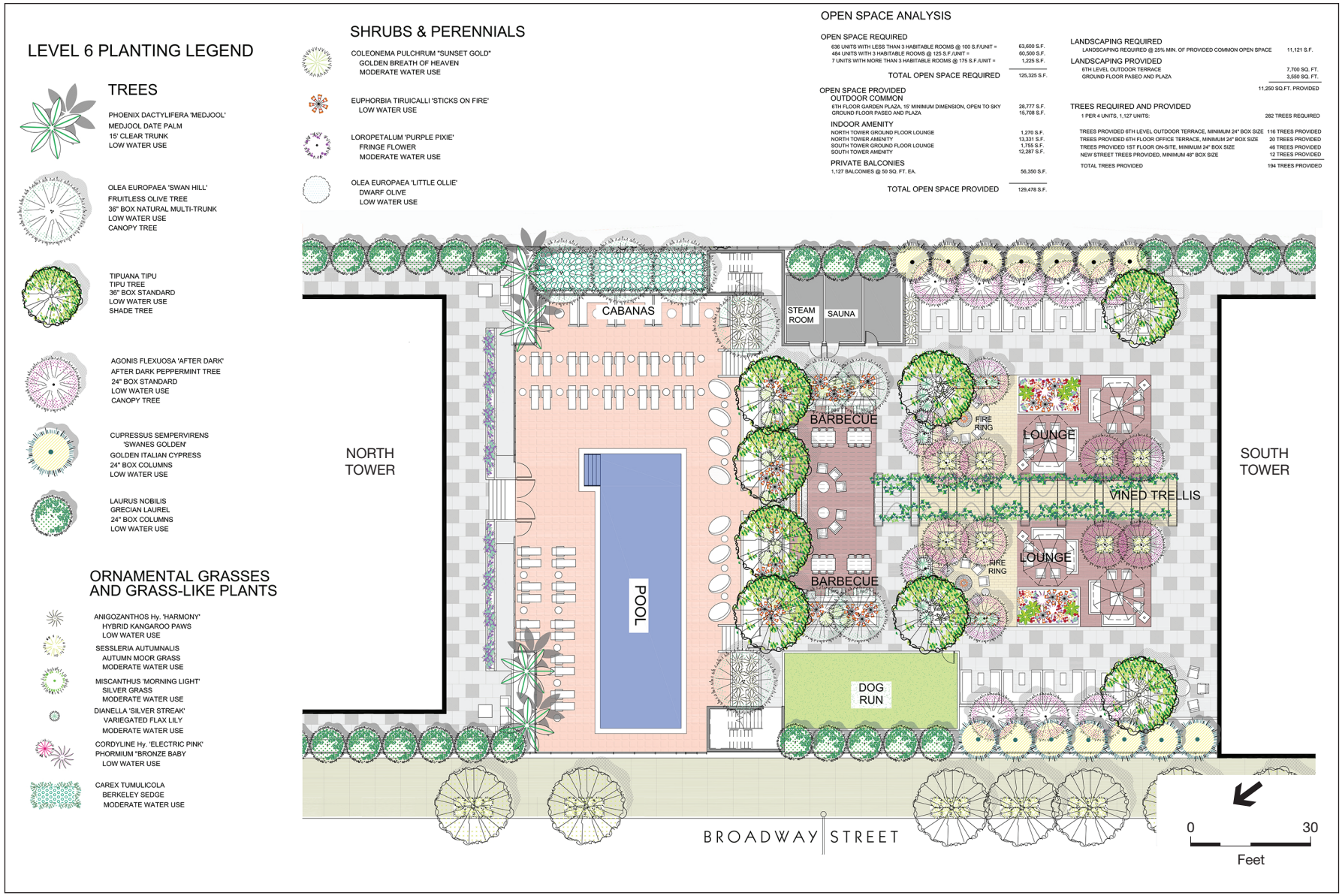
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-21

Paseo and Outdoor Cafe

ESA PCR



SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure A-22

Level 6 - Residential Terrace

ESA PCR

6. Parking

Table A-4, *Parking Requirements*, presents the LAMC parking requirement and the proposed parking for each of the Project's land uses, including the commercial uses and grocery store associated with the rehabilitated Times, Plant, and Mirror Buildings, and residential and retail uses within the North Tower and South Tower. The residential component consists of 90 studio units, 546 one-bedroom units, 484 two-bedroom or one-bedroom-with-den units, 4 three-bedroom units, and 3 penthouse units for a total of 1,127 units. As shown in Table A-4, the LAMC would require 1,250 vehicle parking spaces for the Project's residential component. The Project's total 410,677 square feet of commercial floor area would require approximately 411 parking spaces. Overall parking required for residential and commercial uses pursuant to the LAMC would total 1,661 parking spaces.

TABLE A-4
PARKING REQUIREMENTS

Use	Parking/Unit	No. of Units or Area	Required Parking
Residential			
Residential Parking 3 Habitable Rooms or Less	1.00	636 Units	636
Residential Parking More than 3 Habitable Rooms	1.25	491 Units	614
Subtotal Residential Parking Required			**1,250**
Residential Short and Long Term Bicycle Parking			1,240
Commercial			
Required Retail Parking New Building	1/1,000 SF	34,572 SF	35
Required Restaurant Parking Rehabilitated Building	1/1,000 SF	41,017 SF	41
Required Grocery Parking	1/1,000 SF	50,000 SF	50
Required Office Parking	1/1,000 SF	285,088 SF	285
Subtotal Commercial Parking Required	**1/1,000 SF**	**410,677 SF**	**411**
Commercial Short and Long Term Bicycle Parking			34
Total LAMC Required Parking			**1,661**

SOURCE: AC Martin Plans for Onni Times Square, 2017.

As shown in **Table A-5**, *Parking Provided*, the Project would provide 1,240 bicycle parking spaces for the residential uses and 34 bicycle parking spaces for the commercial uses. The Project is designed for approximately 1,744 vehicle parking spaces in the five-level above-ground Podium and nine-level subterranean parking structure. The entrance and exit to the residential and retail parking would be located on S. Broadway and W. 2nd Street. There would also be a loading dock entrance and exit on Broadway, north of the residential/retail driveway.

TABLE A-5
PARKING PROVIDED

Location	Residential	Retail/Office	Retail/Grocery	Potential Spaces (Max.)
Podium Level 5	75			75
Podium Level 4	75			75
Podium Level 3	59		16	75
Podium Level 2			75	75
Mezzanine			34	34
Podium Level 1				0
Subterranean Level 1		156		156
Subterranean Level 2		156		156
Subterranean Level 3	62	94		156
Subterranean Level 4	156			156
Subterranean Level 5	156			156
Subterranean Level 6	156			156
Subterranean Level 7	156			156
Subterranean Level 8	156			156
Subterranean Level 9	162			162
Location	**Residential**	**Retail/Office**	**Retail/Grocery**	**Spaces**
Total Provided Vehicle Parking	**1,213**	**406**	**125**	**1,744**
Total Provided Bicycle Parking				**1,274**

SOURCE: AC Martin Plans for Onni Times Square, 2017.

7. Sustainability

The new development associated with the Project would be designed to achieve the equivalent of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification level for new buildings. The Project would be designed to meet the California Green Building Standards (CALGreen) Code, as adopted and amended by the City of Los Angeles, through the incorporation of green building techniques and other sustainability features, including those within the City of Los Angeles Green Building Code, where applicable. Some of the Project's key design features that would contribute to energy efficiencies include the use of glass/window areas for ventilation and daylight accessibility, use of recyclable materials for flooring and demisable partitions in limited amounts, green walls in some areas, low albedo (high reflectivity) color paving to reduce heat island effect, conduit for solar panels installed on roof deck areas pursuant to code requirements, and landscaping of courtyards and roof decks. Other building features would include such items as installation of energy-efficient lighting, heating, ventilation, and air conditioning (HVAC) systems that utilize ozone-friendly refrigerants; use of materials and finishes that emit low quantities of volatile organic compounds (VOCs); use of high efficiency fixtures and appliances; water conservation features;

and dedicated on-site recycling area. The Project's inclusion of bicycle parking, as discussed above, would encourage the use of alternative modes of transportation.

The Project would reduce outdoor potable water use by a minimum of 20 percent compared to baseline water consumption. Reductions would be achieved through drought-tolerant/California native plant species selection and artificial turf, landscape contouring to minimize precipitation runoff, irrigation system efficiency, alternative water supplies (e.g., stormwater retention for use in landscaping), smart irrigation systems (e.g., weather-based controls), and water-saving pool equipment.

In addition, to encourage carpooling and the use of electric vehicles by Project residents and visitors, the Project would designate a minimum of eight percent on on-site parking for carpool and/or alternative-fueled vehicles and shall pre-wire, or install conduit and panel capacity for, electric vehicle charging stations up to a maximum of 20 percent of onsite parking spaces.

CEQA Guidelines Appendix F

In accordance with CEQA Guidelines Appendix F, the EIR will provide further information as to energy conservation, energy implications, and the energy-consuming equipment and processes that would be used during Project construction and operation. Design features of the Project, energy supplies that would serve the Project and total estimated daily vehicle trips that would be generated by the Project will also be analyzed. In addition, while development of the Project would not be anticipated to cause the wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the intent of Appendix F of the CEQA Guidelines, further analysis of the Project's consistency with Appendix F will also be provided in the EIR.

8. Lighting and Signage

New signage would be used for identification of ground level retail and restaurant businesses, building identification, and way finding. No off-site advertising signage is proposed. Street level commercial and restaurant signage would be similar to other signage along the street frontages in the area and, with regard to Broadway, would be consistent with the Historic Broadway Supplemental Sign Use District. The proposed buildings would include accent lighting to complement the building architecture. All lighting would be designed and located to be compatible with the architecture and landscaping of the Project, and would be directed on-site and shielded as appropriate to avoid light spill over onto adjacent properties. Pedestrian areas, including the Paseo, would be well lit for security. Existing light standards along all four street frontages, which are consistent with fixtures used throughout the Civic Center, would be retained. Lighting and signage would be developed in compliance with applicable LAMC requirements.

9. Security Features

The Project would incorporate a 24-hour/seven-day security program to ensure the safety of its residents and visitors. The Project would be designed in consideration of the City's "Design Out Crime" initiative to provide a project design that incorporates strategies from Crime Prevention through Environmental Design (CPTED).

Design strategies within the project design would include, but not limited to, the following:

- Secure access points would be limited and located in areas of high visibilities;
- Hallways and corridors would be straight forward with no dark corners, as possible;
- Outdoor areas would be exposed to windows and allow for natural surveillance;
- Clear transitional zones would be provided between public, semi-public and private spaces;
- Access key cards and cameras would be used; and
- Interior and exterior spaces would be well lit with proper signage to direct the flow of people and decrease opportunities for crime.

In addition, the following security measures would be implemented by the Project:

- Installing and utilizing a 24-hour security camera network throughout the underground and above-grade parking structure; the elevators; the common and amenity spaces; the lobby areas; and the rooftop and ground level outdoor open spaces.
- Maintaining all security camera footage for at least 30 days, and providing such footage to LAPD as needed.
- Controlling access to all building elevators, residences, and resident-only common areas through an electronic key fob specific to each user.
- Training employees on appropriate security policies for the Project's buildings. Duties of the staff would include, but would not be limited to, assisting residents and visitors with site access; monitoring entrances and exits of buildings; managing and monitoring fire/life/safety systems; and monitoring the property.
- Providing a 24-hour/seven-day security program for the Paseo.
- Access to commercial uses would be unrestricted during business hours, with public access discontinued after businesses have closed.

10. Anticipated Construction Schedule and Activities

The Project would be constructed in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023. The Project would require approximately 364,000 cubic yards of soil export and no fill would be required on the Project Site. Construction would be carried out pursuant to a construction management plan subject to review and approval by the City. The plan would include such items as street closure and detour information (if applicable), haul routes, and a staging plan, and would specify actions to reduce effects on the surrounding community. Construction hours would occur in accordance with LAMC requirements, which prohibit construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday. The Project Site would be fenced during construction for security purposes with gate-controlled access.

11. FAR, Setbacks and Density

The Project's new development (approximately 1,135,803 square feet) combined with existing floor area to remain (376,105 square feet) would result in approximately 1,511,908 square feet of floor area. The overall FAR (floor area divided by land area) within the approximately 160,578 square-foot Project Site would be approximately 9.42:1. The Project Site is designated as Regional Center in the Central City Community Plan Land Use Map. Under Footnote 3 of the map, which is applicable to the Project Site's Regional Center designation, it indicates an FAR of 6:1 for the respective zoning (D) designation, "except with Transfer of Floor Area (TFAR) up to 10:1 or 13:1, respectively."[13]

The Project would provide 1,127 residential units, which on the approximately 160,578-square-foot site would represent one dwelling unit per 142.48 square feet of lot area, in exceedance of the City's highest density R5 zone (1 unit per 200 square feet of lot area). However, the location of the Project Site within the Greater Downtown Housing Incentive Area allows exemption from several Municipal Code sections, including density requirements. Within the boundaries of the Greater Downtown Housing Incentive Area, the maximum unit per lot area was eliminated and density is unlimited (within the relevant FAR).

No yard requirements apply except as required by the Urban Design Standards and Guidelines. Under the Downtown Design Guide, retail streets in the Project area (Civic Center South) from back of the required sidewalk, no setback is required adjacent to ground-floor retail, a project may be set back within the specified range of 0-5 feet.[14]

F. Necessary Approvals

It is anticipated that approvals required for the Project would include, but may not be limited to, the following:

1. Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site) (LAMC Sec. 14.5.6-B).
2. Vesting Conditional Use Permit to permit floor averaging within a unified development (LAMC Sec. 12.24-W,19).
3. Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces (LAMC Sec. 12.24-W,1).
4. Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (LAMC Sec. 17.15). The Applicant is requesting to provide parking

[13] City of Los Angeles Department of Planning, Central City Community Plan, General Plan Land Use Map (as of July 7, 2009) Footnote 3,

[14] City of Los Angeles, Downtown Design Guide, Table 3-1.

per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums.

5. Construction permits, including building, grading, excavation, foundation, and associated permits.
6. Haul Route Permit, as may be required.
7. Other approvals as needed.

ATTACHMENT B
Explanation of Checklist Determinations

I. Aesthetics

Senate Bill (SB) 743 [Public Resources Code (PRC) §21099(d)] sets forth new guidelines for evaluating project transportation impacts under CEQA, as follows: "Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area (TPA) shall not be considered significant impacts on the environment." PRC Section 21099 defines a "transit priority area" as an area within 0.5 mile of a major transit stop that is "existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations." PRC Section 21064.3 defines "major transit stop" as "a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods." PRC Section 21099 defines an "employment center project" as "a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area. PRC Section 21099 defines an "infill site" as a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses. This state law supersedes the aesthetic impact thresholds in the 2006 L.A. CEQA Thresholds Guide, including those established for aesthetics, obstruction of views, shading, and nighttime illumination.

The related City of Los Angeles Department of City Planning Zoning Information (ZI) File ZI No. 2452 provides further instruction concerning the definition of transit priority projects and that "visual resources, aesthetic character, shade and shadow, light and glare, and scenic vistas or any other aesthetic impact as defined in the City's CEQA Threshold Guide shall not be considered an impact for infill projects within TPAs pursuant to CEQA."[1]

PRC Section 21099 applies to the Project. Therefore, the Project is exempt from aesthetic impacts. The analysis in this initial study (or in the EIR, if any aesthetic impact discussion is included), is for ***informational purposes only*** *and not for determining whether the Project will result in significant impacts to the environment. Any aesthetic impact analysis in this initial study (or the EIR) is included to discuss what aesthetic impacts would occur from the Project if PRC*

1 City of Los Angeles Department of City Planning, Zoning Information (ZI) File No. 2452, Transit Priority Areas (TPAs)/Exemptions to Aesthetics and Parking Within TPAs Pursuant to CEQA. Available at: http://zimas.lacity.org/

Section 21099(d) was not in effect. As such, nothing in the aesthetic impact discussion in this initial study (or the EIR) shall trigger the need for any CEQA findings, CEQA analysis, or CEQA mitigation measures.

Would the project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The Project Site is located within a highly urbanized area of Downtown Los Angeles in the Civic Center/Historic Core District. Visual resources in the Project vicinity include the Downtown Los Angeles skyline to the west and southwest, the historic Los Angeles City Hall, the recently rehabilitated and historic County Hall of Justice, and other historic and architecturally notable buildings in the area. While the Project's paseo would provide a view corridor toward Grand Park to the north, because the Project would introduce new buildings and increase overall density on the Project Site, it could have an effect on scenic vistas from some locations in the Project vicinity. However, the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area.

Pursuant to SB 743 and ZI 2452, the Project would result in no impact to scenic vistas.

Notwithstanding the above and the exemption of the Project from aesthetic impacts under SB 743, the EIR will include a discussion of the Project's impacts under the City thresholds for informational purposes only. The impact conclusion for aesthetics is no impact.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a state scenic highway?

No Impact. The Project Site is not located within a City- or State-designated scenic highway or associated view corridor.[2,3] However, the Project Site and the surrounding Civic Center/Historic Core District contains historic and locally recognized desirable buildings and other features, such Grand Park. The introduction of new high-rise buildings may indirectly affect some of these scenic resources in the Civic Center/Historic Core and adjacent districts. However, the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area.

Pursuant to SB 743 and ZI 2452, the Project would result in no impact to scenic resources.

Notwithstanding the above and the exemption of the Project from aesthetic impacts under SB 743, the EIR will include a discussion of the Project's impacts under the City thresholds for informational purposes only. The impact conclusion for aesthetics is no impact.

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2 City of Los Angeles Department of City Planning, Mobility Plan 2035, Map A-5, https://planning.lacity.org/documents/policy/mobilityplnmemo.pdf. Accessed May 9, 2017.

3 State of California, Department of Transportation, Officially Designated State Scenic Highways, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways. Accessed May 9, 2017

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The Project would rehabilitate the existing Times Building, Plant Building, and Mirror Building, while demolishing and replacing the Executive Building, a glass and steel building on the northwest corner of the block designed by modernist William Pereira. New buildings would include a 37-story, approximately 495-foot-high North Tower and a 53-story, approximately 665-foot-high South Tower. The Project would alter the existing urban visual character of the Project Site and its surroundings by increasing the height and density of on-site development. However, the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area.

Pursuant to SB 743 and ZI 2452, the Project would result in no impact to visual character or quality.

Notwithstanding the above and the exemption of the Project from aesthetic impacts under SB 743, the EIR will include a discussion of the Project's impacts under the City thresholds for informational purposes only. The impact conclusion for aesthetics is no impact.

d) Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area?

No Impact. The Project Site is located within a highly urbanized area of Downtown Los Angeles within the Civic Center/Historic Core, which is characterized by moderate to high ambient nighttime artificial light levels. At night, surrounding development typically generates moderate to high levels of exterior lighting for loading dock, security, parking, signage, and some architectural lighting. Street lights and the limited nighttime traffic on local streets also contribute to the light levels in the area. The Project would further contribute to ambient nighttime illumination as the Project's new architectural lighting, security lighting, interior and outdoor lighting from residential and retail areas, and any illuminated signage is expected to increase light levels over existing conditions. In addition, the Project would introduce new building surface materials to the Project Site with the potential to generate glare. However, the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area.

Pursuant to SB 743 and ZI 2452, the Project would result in no impact to light and glare.

Notwithstanding the above and the exemption of the Project from aesthetic impacts under SB 743, the EIR will include a discussion of the Project's impacts under the City thresholds for informational purposes only. The impact conclusion for aesthetics is no impact.

Shading impacts are influenced by the height and bulk of a building or structure, the time of year, the duration of shading during the day, and the proximity of shade-sensitive land uses or receptors. No residential outdoor areas, which are typically shade-sensitive,[4] are currently

[4] City of Los Angeles, L.A. CEQA Thresholds Guide (2006), page A.3-1.

adjacent to the Project Site. However, the Project vicinity is characterized by a number of shade-sensitive uses, including City Hall Park, Grand Park, the City's under-construction First and Broadway Civic Center Park, and the Caltrans Building's open space with seating. The new Federal Courthouse Building to the west relies heavily on natural light for daytime operation and may also be considered shade-sensitive.[5] Because the Project would increase the height of on-site development, it could have an impact on shade-sensitive uses. However, the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area.

Pursuant to SB 743 and ZI 2452, the Project would result in no impact to shading.

Notwithstanding the above and the exemption of the Project from aesthetic impacts under SB 743, the EIR will include a discussion of the Project's impacts under the City thresholds for informational purposes only. The impact conclusion for aesthetics is no impact.

II. Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Project Site is located within the Civic Center/Historic Core of Downtown Los Angeles and is entirely developed with the several buildings including the Times Building, the Plant Building, the Executive Building, and a parking structure. No agricultural uses or related operations are present on the Project Site or in the surrounding highly urbanized area. Furthermore, the Project Site is not located on designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the

[5] Skidmore, Owens, and Merrill, SOM's New L.A. Courthouse Needs Almost No Artificial Lighting During the Day (January 16, 2017), http://www.som.com/news/soms_new_la_courthouse_needs_almost_no_artificial_lighting_during_the_day. Accessed January 24, 2017.

Farmland Mapping and Monitoring Program.[6] Since the Project would not convert farmland to non-agricultural uses, there would be no impact. No further analysis of this topic in the EIR is required and no mitigation measures are required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Project Site is designated as Regional Center Commercial in the Central City Community Plan, with a corresponding zone of C2-4D-SN, which permits general commercial and multi-family residential uses. The Project Site comprises a completely developed urban parcel. No agricultural zoning is present in the Project vicinity, and no nearby lands are enrolled under the Williamson Act.[7] As such, the Project would not conflict with existing zoning for agricultural uses or a Williamson Act contract, and there would be no impact. No further analysis of this topic in the EIR is required, and no mitigation measures are required.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No Impact. As discussed in the response to Checklist Question II.b, the Project Site is zoned C2-4D-SN, which permits general commercial and multi-family residential uses. The Project Site is currently entirely developed with five multi-story buildings. Furthermore, consistent with the urbanized area surrounding the Project Site, the larger Project vicinity comprises the Los Angeles Civic Center and other public facilities, and the Project Site is designated for Regional Center Commercial land uses. No forest land or land zoned for timberland production is present on the Project Site or in the surrounding area. As such, the Project would not conflict with existing zoning for forest land or timberland, and there would be no impact. No further analysis of this topic in the EIR is required and no mitigation measures are required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. The Project Site is entirely developed with the LA Times Building and related operations, office buildings, and a multi-story parking structure. No forest land exists on-site or in the Project vicinity. As such, the Project would not result in the loss of forest land or conversion of forest land to non-forest use, and there would be no impact. No further analysis of this topic in the EIR is required and no mitigation measures are required.

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6 California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Los Angeles County Important Farmland Map 2014, ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/los14.pdf. Accessed January 24, 2016.

7 California Department of Conservation, Division of Land Resource Protection, Los Angeles County Williamson Act Map FY 2015/2016, ftp://ftp.consrv.ca.gov/pub/dlrp/wa/LA_15_16_WA.pdf. Accessed December 1, 2016.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

No Impact. There are no agricultural uses or related operations on or near the Project Site, which is located in Downtown Los Angeles in the Civic Center/Historic Core District, a highly urbanized portion of the City. Therefore, the Project would not involve the conversion of farmland to other uses, either directly or indirectly. No impacts to agricultural land or uses would occur. No further analysis of this topic in the EIR is required and no mitigation measures are required.

III. Air Quality

Where available, the significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations.

Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

Potentially Significant Impact. The Project Site is located within the 6,600-square-mile South Coast Air Basin (Basin). The South Coast Air Quality Management District (SCAQMD), together with the Southern California Association of Governments (SCAG), is responsible for formulating and implementing air pollution control strategies throughout the Basin. The current Air Quality Management Plan (AQMP) was adopted March 3, 2017 and outlines the air pollution control measures needed to meet Federal particulate matter ($PM_{2.5}$) and ozone (O_3) standards. The AQMP also proposes policies and measures currently contemplated by responsible agencies to achieve Federal standards for healthful air quality in the Basin that are under SCAQMD jurisdiction. In addition, the current AQMP addresses several Federal planning requirements and incorporates updated emissions inventories, ambient measurements, meteorological data, and air quality modeling tools from earlier AQMPs.

The Project would support and be consistent with several key policy directives set forth in the AQMP. For example, the Project would provide for new residential uses in the City's Civic Center/Historic Core, which is characterized by high employment density. The Project would also locate new development in proximity to existing public transit facilities, including LADOT's Downtown Dash, Metro's Civic Center Station, Metro's under-construction 2nd and Broadway Station, a range of Metro's Rapid Bus Lines and local bus lines. The Project Site is already served by existing roadway and utility infrastructure. Notwithstanding these attributes, the Project has the potential to increase the amount of traffic in the area, which would consequently generate operational air emissions that could affect implementation of the AQMP. Pollutant emissions resulting from construction of the Project would also have the potential to affect implementation of the AQMP. Therefore, the EIR will provide further analysis of potential impacts to implementation of the AQMP.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially Significant Impact. The Project Site is located within the Basin, which is characterized by relatively poor air quality. According to the 2016 AQMP, the Air Basin is designated non-attainment for federal and State ozone standards, as well as the current $PM_{2.5}$ standards. The Los Angeles County portion of the Basin is also designated a nonattainment area for the federal lead standard on the basis of source-specific monitoring at two locations, as determined by U.S. EPA using 2007–2009 data. However, all other stations in the Basin, including the near-source monitoring in Los Angeles County, have remained below the lead NAAQS for the 2012 through 2015 period. SCAQMD is therefore requesting that U.S. EPA re-designate the Los Angeles County portion of the Basin as attainment for lead. The Project would result in increased air emissions associated with construction and operational traffic. Therefore, the EIR will provide further analysis of potential impacts associated with the Project's construction and operational air pollutant emissions, with the Air Quality analysis accounting for the most recent regulatory changes.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment (ozone, PM10, and PM2.5) under an applicable federal or state ambient air quality standard?

Potentially Significant Impact. As discussed in the response to Checklist Question III.b, the Project would result in increased air emissions from construction and operational traffic in the Basin, within an air quality management area currently in non-attainment of Federal and State air quality standards for O_3, $PM_{10,}$ and $PM_{2.5}$. As such, implementation of the Project could potentially contribute to cumulatively significant air quality impacts in combination with other existing and future emission sources in the Project area. Therefore, the EIR will provide further analysis of potential cumulative impacts associated with an increase in criteria pollutants.

d) Expose sensitive receptors to substantial pollutant concentrations?

Potentially Significant Impact. The Project Site is located in the downtown area, which includes a high density, concentrated mix of uses, including residential and other sensitive uses in the Project vicinity. Construction activities and operation of the Project could increase air emissions above current levels. Therefore, the EIR will provide further analysis of potential impacts associated with the exposure of sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. Odors are also associated with such uses as sewage treatment facilities and landfills. Activities and materials associated with Project construction would be typical of

construction projects of similar type and size. On-site trash receptacles would be enclosed within the subterranean parking structure or other interior spaces on Level 1, and properly maintained in a manner that promotes odor control. Any odors generated during construction of the Project would be localized and would not be sufficient to affect a substantial number of people or result in a nuisance as defined by South Coast Air Quality Management District (SCAQMD) Rule 402. The Project proposes a mixed-use development that includes residential, office, retail (including grocery store), and restaurants that would not introduce any major odor-producing uses that would have the potential to affect a substantial number of people, such as uses associated with manufacturing, smelting, food packing, and other industrial uses. Odors associated with Project operation would be limited to those associated with on-site waste generation and disposal (e.g., trash cans, dumpsters) and occasional minor odors generated during food preparation activities. Waste would also be regularly collected and, because trash receptacles would be located within the Project's interior, any potential odors from on-site waste disposal would not affect surrounding land uses. Thus, Project operation is not expected to create objectionable odors and odor impacts would be less than significant. Therefore, impacts would be less than significant and no mitigation measures are required. No further analysis of this topic in the EIR is required.

IV. Biological Resources

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated. The Project Site is entirely developed with five buildings and a parking structure and, as such is entirely impermeable. The Project Site has been operating as an urban use for decades. At present, the adjacent street rights-of-ways (ROWs) are planted with 29 ornamental, California Sycamore trees. Of these, 26 are considered to more than 3 inches in truck diameter. All 29 trees would remain under the Project. The Project would add an additional four California Sycamores along W. 1st Street to create a double row near the corner of W. 1st Street and S. Broadway. In addition, the Project would add 10 California Sycamores along S. Broadway Street to fill in the existing trees on S. Broadway and create a continuous line of California Sycamores along the street edge. The Project would also add three additional California Sycamores along S. Spring Street and four California Sycamores along W. 2nd Street. The Project would not remove any existing trees and would add trees and shrubs at the entrances to the Paseo and within the Paseo, which would increase ornamental plants and trees over existing conditions. Thus, the Project would not disturb any native or protected trees as defined by the Los Angeles Municipal Code (LAMC) Section 17.02 and impacts to street trees would be less than significant. In addition, the Project vicinity is highly urbanized and does not support habitat for candidate, sensitive, or special status plant species. Therefore, no impacts to candidate, sensitive, or special status plant species would occur.

However, the potential exists for protected bird species to be nesting in the street trees during Project construction. In order to avoid disturbance of nesting birds a mitigation measure shall be implemented to reduce impacts to nesting birds to a less than significant level. With the implementation of Mitigation Measure BIO-MM-1, impacts to sensitive plant and animal species would be less than significant and no further analysis of this topic in the EIR is required.

Mitigation Measure

BIO-MM-1: Prior to issuance of a grading permit, the Project Applicant shall demonstrate that the following requirements have been included in the Project construction plan:

1. Any construction activities that occur during the nesting season (February 15 to August 31) shall require that all suitable habitat (i.e., street trees and shrubs) be surveyed for the presence of nesting birds by a qualified biologist, retained by the Applicant as approved by the City of Los Angeles Building and Safety, before commencement of clearing and prior to grading permit issuance. The survey shall be conducted within 72 hours prior to the start of construction. A copy of the pre-construction survey shall be submitted to the City of Los Angeles Building and Safety.

2. If the required pre-construction survey detects any active nests, an appropriate buffer as determined by the biological monitor, shall be delineated, flagged, and avoided until the qualified biological monitor has verified that the young have fledged or the nest has otherwise become inactive.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. As discussed in the response to Checklist Question IV.a, the Project Site and surrounding area are located in a highly urbanized setting. The Project Site does not contain any drainage channels to the Los Angeles River (located approximately 0.89 mile to the east), riparian habitat, or other sensitive natural communities as indicated in the City or regional plans or in regulations by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). Furthermore, the Project Site is not located in or adjacent to a Significant Ecological Area (SEA) as defined by the City and County of Los Angeles.[8,9] Therefore, the Project would not have an adverse effect on any riparian habitat or other sensitive natural community. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

8 City of Los Angeles Department of City Planning, Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report at page 2.18-13 (January 19, 1995), http://cityplanning.lacity.org/housinginitiatives/housingelement/frameworkeir/FrameworkFEIR.pdf. Accessed January 24, 2017.

9 County of Los Angeles Department of Regional Planning, County of Los Angeles Significant Ecological Areas Program, Figure 9.3, Significant Ecological Areas and Coastal Resources Areas Policy Map (February 2015), http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-3_significant_ecological_areas.pdf. Accessed January 24, 2017.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. As discussed in the response to Checklist Question IV.a, the Project Site is located in a highly urbanized area and is developed with five existing office or light industrial buildings and a parking structure. The surrounding area has been fully developed with urban uses and associated infrastructure. The nearest water body, the Los Angeles River, which is located approximately 0.89 mile to the east, is concrete lined in its nearest stretch to the Project Site (i.e., near the 1st Street Bridge). The Project Site does not contain any wetlands as defined by Section 404 of the Clean Water Act. Therefore, the Project would not have an adverse effect on federally protected wetlands. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. As stated in the response to Checklist Question IV.a, the Project Site is currently developed with four commercial buildings and a 6-level parking structure. Because of the highly urbanized nature of the Project Site and surrounding area, the lack of a major water body other than the Los Angeles River, which is concrete lined in the Project vicinity and separated from the Project Site by rail facilities and multiple fence lines, and the lack of trees or natural open space area on the Project Site, the site does not contain substantial habitat for native resident or migratory species, or native nursery sites. Therefore, the Project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. As stated in the response to Checklist Question IV.a, the Project Site is a developed lot with no trees and no natural open space areas. Trees planted in the adjacent ROWs are ornamental and are not considered protected resources. No locally protected biological resources, such as oak trees or California walnut woodlands, or other trees protected under the City of Los Angeles Protected Tree Ordinance (Chapter IV, Article 6 of the LAMC) exist on the Project Site or in the adjacent street ROWs. In accordance with LAMC Section 12.21.G.2, Open Space Requirement for Six or More Residential Units, the Project would be planting one 24-inch box tree for every four dwelling units, ultimately filling in existing street trees with similar species and planting trees within the site's open space, including the paseo. Project landscaping would comply with all requirements of the LAMC and the City's Urban

Forestry Division's requirements. Therefore, the Project would not conflict with local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance. Impacts would be less than significant and no mitigation measures are required. No further analysis of this topic in the EIR is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. As discussed in the response to Checklist Question IV.a, the Project Site is located within a developed, urbanized area and does not provide habitat for any sensitive biological resources. The Project Site is not located within a habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan.[10] Therefore, the Project would not conflict with the provisions of any adopted conservation plan. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

V. Cultural Resources

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in State CEQA Guidelines §15064.5?

Potentially Significant Impact. A historical resource is defined in Section 15064.5(a)(3) of the State CEQA Guidelines as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California. Historical resources are further defined as those associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values. Resources listed in or determined eligible for the California Register, included in a local register, or identified as significant in a historic resource survey are also considered historical resources under CEQA.

The entire block is identified by SurveyLA, the citywide historic resources survey of Los Angeles. SurveyLA noted that the Times, Plant, and Mirror Buildings are listed in the California Register and evaluated the Executive Building as eligible for listing in the California Register and for designation as a Los Angeles Historic-Cultural Monument for its association with the growth and maturation of the Los Angeles Times as well as the career of Otis Chandler, who was the publisher from 1960 to 1980. Because the Project proposes demolition of the Executive Building abutting the Times Building and new development would contrast in scale to the Times, Plant Building, and Mirror Buildings, the Project has the potential to directly or indirectly impact these

10 California Department of Fish and Wildlife, Habitat Conservation Planning, Natural Community Conservation Planning, Summary of Natural Community Conservation Plans (NCCPs) (August 2015), https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans. Accessed January 24, 2017.

historical resources. Therefore, the EIR will provide further analysis of potential impacts to historic resources.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines §15064.5?

Potentially Significant Impact. Section 15064.5(a)(3)(D) of the State CEQA Guidelines generally defines archaeological resources as any resource that "has yielded, or may be likely to yield, information important in prehistory or history." Archaeological resources are features, such as tools, utensils, carvings, fabric, building foundations, etc., that document evidence of past human endeavors and that may be historically or culturally important to a significant earlier community. The Project Site has been previously graded and developed. Thus, surficial archaeological resources that may have existed at one time have been previously disturbed. Nonetheless, Project construction would require grading and excavation activities for building foundations and subterranean parking that could have the potential to disturb existing but undiscovered archaeological resources. Therefore, the EIR will provide further analysis of potential impacts to archaeological resources.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Potentially Significant Impact. The Project Site has been previously graded and developed or paved. In addition, no unique geologic features are anticipated to be encountered during Project construction. Therefore, the Project is not expected to directly or indirectly destroy a unique geologic feature. However, the Project would require grading and excavation for building foundations and subterranean parking that could extend into native soils potentially containing undiscovered paleontological resources. Therefore, the EIR will provide further analysis of potential impacts to paleontological resources.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant Impact. As previously indicated, the Project Site has been previously graded and developed. Nonetheless, the Project Site would require excavation that would extend into native soils, which could result in the potential to encounter previously unknown human remains during excavation activities. The Project would comply with existing regulatory requirements that would ensure impacts related to human remains are less than significant.

If human remains are encountered unexpectedly during implementation of the Project, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendant (MLD). The MLD may, with the permission of the land owner, or his or her authorized representative, inspect the site of the

discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The MLD shall complete their inspection and make their recommendation within 48 hours of being granted access by the land owner to inspect the discovery. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Upon the discovery of the Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this mitigation measure, with the MLD regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

Whenever the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance.

Therefore, the Project would have a less than significant impact with respect to the disturbance of human remains, including those interred outside of formal cemeteries. No mitigation measures are required and no further analysis of this topic in the EIR is required.

VI. Geology and Soils

In 2015, the California Supreme Court in CBIA v. BAAQMD, held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of the project. The revised thresholds are intended to comply with this decision. Specifically, the decision held that an impact from the existing environment to the project, including future users and/or residents, is not an impact for purposes of CEQA. However, if the project, including future users and residents, exacerbates existing conditions that already exist, that impact must be assessed, including how it might affect future users and/or residents of the project.

In accordance with Appendix G of the State CEQA Guidelines and the CBIA v. BAAQMD decision, the project would have a significant impact related to geology and soils if it results in any of the following impacts to future residents or users.

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault, caused in whole or in part by the project's exacerbation of the existing environmental conditions. Refer to Division of Mines and Geology Special Publication 42.

Potentially Significant Impact. The seismically active region of Southern California is crossed by numerous active and potentially active faults and is underlain by several blind thrust faults. Based on criteria established by the California Geological Survey (CGS), faults can be classified as active, potentially active, or inactive. Active faults are those that have shown evidence of movement within the past 11,000 years (i.e., during the Holocene Epoch).

Potentially active faults are those that have shown evidence of movement between 11,000 and 1.6 million years ago (i.e., during the Pleistocene Epoch). Inactive faults are those that have exhibited displacement greater than 1.6 million years before the present (i.e., during the Quaternary Epoch). Blind thrust faults are low angle reverse faults with no surface expression. Due to their buried nature, the existence of blind thrust faults is not usually known until they produce an earthquake.

Fault rupture is the displacement that occurs along the surface of a fault during the earthquake. The CGS has established earthquake fault zones known as Alquist-Priolo Earthquake Fault Zones around the surface traces of active faults to assist cities and counties in planning, zoning, and building regulation functions. These zones identify areas where potential surface rupture along an active fault could prove hazardous and identify where special studies are required to characterize hazards to habitable structures. In addition, the City's General Plan Safety Element has designated fault rupture study areas extending along each side of active and potentially active faults to establish areas of hazard potential due to fault rupture.

The Project Site is not located with an Alquist-Priolo Earthquake Fault Zone and the closest fault is the Puente Hills Blind Thrust, located approximately 1.3475 kilometers (0.84 mile) from the Project Site.[11] However, since the Project Site is located within the seismically active Southern California region, the Project could expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Therefore, the EIR will provide further analysis of potential impacts related to fault rupture.

ii) Strong seismic ground shaking caused in whole or in part by the project's exacerbation of the existing environmental conditions?

Potentially Significant Impact. The Project Site is located within the seismically active Southern California region. The level of ground shaking that would be experienced at the Project Site from active or potentially active faults or blind thrust faults in the region would be a function

11 City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS), Parcel Profile Report: 202-220 W. 1st Street. Generated January 25, 2017.

of several factors including earthquake magnitude, type of faulting, rupture propagation path, distance from the epicenter, earthquake depth, duration of shaking, site topography, and site geology. Active faults that could produce shaking at the Project Site include the Whittier-Elsinore Fault, San Jacinto Fault, San Andreas Fault, and numerous other smaller faults and blind thrust faults (including the Puente Hills Blind Thrust) found throughout the region. As with any new project development in the State of California, Project building design and construction would be required to conform to the current seismic design provisions of the City's Building Code, which incorporates relevant provision of the 2016 California Building Code (CBC), (effective 2017). The 2016 CBC, as amended by the City's Building Code, incorporates the latest seismic design standards for structural loads and materials to provide for the latest in earthquake safety. Nonetheless, the EIR will provide further analysis of potential impacts related to seismic ground shaking.

iii) Seismic-related ground failure, including liquefaction, caused in whole or in part by the project's exacerbation of the existing environmental conditions?

Potentially Significant Impact. Liquefaction is a seismic phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subject to high-intensity ground shaking.

Specifically, liquefaction occurs when the shock waves from an earthquake of sufficient magnitude and duration compact and decrease the volume of the soil; if drainage cannot occur, this reduction in soil volume will increase the pressure exerted on the water contained in the soil, forcing it upward to the ground surface. This process can transform stable soil material into a fluid-like state. This fluid-like state can result in horizontal and vertical movements of soils and building foundations from lateral spreading of liquefied materials and post-earthquake settlement of liquefied materials. Liquefaction occurs when three general conditions exist: 1) shallow groundwater; 2) low density non-cohesive (granular) soils; and 3) high-intensity ground motion.

The CGS has delineated seismic hazard zones in areas where the potential for strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, which if designated requires cities and counties to regulate certain development projects within these zones until the geologic and soil conditions of a site are investigated and appropriate mitigation measures, if any, are incorporated into development plans. The Project Site is located in a City-designated liquefaction zone.[12] As the Project is located within a designated liquefaction zone, and to provide a conservative analysis of seismic-related ground failure and liquefaction, the EIR will provide further evaluation of this issue.

iv) Landslides caused in whole or in part by the project's exacerbation of the existing environmental conditions?

No Impact. The Project Site is not located within a City-designated Hillside Grading Area, is not subject to the City's Hillside Ordinance, and is not located in a City-designated Landslide

[12] City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS) Parcel Profile Report: 202-220 W. 1st Street. Generated January 25, 2017.

area.[13,14] Furthermore, the Project Site is located in an urbanized area in which the Project Site and surrounding uses are entirely paved and impermeable, not allowing water to seep into the underlying formation. The Project Site is not located in proximity to any natural mountains or steep slopes and, as well as the surrounding area, does not have a history of landslides. Potential for landslides to occur on or near the Project Site is minimal or nonexistent. Therefore, the Project would not expose people or structures to potential substantial adverse effects involving landslides and would not exacerbate any existing environmental conditions related to landslides. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

b) Result in substantial soil erosion or the loss of topsoil?

Potentially Significant Impact. During construction, the 3.6-acre Project Site would be subject to ground-disturbing activities (e.g., excavation, grading, soil stockpiling, foundation construction, the installation of utilities). These activities would expose soils for a limited time, allowing for possible erosion. In addition, the change in on-site drainage patterns resulting from the Project could also result in limited soil erosion. Thus, the EIR will provide further analysis of the potential for soil erosion resulting from Project construction and operation.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse caused in whole or in part by the project's exacerbation of the existing environmental conditions?

Potentially Significant Impact. As previously discussed in response to Checklist Questions VI.a.iii and a.iv, liquefaction hazards were concluded to be potentially significant and landslide hazards were concluded to have no impact. Subsidence occurs when a void is located or created underneath a surface, causing the surface to collapse. Common causes of subsidence include groundwater or oil resources or wells beneath a surface. Subsidence occurs when land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. No oil wells are located on the Project Site; however, the Project Site is located within 0.5 mile from the Union Station Oil Field to the east.[15,16] In addition, the Project Site is located within a potential liquefaction hazard zone and in an area subject to potentially high seismic ground shaking. Therefore, the EIR will provide further analysis of potential impacts related to lateral spreading, subsidence, liquefaction, and collapse.

13 Ibid.

14 City of Los Angeles General Plan Safety Element, Exhibit C: Landslide Inventory & Hillside Areas, http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed on January 25, 2017.

15 City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS) Parcel Profile Report: 202-220 W. 1st Street. Generated January 25, 2017.

16 City of Los Angeles, Department of City Planning, Safety Element of the Los Angeles City General Plan, adopted November 26, 1996, Exhibit E–Oil Fields and Oil Drilling Areas in the City of Los Angeles. Available at http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed on January 25, 2017.

d) Be located on expansive soil, as defined in Table 18 1 B of the Uniform Building Code (1994), creating substantial risks to life or property caused in whole or in part by the project's exacerbation of the existing environmental conditions?

Potentially Significant Impact. Expansive soils are typically associated with fine-grained clayey soils that have the potential to shrink and swell with repeated cycles of wetting and drying. Because the soils on the Project Site are currently unknown, there is potential for the soils on the Site to be subject to expansion resulting from changes in the moisture content. Therefore, the EIR will provide further analysis of potential impacts related to expansive soils.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The Project Site is located in an urbanized area where wastewater infrastructure is currently in place. The Project would connect to existing infrastructure and would not use septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

VII. Greenhouse Gas Emissions

Would the project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Potentially Significant Impact. Construction and operation of the Project would increase greenhouse gas (GHG) emissions that have the potential to either individually or cumulatively result in a significant impact on the environment. In addition, the Project would generate vehicle trips that would contribute to the emission of GHGs. The amount of GHG emissions associated with the Project has not been estimated at this time. Therefore, the EIR will provide further analysis of the Project's greenhouse gas emissions.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Potentially Significant Impact. The Project would be required to comply with the City's Green Building Code pursuant to Chapter IX, Article 9, of the LAMC. In conformance with these requirements, the Project would be designed to reduce GHG emissions through various energy conservation measures. In addition, the Project is required to implement applicable energy conservation measures to reduce GHG emissions such as those described in California Air Resources Board AB 32 Scoping Plan, which describes the approaches California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020. Furthermore, because the Project would be designed to meet LEED Silver standards or the equivalent, the Project would incorporate sustainable elements of design during construction and operation. However, the GHG emissions associated with the Project have not been estimated at this time. Therefore, the

EIR will provide further evaluation of potential conflicts with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

VIII. Hazards and Hazardous Materials

In 2015, the California Supreme Court in CBIA v. BAAQMD, held that CEQA generally does not require a lead agency to consider the impacts of the existing environment on the future residents or users of the project. The revised thresholds are intended to comply with this decision. Specifically, the decision held that an impact from the existing environment to the project, including future users and/or residents, is not an impact for purposes of CEQA. However, if the project, including future users and residents, exacerbates existing conditions that already exist, that impact must be assessed, including how it might affect future users and/or residents of the project. For example, if construction of the project on a hazardous waste site will cause the potential dispersion of hazardous waste in the environment, the EIR should assess the impacts of that dispersion to the environment, including to the project's residents.

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Potentially Significant Impact. Construction of the Project would involve the temporary use of hazardous substances in the form of paint, adhesives, surface coatings and other finishing materials, and cleaning agents, fuels, and oils. All materials would be used, stored, and disposed of in accordance with applicable laws and regulations and manufacturers' instructions. Furthermore, any emissions from the use of such materials would be minimal and localized to the Project Site. Operation of the Project would involve the use and storage of small quantities of potentially hazardous materials in the form of cleaning solvents, painting supplies, and pesticides for landscaping. The use of these materials would be in small quantities and in accordance with the manufacturers' instructions for use, storage, and disposal of such products. As with construction, any emissions from the use of such materials regarding the operation of the Project would be minimal and localized to the Project Site. Nevertheless, the EIR will evaluate the potential for the presence of hazardous environmental conditions on the Project Site.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Potentially Significant Impact. The Project Site is not located within a City-designated Methane Zone.[17, 18] Buildings demolished on-site may contain hazardous materials, which would require

17 City of Los Angeles, Department of Building and Safety Methane and Methane Buffer Zone Map, 2004. Available at: https://www.partneresi.com/sites/default/files/methane-zone-map-los-angeles.pdf. Accessed on December 4, 2016.

18 City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS) Parcel Profile Report: 202-220 1st Street. Generated January 25, 2017.

remediation and abatement. Potential soil and water contamination impacts related to the past use of hazardous materials on the Project Site may also exist. Accordingly, the EIR will provide further analysis of potential impacts involving the release of hazardous materials.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Potentially Significant Impact. The nearest K through 12 school to the Project Site is the Ramon C. Cortines School of Performing Arts, a private 9-12 school located at 450 N. Grand Avenue. This school is located approximately 0.35 mile to the north of the Project Site, north of the US-101 Freeway. No LAUSD elementary, middle, or high schools are located with 0.25 mile or 0.5 mile of the Project Site. However, in a dense metropolitan area such as Downtown Los Angeles, numerous day care or pre-schools are likely to be associated with many of the civic, business, and residential uses. For instance, the Joy Picus Child Development Center a day care and preschool (0 to 5 years), is located at 111 E. 1st Street, approximately 0.1 mile to the east of the Project Site and the Grace Iino Child Care Center, a day care through kindergarten, is located at 231 E. 3rd Street, approximately 0.11 mile to the south of the Project Site. Because the construction of the Project includes emissions and potential handling and hauling of hazardous materials, and the proximity of these facilities and potentially other similar facilities to the Project Site, the EIR will provide further analysis of this topic.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment caused in whole or in part from the project's exacerbation of existing environmental conditions?

Potentially Significant Impact. Government Code Section 65962.5, amended in 1992, requires CalEPA to develop and update annually the Cortese List, which is a list of hazardous waste sites and other contaminated sites. While Government Code Section 65962.5 makes reference to the preparation of a list, many changes have occurred related to web-based information access since 1992 and information regarding the Cortese List is now compiled on the websites of the Department of Toxic Substances Control (DTSC), the State Water Board, and CalEPA. The DTSC maintains the EnviroStor database, which includes sites on the Cortese List and also identifies potentially hazardous sites where cleanup actions (such as a removal action) or extensive investigations are planned or have occurred. The database provides a listing of Federal Superfund sites (National Priorities List); State Response sites; Voluntary Cleanup sites; and School Cleanup sites. Because of the potential for listings associated with the site, as well as potential listed sites in the immediate vicinity (within 0.1 mile), the EIR will provide further evaluation of this issue.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The Project Site is not within an airport land use plan and it is not within two miles of a public airport or public use airport. The nearest airport is the Hawthorne Municipal Airport located approximately 10 miles southwest of the Project Site. Therefore, the Project would not result in an airport-related safety hazard for people residing or working in the Project vicinity. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. There are no private airstrips in the vicinity of the Project Site, and the Project Site is not located within a designated airport hazard area. The nearest private airstrip to the Project Site is the Goodyear Blimp Base Airport, located approximately 13.5 miles to the south of the Project Site in the City of Carson. Because no private airstrips are within the Project vicinity, the Project would not result in airport-related safety hazards for the people residing or working in the area. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Potentially Significant Impact. The Project Site is located in an established urban area containing a concentration of critical facilities and lifeline systems.[19] While it is expected that the majority of construction activities for the Project would be confined on-site, short-term construction activities may temporarily affect access on portions of adjacent streets during certain periods of the day. A designated major communication center is located near the Project Site at W. 4th Street and S. Figueroa, and several City-designated Selected Disaster Routes are near and adjacent to the Project Site, including Broadway and Main Street.[20] Project construction activities would have the potential to affect access on the designated Selected Disaster Route on Broadway, as well as other routes in the vicinity. Thus, the EIR will provide further analysis of potential impacts to an adopted emergency response plan or emergency evacuation plan.

19 Lifeline facilities includes distributive systems and related facilities necessary to provide electric power, oil and natural gas, water and wastewater, and communications.

20 City of Los Angeles, Department of City Planning, Safety Element of the Los Angeles City General Plan, adopted November 26, 1996, Exhibit H – Critical Facilities & Lifeline Systems, http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed on January 25, 2017.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands caused in whole or in part from the project's exacerbation of existing environmental conditions?

No Impact. The Project Site is located in a highly urbanized area. No wildlands are present on the Project Site or surrounding area. Furthermore, the Project Site is not within a City-designated wildfire hazard area.[21] In addition, the Project Site is not located within a City-designated Very High Fire Severity Zone.[22] Therefore, the Project would not expose people or structures to a significant risk involving wildland fires caused in whole or in part from the Project's exacerbation of existing environmental conditions. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

IX. Hydrology and Water Quality

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Potentially Significant Impact. The Project Site is currently developed with five interconnected buildings, including a six-level parking structure. The topography of the site rises to the west, directing stormwater runoff from the Project Site to the City's curb and gutter system to the east of the site. Construction of the Project would require earthwork activities, including grading and excavation of the Project Site, and the transport of potentially contaminated soils. During precipitation events in particular, construction activities associated with the Project have the potential to result in the conveyance of soils due to minor soil erosion during grading and soil stockpiling and subsequent siltation, as well as other pollutants into municipal storm drains. Excavation for the nine-level subterranean parking structure and other subsurface construction activities may require dewatering, depending on seasonal rain and other effects on groundwater table. While the Project would be required to implement design features and regulatory mechanisms related to water quality standards and waste discharge requirements, further evaluation of this topic will be provided in the EIR to identify potential impacts and appropriate mitigation measures.

21 City of Los Angeles, Department of City Planning, Safety Element of the Los Angeles City General Plan, adopted November 26, 1996, Exhibit D – Selected Wildfire Hazard Areas in the City of Los Angeles, http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed January 26, 2017.

22 City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS) Parcel Profile Report: 202-220 1st Street. Generated November 14, 2016.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Less Than Significant Impact. The Los Angeles Department of Water and Power (LADWP) is the water purveyor for the City. Water is supplied to the City from three primary sources, including the Metropolitan Water District's Colorado River and Feather River supplies (57 percent, Bay Delta 48 percent, Colorado River 8 percent), snowmelt from the Eastern Sierra Nevada Mountains via the Los Angeles Aqueduct (29 percent), local groundwater from the San Fernando groundwater basin (12 percent), as well as recycled water (2 percent).[23] Based on the City's most current Urban Water Management Plan (UWMP), in 2014 and 2015, LADWP had an available water supply of roughly 611,800 acre-feet, with approximately 18 percent coming from local groundwater.[24] Groundwater levels in the City are actively maintained via spreading grounds and recharge. Furthermore, the Project does not propose groundwater withdrawal. While there is a potential for dewatering during construction, any such dewatering would be limited and required to remove perched groundwater rather than groundwater from the water table; therefore, any dewatering would not have potential to withdraw groundwater from the water table. Lastly, the Project Site is currently approximately 100 percent developed with impervious surfaces, so the development of new impervious surfaces under the Project would not be expected to reduce groundwater recharge at the Project Site. Therefore, impacts would be less than significant and no mitigation measures are required. No further evaluation in the EIR is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Potentially Significant Impact. The Project Site is currently developed with commercial office uses and a parking garage. No streams are located within the Project vicinity. The Project would involve the demolition of a portion of the Project Site, construct new buildings, install new landscaping, and alter the roof and landscape areas of existing buildings, which would have the potential to alter the existing drainage patterns on the Project Site. While the Project would implement Best Management Practices (BMPs) to capture and treat first flush stormwater flows in accordance with the City's Los Impact Development (LID) Ordinance and Standard Urban Stormwater Mitigation Plan (SUSMP), further evaluation of potential erosion impacts will be provided in the EIR.

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23 Los Angeles Department of Water and Power: Facts and Figures, https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-factandfigures?_adf.ctrl-state=j77lkjtqw_4&_afrLoop=357285129360562. Accessed January 26, 2017.

24 Los Angeles Department of Water and Power, 2015 Urban Water Management Plan, Exhibit ES-S – Service Area Reliability Assessment for Average Weather Year, adopted July 1, 2016, https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=QOELLADWP005416&RevisionSelectionMethod=LatestReleased. Accessed December 5. 2016.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Potentially Significant Impact. As discussed above under response to Checklist Question IX.c, Hydrology and Water Quality, the Project has the potential to alter the existing drainage patterns on the Project Site. Therefore, the EIR will provide further evaluation of this topic.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Potentially Significant Impact. As discussed above under response to Checklist Question IX.a and IX.c, Hydrology and Water Quality, the Project has the potential to alter the existing drainage patterns on the Project Site. Therefore, the EIR will provide further evaluation of potential stormwater drainage and runoff impacts.

f) Otherwise substantially degrade water quality?

Potentially Significant Impact. The Project would be required to implement a Stormwater Pollution Prevention Plan (SWPPP) that includes Best Management Practices to reduce pollutants in stormwater runoff from the Project Site, and also would be required comply with the City's Low Impact Development (LID) Ordinance and Standard Urban Stormwater Mitigation Plan (SUSMP) requirements requirement the implementation of good housekeeping practices intended to preclude sediment and hazardous substances from entering stormwater flows. While these are expected to avoid significant impacts to water quality standards and waste discharge requirements, further analysis of water quality impacts will be provided in the EIR to evaluate potential impacts and identify appropriate design features and regulatory compliance mechanisms.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less than Significant Impact (g-h). The City's ZIMAS records and the Federal Emergency Management Agency (FEMA) map for the Project Site (Map No. 06037C1636F) do not show the site to be located within a 100-year flood hazard area.[25, 26] Streets in the City are used for curb and gutter drainage and can exhibit flow during a heavy rain. The Project, however, would not

[25] City of Los Angeles Department of City Planning, Zoning Information and Mapping Access System (ZIMAS) Parcel Profile Report: 202-220 1st Street. Generated January 26, 2017.

[26] Federal Emergency Management Agency, Flood Insurance Rate Map, Map Number 06037C1636F, Effective Date: September 26, 2008, https://msc.fema.gov/portal/ #searchresultsanchor. Accessed January 26, 2017.

encroach into the street and gutter drainage system or cause runoff to be impeded or redirected. Although streets in the City can experience surface runoff, flooding from the nearest body of water is not likely since the channelized Los Angeles River is located approximately 0.89 mile from the Project Site and at an elevation of approximately 238 feet above mean sea level (AMSL). The elevation of W. 1st Street in the Project area is approximately 290 feet AMSL, a height differential of approximately 52 feet compared to the Los Angeles River. No rise in the Los Angeles River would cause an inundation more than 50 feet in depth over a radius distance of 0.89 mile from the river. In addition, the Project Site is not located within an inundation area as indicated in the City's General Plan Safety Element.[27] Therefore, flooding impacts would be less than significant and no mitigation measures would be required. No further analysis of this topic in the EIR is required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than Significant Impact. The Project Site is not located within a potential inundation area for the Los Angeles River and/or an upstream dam.[28] As shown in the FEMA flood map for the Project area (Map No. 06037C1636F), the nearest flood zone is located in the vicinity of the Los Angeles River, approximately 0.89 mile to the east of the Project Site.[29] Therefore, the Project would not expose people or structures to a significant risk of loss or injury involving flooding. Impacts would be less than significant and no mitigation measures are required. No further analysis of this topic in the EIR is required.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, lake, or storage tank. A tsunami is a great sea wave, commonly referred to as a tidal wave, produced by a significant disturbance undersea, such as a tectonic displacement of sea floor associated with large, shallow earthquakes. Mudflows occur as a result of downslope movement of soil and/or rock under the influence of gravity.

The Project Site is located in an area of relatively flat topography and urban development, with no enclosed bodies of water upstream of the Project Site, and as such, there is no potential for inundation resulting from a seiche or mudflows. Although the Los Angeles River is located approximately 0.89 mile east of the Project Site, the river in this area is located within a sunken concrete-lined channel at several feet below the ground elevation of the Project Site, and any seiches that could potentially develop within this stretch of the river during an earthquake would not have the potential to inundate the Project Site. With respect to tsunami hazards, the Project Site is located approximately 16 miles inland (northeast) from the Pacific Ocean, and therefore

27 City of Los Angeles General Plan, Safety Element Exhibit G, Inundation & Tsunami Hazard Areas (March 1994), http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed January 26, 2017.

28 Ibid.

29 Federal Emergency Management Agency, Flood Insurance Rate Map, Map Number 06037C1636F, Effective Date: September 26, 2008, https://msc.fema.gov/portal/ #searchresultsanchor. Accessed May 9, 2017.

would not be subject to a tsunami. Furthermore, the Project Site is not located on a City-designated tsunami hazard area.[30] Therefore, no impact would occur due to inundation by tsunami or mudflow and no mitigation measures are required. No further analysis of this topic in the EIR is required.

X. Land Use and Land Use Planning

Would the project:

a) Physically divide an established community?

Less Than Significant Impact. The Project Site is located within the Central City Community Plan area within the fully urbanized Downtown Los Angeles. The Project would be contained within the existing developed block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway, which is currently entirely developed with five interconnected buildings. The Project would not encroach into adjacent streets or require vacations of streets or changes in the City's circulation system that would divide an established community. Implementation of the Project would result in further infill within an already developed urban area, and development of the Project would occur within the boundaries of the Project Site as it currently exists. In addition, the Project would create a mid-block paseo between W. 1St Street and W. 2nd Street that would allow for pedestrian access through the site. This would facilitate pedestrian movement since the block is currently entirely covered by buildings that block any mid-block access. The Paseo would also accommodate public access between W. 1st Street and W. 2nd Street at the time Metro's 2nd Street and Broadway's station is developed to the south of W. 2nd Street, and would reduce the existing division between W. 1st Street and W. 2nd Street. Because the Project would not impede or encroach into the public right-of-way or cause any changes to the City's circulation system, and would improve pedestrian access, it would not result in the division of an established community. Impacts would be less than significant and no mitigation measures are required. No further analysis of this issue in the EIR is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Potentially Significant Impact. The Project Site is located within the Central City Community Plan Area, which designates the Project Site for Regional Commercial land uses. The existing designation allows for a Floor Area Ratio (FAR) of 6:1 with the Transfer of Floor Area as permitted by the Los Angeles Municipal Code. The land use designation corresponds with the zoning designation of C2-4D-SN, which permits general commercial and multi-family residential uses. The 4D Height District establishes a Floor Area Ratio (FAR) of 6.0:1, but does not specifically limit building heights.

30 Ibid.

Other land use plans, policies, or regulations applicable to the Project Site include the Greater Downtown Housing Incentive Area, the Downtown Design Guide Project Area, the Historic Broadway Sign Supplemental Use District, and the Los Angeles State Enterprise Zone. The Project Site is located within a Transit Priority Area and an Adaptive Reuse Incentive Area.

1. The entitlements being requested for the Project include, but may not be limited to, the following: Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site) (LAMC Sec. 14.5.6-B).

2. Vesting Conditional Use Permit to permit floor averaging within a unified development (LAMC Sec. 12.24-W,19).

3. Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces (LAMC Sec. 12.24-W,1).

4. Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (LAMC Sec. 17.15). The Applicant is requesting to provide parking per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums.

5. Construction permits, including building, grading, excavation, foundation, and associated permits.

6. Haul Route Permit, as may be required.

7. Other approvals as needed.

Because the extent of applicable plans and the need for specific entitlements requiring discretionary action, further evaluation of the relationship of the Project to adopted plans and policies in the EIR is warranted.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. As discussed in the responses to Checklist Question IV, Biological Resources, the Project Site is located in an urbanized area and is developed with warehouse, wholesale commercial, and associated office, loading dock and parking uses. Although the channelized Los Angeles River is located approximately 0.89 mile east of the Project Site, the Project Site does not contain trees, vegetation and natural habitat, and thus does not support sensitive natural communities.

Furthermore, the Project Site is not located within or adjacent to a Significant Ecological Area (SEA) as defined by the City or County of Los Angeles. [31,32] The Project Site is not located within

31 City of Los Angeles Department of City Planning, Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report, at page 2.18-13 (January 19, 1995),

a habitat conservation plan or natural community conservation plan. Therefore, the Project would not conflict with the provisions of any adopted applicable conservation plan. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

XI. Mineral Resources

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact (a-b). According to the Conservation Element of the City of Los Angeles General Plan, much of Downtown Los Angeles is located within a Mineral Resource Zone (MRZ).[33],[34] However, the Project Site is not designated as an existing Aggregate Production Area by the State of California or the U.S. Geological Survey.[35] The Project Site is located approximately 0.5 mile from the nearest active production field, the Union Station Oil Field to the east.[36] Also, the Project Site is fully developed with urban uses and, has not been the site of mineral resource extraction in the past, and rather than being designated for resource extraction, the Project Site is designated for Regional Commercial use by the City of Los Angeles General Plan. Therefore, Project implementation would not result in the loss of availability of a known mineral resource of value to the region and residents of the State, nor of a locally important mineral resource recovery site. No impacts to mineral resources would occur and no mitigation measures are required. No further analysis of Mineral Resources in the EIR is required.

http://cityplanning.lacity.org/housinginitiatives/housingelement/frameworkeir/FrameworkFEIR.pdf. Accessed January 26, 2017.

32 County of Los Angeles Department of Regional Planning, County of Los Angeles Significant Ecological Areas Program, Figure 9.3, Significant Ecological Areas and Coastal Resources Areas Policy Map (February 2015), http://planning.lacounty.gov/assets/upl/project/gp_2035_2014-FIG_9-3_significant_ecological_areas.pdf. Accessed January 26, 2017.

33 City of Los Angeles Department of City Planning, Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report, January 19, 1995, Figure GS-1 – Areas Containing Significant Mineral Deposits in the City of Los Angeles, http://cityplanning.lacity.org/HousingInitiatives/HousingElement/FrameworkEIR/GPF_DraftEIR/GPF_FEIR_DEIR2.17_p1-35.pdf. Accessed January 27, 2017.

34 City of Los Angeles Department of City Planning, Conservation Element, Exhibit A, https://planning.lacity.org/cwd/gnlpln/consvelt.pdf. Accessed May 9, 2017.

35 California Geological Survey, Aggregate Sustainability in California, California (2012),http://www.conservation.ca.gov/cgs/information/publications/ms/Documents/MS_52_2012.pdf. Accessed January 27, 2017.

36 City of Los Angeles Department of City Planning, Safety Element of the Los Angeles City General Plan, adopted November 26, 1996, Exhibit E–Oil Fields and Oil Drilling Areas in the City of Los Angeles, http://cityplanning.lacity.org/cwd/gnlpln/saftyelt.pdf. Accessed January 25, 2017.

XII. Noise

Would the project result in:

a) Exposure of persons to, or generation of, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Potentially Significant Impact. Construction of the Project would require the use of heavy construction equipment (e.g., bulldozers, backhoes, cranes, loaders, etc.) that would generate noise on an intermittent, short-term basis. Additionally, operation of the Project may increase existing noise levels as a result of Project-related traffic, the operation of heating, ventilation, and air conditioning (HVAC) systems, vehicles in the surface and subsurface parking levels, loading and unloading of trucks, and resident and visitor activities on the Project Site. The Project may also increase vehicle traffic over existing conditions, which may increase local noise levels. As such, nearby noise-sensitive uses, such as residential uses or libraries, could potentially be affected. Therefore, the EIR will provide further evaluation of the Project's potential to expose sensitive receptors to noise levels in excess of applicable standards.

b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact. Construction of the Project may generate groundborne vibration and noise due to site grading, clearing activities, and haul truck travel. In addition, Project construction may require pile-driving. As such, the Project would have the potential to generate or to expose people to excessive groundborne vibration and noise levels during short-term construction activities. In addition to the potential to expose people to groundborne vibration, there is the potential for the Project to generate construction-related vibration that may impact adjacent historical resources. Therefore, the EIR will provide further evaluation of construction-related, groundborne noise levels.

Once construction is complete, Project operation (e.g., residential, office, restaurant, retail (including potential grocery)), would not generate excessive groundborne vibration or groundborne noise. As such, Project operation would not generate groundborne vibration or groundborne noise at levels beyond those which currently exist in an urbanized setting and would not have the potential to expose people to excessive groundborne vibration or groundborne noise, resulting in a less than significant impact. Therefore, no further analysis of operational groundborne vibration or groundborne noise in the EIR is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact. As discussed in the response to Checklist Question XII.a, Project operation may increase existing noise levels as a result of Project-related traffic, the operation of HVAC systems, loading and unloading of trucks, traffic, and the presence of

residents and visitors at the Project Site. Therefore, the EIR will provide further evaluation of the potential permanent increase in ambient noise levels.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Potentially Significant Impact. As discussed in the response to Checklist Question XII.a, Project construction would require the use of heavy construction equipment (e.g., bulldozers, backhoes, cranes, loaders, etc.) that would generate noise on a short-term basis. Therefore, the EIR will provide further evaluation of potential impacts associated with a temporary or periodic increase in ambient noise levels.

e) For a project located within an airport land use plan, or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project located within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact (e-f). As discussed in the response to Checklist Question VIII.e, the Project Site is not located within an airport land use plan, within two miles of a public use airport, or within the vicinity of a private airstrip. The nearest public airport is the Hawthorne Municipal Airport located approximately 10 miles southwest of the Project Site and the nearest private airport or airstrip is the Goodyear Blimp Base Airport in the City of Carson, approximately 13.5 miles south of the Project Site. Therefore, the Project would not expose people in the Project vicinity to excessive noise levels from airport use. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

XIII. Population and Housing

Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Potentially Significant Impact. The Project Site is located within the jurisdiction of the Southern California Association of Governments (SCAG), a Joint Powers Agency established under California Government Code Section 6502 et seq. SCAG's mandated responsibilities include developing plans and policies with respect to the region's population growth, transportation programs, air quality, housing, and economic development. In April 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The 2016 RTP/SCS presents the transportation vision for the region through the year 2040 and provides a long-term investment framework for addressing the region's transportation and related challenges. It also includes projections of population, households, and

employment through 2040. Furthermore, the City's General Plan including its community plans address growth in the region.

The replacement of the existing Executive Building and bank with approximately 1,127 residential units would increase residential population in the area. The proposed approximately 50,000-square-foot grocery store and 34,572 square feet of retail uses associated with new development could potentially increase employment opportunities over the replaced uses. A detailed analysis comparing the Project's contribution to population, housing, and employment growth to SCAG's 2016 RTP/SCS, Central City Community Plan policies, and Citywide projections and policies regarding future development is warranted. Therefore, the EIR will provide further evaluation of the Project's potential population and housing impacts.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact (b-c). No dwelling units are currently located on the Project Site. Because no housing would be displaced, the construction of replacement housing elsewhere would not be necessary. No impact would occur and no mitigation measures are required. Further analysis of this topic in the EIR is not required.

XIV. Public Services

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

a) Fire protection?

Potentially Significant Impact. The Los Angeles Fire Department (LAFD) provides fire protection and emergency medical services in the City of Los Angeles. The Project area is located in the LAFD's Central Bureau and served by the Central Division/Station. The nearest stations to the Project Site are LAFD Station 3 at 108 N. Fremont, located approximately 0.51 mile to the northwest, and Station 4 at 450 E. Temple Street, located approximately 0.72 mile to the east. Fire Station No. 4 is the first-in station to calls for service at the Project Site.[37]

Because the Project would increase the developed floor area and height of buildings on the Project Site, and increase the population on the Project Site, it could increase demand on LAFD fire protection and emergency medical services and potentially affect demand on LAFD facilities which could result in the need for new or physically altered governmental facilities to maintain

[37] Los Angeles Fire Department, Find Your Station, http://www.lafd.org/fire-stations/find-your-station. Accessed January 27, 2017.

service. Therefore, the EIR will provide further evaluation of the Project's potential impacts on fire protection services.

b) Police protection?

Potentially Significant Impact. The Los Angeles Police Department (LAPD) provides police protection services in the City of Los Angeles. The LAPD is divided into four Police Station Bureaus: Central Bureau, South Bureau, Valley Bureau, and West Bureau. Each of the Bureaus encompasses several communities. The Project Site is located in LAPD's Central Bureau, which serves the Downtown business district, as well as the communities of Eagle Rock, the Garment District, MacArthur Park, Dodger Stadium, Chinatown, Little Tokyo, Griffith Park, and the Toy District.[38]

Specifically, the Project Site is served by the Central Community Police Station located at 251 E. 6th Street, approximately 0.65-mile south of the Project Site. Because the Project would increase the developed floor area and population on the Project Site, it could increase demand on LAPD police protection services and, potentially, demands on LAPD facilities, which could result in the need for new or physically altered governmental facilities to maintain acceptable service ratios or other performance objectives. Therefore, the EIR will provide further evaluation of the Project's potential impacts on police protection services.

c) Schools?

Potentially Significant Impact. The Project Site is located within the jurisdiction of the Los Angeles Unified School District (LAUSD), and specifically within LAUSD's East Local District.[39] The Project Site is within the attendance boundaries of 9th Elementary School, Hollenbeck Middle School, and Metropolitan Continuation High School, and within a LAUSD Zone of Choice with multiple high school options. Because the Project would introduce a new resident population to the Project Site, a greater demand on LAUSD schools would be generated. Therefore, potential impacts to local schools will be analyzed further in the EIR.

d) Parks?

Potentially Significant Impact. The City of Los Angeles Department of Recreation and Parks provides park facilities and services within the City of Los Angeles. Because the Project would introduce new residents to the Project Site who might visit nearby City parks, greater demand on existing City parks could be generated. The Project would incorporate an open-to-the-sky Paseo, a 15,708-square foot open space available to the public, and 73,128 square feet of common open space for the Project's residents, including a 6th Floor garden terrace and pool deck and other recreational amenities. In addition, the Project would incorporate a rooftop office terrace on the 6th floor of the Plant Building, which would incorporate break lounges and conference areas for use by the employees of the Times, Plant, and Mirror Buildings. Although the Project would

38 Los Angeles Police Department, About Central Bureau, http://www.lapdonline.org/central_bureau/content_basic_view/1908. Accessed January 27, 2017.

39 Los Angeles Unified School District, Local District East Map (June 2015), http://achieve.lausd.net/cms/lib08/CA01000043/Centricity/Domain/33/East.pdf. Accessed January 27, 2017.

include open space areas and recreational amenities that would reduce the Project's demand for parks, overall demand on City parks associated with the Project's permanent residents could increase. Therefore, the EIR will provide further analysis of potential impacts to parks.

e) Other public facilities?

Potentially Significant Impact. The Los Angeles Public Library (LAPL) provides library services to the City of Los Angeles. Because the Project would introduce new residents to the Project Site, demand on LAPL library services could increase. Therefore, the EIR will provide further analysis of potential impacts associated with library services.

During construction and operation of the Project, other governmental services, including roads, would continue to be utilized. Project residents would use the existing road network, without the need for new roadways to serve the Project Site. As discussed in Checklist Question XVI, Transportation/Traffic, the Project could result in an increase in the number of vehicle trips attributable to the Project Site. However, the additional use of roadways would not be excessive and would not necessitate the upkeep of such facilities beyond normal requirements. Any minor roadway improvements (e.g., street dedications), pursuant to City requirements, would be constructed concurrent with the Project and would be analyzed as needed throughout the EIR. Therefore, the Project would result in less-than-significant impacts and no mitigation measures are required. Further analysis of other governmental services related to roadways in the EIR is not required.

XV. Recreation

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated?

Potentially Significant Impact. As discussed in the response to Checklist Question XIV.d, because the Project would introduce new population to the Project Site, greater demand on existing public recreational and park facilities and services could be generated. Therefore, the EIR will provide further evaluation of the Project's potential impacts on recreational services.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Potentially Significant Impact. Although the Project would include the development of on-site open space and recreational amenities (see the response to Checklist Question XIV.d), it could potentially require the development and/or expansion of existing off-site park, open space and recreational amenities. The construction of such amenities could potentially result in adverse physical effects on the environment. Therefore, the EIR will provide further evaluation of the Project's potential impacts related to expansion of recreational services.

XVI. Transportation/Traffic

Would the project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Potentially Significant Impact. The Project Site is subject to the Los Angeles Department of Transportation (LADOT) standards and guidelines regarding trip generation and levels of service (LOS) for the street system. The Project would develop the Project Site with 1,127 residential units and approximately 50,000 square feet of grocery store floor area, and 34,572 square feet of retail floor area. In addition to the grocery store, the rehabilitated Time, Plant, and Mirror buildings would contain 41,017 square feet of new retail/restaurant uses and 285,088 square feet of offices. However, the floor area of the rehabilitated Times, Plant, and Mirror Buildings would be the same as the existing buildings. The Project would substantially increase residential use in the immediate area, although reducing office space uses with the demolition of the on-site Executive Building. The new residential uses would add traffic to local and regional transportation systems. Thus, operation of the Project could adversely affect the existing capacity of the street system or exceed an established LOS standard. Project construction would also result in a temporary increase in traffic due to construction-related truck trips and worker vehicle trips. Therefore, traffic impacts during construction could also adversely affect the street system. As the Project has the potential to result in a significant traffic impact, further analysis of this topic, including mass transit and non-motorized travel, will be provided in the EIR.

b) Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Potentially Significant Impact. The CMP is a State-mandated program enacted by the State legislature to address the impacts that urban congestion has on local communities and the region as a whole. Metro is the local agency responsible for implementing the requirements of the CMP. New projects located in the City of Los Angeles must comply with the requirements set forth in the Metro's CMP. These requirements include the provision that all freeway segments where a project could add 150 or more trips in each direction during the peak hours be evaluated. The guidelines also require evaluation of all designated CMP intersections where a project could add 50 or more trips during either peak hour. The Project would generate vehicle trips, which could potentially add trips to a freeway segment or CMP intersection. Thus, the EIR will provide further analysis of this topic.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. As discussed in the response to Checklist Question VIII.e, the nearest airport or heliport is the Hawthorne Municipal Airport, approximately 10 miles southwest of the Project Site. As such, the Project Site is not within any flight paths, does not propose any construction that would require notification of the Federal Aviation Administration, and would not result in a change in air traffic patterns, including increases in traffic levels or changes in location that would result in substantial safety risks. No impact would occur and no mitigation measures are required. No further analysis of this topic in the EIR is required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Potentially Significant Impact. Project construction may require temporary lane or sidewalk closures. Access on and near the Project Site could also be temporarily disrupted resulting in conflicts with vehicles, pedestrians and/or bicyclists. Also, Project operation may alter the way vehicles ingress and egress the Project Site, increase trip g**e**neration and driveway use compared to existing on-site uses, and increase traffic on local streets. Considering these factors, the potential for hazardous conditions during Project construction and operation may increase over existing conditions. Therefore, the EIR will provide further analysis of this topic.

e) Result in inadequate emergency access?

Potentially Significant Impact. Immediate vehicular access to the Project Site is provided by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. While it is expected that the majority of construction activities for the Project would be confined on-site, short-term construction activities may temporarily affect access on portions of adjacent streets during certain periods of the day. In addition, the Project would generate traffic in the Project vicinity and would modify Project Site access from streets that surround the Project Site. Thus, the EIR will provide further analysis of potential impacts to emergency access.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Potentially Significant Impact. City plans, such as Angel's Walk, are intended to link transit and pedestrian districts of historic Downtown and to tie public investment in bus and rail transit to urban design improvements that make the City attractive to pedestrians. The Project Site is located in an area well-served by public transportation. Metro's Los Angeles Civic Center/Grand Park Station is located approximately 750 feet to the northwest of the Project Site. Metro's future 2nd Street and Broadway Station, one of the three subway stations in Metro's under-construction Regional Connector Project. Several bus lines serve the vicinity of S. Spring Street and W. 1st Street, including LADOT's Dash Downtown "D" line, Metro's Rapid Line 770, Metro's Rapid

Line 745, and Metro's Rapid Line 733. Numerous local lines are also located in the Project vicinity, including Metro's Lines Bus Lines 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Broadway, and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street.[40] The Project Site is also served by dedicated bike lanes in southbound Spring Street and northbound Main Street. Although the Project Site is well served by public transportation, and would be anticipated to improve the pedestrian experience through the provision of a public paseo between W. 1st Street and W. 2nd Street, the EIR will provide further analysis of the Project's consistency with policies, plans, and programs supporting alternative transportation, such as Angel's Walk.

XVII. Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1 (k)?

b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Potentially Significant Impact (a-b). Approved by Governor Brown on September 25, 2014, Assembly Bill 52 (AB 52) establishes a formal consultation process for California Native American Tribes to identify potential significant impacts to tribal cultural resources, as defined in Public Resources Code Section 21074, as part of CEQA. Effective July 1, 2015, AB 52 applies to projects that file a Notice of Preparation or Notice of Negative Declaration/Mitigated Negative Declaration on or after July 1, 2015. As specified in AB 52, lead agencies must provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if the tribe has submitted a written request to be notified. The tribe must respond to the lead agency within 30 days of receipt of the notification if it wishes to engage in consultation on the project, and the lead agency must begin the consultation process within 30 days of receiving the request for consultation. Any information gained during the consultation process will be used to analyze impacts to tribal cultural resources in the EIR. The existence of tribal cultural resources on the Project Site is currently unknown; as such, further analysis of this topic will be provided in the EIR to determine the potential for, and significance of, the Project's impacts on tribal cultural resources.

40 LA Metro, Metro Bus and Rail System Map – Downtown Los Angeles Detail (2016), https://media.metro.net/documents/742b6116-1c6a-47af-93f3-514cbc8a4fb8.pdf. Accessed June 12, 2017.

XVIII. Utilities and Service Systems

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Potentially Significant Impact. The City Department of Public Works (LADPW) provides wastewater services for the Project Site. Any wastewater generated at the Project Site is treated at the Hyperion Treatment Plant (HTP). The HTP is a part of the Hyperion Treatment System, which also includes the Tillman Water Reclamation Plant (TWRP) and the Los Angeles-Glendale Water Reclamation Plant (LAGWRP). The HTP is designed to treat 450 million gallons per day (mgd) HTP has an average dry water flow of approximately 362 mgd, leaving approximately 88 mgd of capacity available.[41,42] The discharge of effluent from the HTP into Santa Monica Bay is regulated by the HTP's National Pollutant Discharge Elimination System (NPDES) Permit issued under the Clean Water Act and is required to meet the Regional Water Quality Control Board (RWQCB)'s requirements for a recreational beneficial use. The Project would result in new sources of wastewater generated at the Project Site with the development of the increase in developed floor area on the Project Site and introduction of 1,127 new residential units and new landscaped areas. The incremental increase in the quantity of wastewater generated by the Project could potentially result in impacts with respect to wastewater treatment. Therefore, the EIR will provide further analysis of this topic.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. Water and wastewater systems consist of two components, the source of the water supply or place of sewage treatment, and the conveyance systems (i.e., distribution lines and mains) that link these facilities to Project Site. Given the Project's proposed increase in developed floor area on the Project Site and introduction of 1,127 new residential units, the EIR will provide further analysis of this topic.

c) Require or result in the construction of new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?

Potentially Significant Impact. Under existing conditions, the Project Site is completely developed with five interconnected buildings. Current drainage flows on the Project Site are to

41 The HTP is an end-of-the-line plant, subject to diurnal and seasonal flow variation. It was designed to provide full secondary treatment for a maximum-month flow of 450 mgd, which corresponds to an average daily waste flow of 413 mgd, and peak wastewater flow of 850 mgd. (Information regarding peak flow is included in the City of Los Angeles Department of Public Works, Bureau of Sanitation, Water Integrated Resources Plan (IRP), Volume 1, Wastewater Management, 2006; page 7-3.)

42 City of Los Angeles Department of Public Works, Bureau of Sanitation website, Hyperion Water Reclamation Plant, https://www.lacitysan.org/san/faces/wcnav_externalId/s-lsh-wwd-cw-p-hwrp?_adf.ctrl-state=modqzbl8f_4&_afrLoop=33199812189076655. Accessed January 27, 2017.

the east and collected in the City's existing curb and gutter drainage system. Project implementation would require grading, could result in alterations to the drainage pattern at the Project Site, and would require verification of available capacity in the municipal storm drain system. Therefore, the EIR will provide further analysis of potential impacts related to stormwater drainage.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Potentially Significant Impact. The Project would develop 1,127 new residential units, a grocery store, and retail uses, which Project would increase water demand beyond the existing office building and parking structure that would be removed. Sections 10910-10915 of the State Water Code (Senate Bill [SB] 610) requires the preparation of a water supply assessment (WSA) demonstrating sufficient water supplies for a project that includes more than 500 dwelling units. A WSA will be required for the Project include 1,127 dwelling units. Further of this topic will be provided in the EIR in order to assess projected water demand and the sufficiency of current water supplies.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Potentially Significant Impact. Given the increase in developed floor area proposed on the Project Site and introduction of 1,127 new residential units, the Project would result in an increase in wastewater generation compared to existing conditions. Therefore, the EIR will provide further analysis of potential impacts related to wastewater capacity.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Potentially Significant Impact. Solid waste management in the City of Los Angeles involves both public and private refuse collection services as well as public and private operation of solid waste transfer, resource recovery, and disposal facilities. The City of Los Angeles Bureau of Sanitation (BOS) is responsible for developing strategies to manage solid waste generation and disposal in the City of Los Angeles. The BOS collects solid waste generated primarily by single-family dwellings, small multi-family dwellings, and public facilities. Private hauling companies collect solid waste generated primarily from large multi-family residential, commercial, and industrial properties. The City of Los Angeles does not own or operate any landfill facilities, and the majority of its solid waste is disposed of at County landfills.

The remaining disposal capacity for the County's Class III landfills is estimated at approximately 114 million tons as of December 31, 2015, the most recent data available.[43] In addition to in-County landfills, out-of County disposal facilities may also be available to the City of Los Angeles. Aggressive waste reduction and diversion programs on a Countywide level have helped reduce disposal levels at the County's landfills, and based on the Los Angeles County Integrated Waste Management Plan (ColWMP), the County anticipates that future Class III disposal needs can be adequately met through 2030 through a combination of landfill expansion, waste diversion at the source, out-of-County landfills, and other practices.

The Project would demolish the existing Executive Building, totaling approximately 176,258 square feet, and a 6-level parking structure, thus generating construction debris. Proposed uses include approximately 1,127 new residential units, approximately 34,572 square feet of new retail/restaurant uses, approximately 41,017 square feet of new commercial floor area in the rehabilitated buildings, and a potential 50,000-foot grocery store or other retail use that would generate solid waste during future Project operations. During operation, Project-related waste generation from office uses would be incrementally reduced by incremental reduction in overall office space. Disposal would occur pursuant to City Ordinances that require the use of certified haulers and implementation of practices to recycle exported materials. Because the Project would generate waste and would potentially impact remaining landfill capacity, the EIR will provide further analysis of this topic.

g) Comply with Federal, State, and local statutes and regulations related to solid waste?

Potentially Significant Impact. Disposal and recycling of the construction debris would be required to comply with all Federal, State, and local regulations. All local governments, including the City of Los Angeles, are required under Assembly Bill 939 (AB 939), the Integrated Waste Management Act of 1989, to develop source reduction, reuse, recycling, and composting programs to reduce tonnage of solid waste going to landfills. The California Department of Resources and Recycling and Recovery (CalRecycle) is the California State Agency that promotes the importance of reducing waste and oversees California's waste management and recycling efforts. CalRecycle has issued jurisdiction waste diversion rate targets equivalent to 50 percent of the waste stream as expressing in pounds per person per day. If the City's target is exceeded, the City would be required to pay fines or penalties from the State for not complying with AB 939. Because of several state, county and city plans and policies that address the availability of sufficient landfill capacity and the diversion/recycling of waste debris, further analysis of the Project's waste generation and consistency with plans and policies to increase diversion of waste will be provided in the EIR.

43 County of Los Angeles Department of Public Works, County of Los Angeles Countywide Integrated Waste Management Plan: 2015 Annual Report, https://dpw.lacounty.gov/epd/swims/ShowDoc.aspx?id=6530&hp=yes&type=PDF. Accessed June 12, 2017.

XVX. Mandatory Findings of Significance

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Potentially Significant Impact. The Project would not substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal. Also, the Project would not eliminate important examples of the major periods of California history or prehistory.

However, as discussed in this Initial Study, the Project could result in environmental impacts that have the potential to degrade the quality of environment as addressed herein. Potentially affected resources include Air Quality, Cultural Resources (Archaeological, Paleontological, and Historical Resources), Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services (Fire, Police, Schools, Parks, and Libraries), Transportation/Circulation (Traffic and Access), Tribal Cultural Resources, and Utilities (Water, Wastewater, and Solid Waste). An EIR will be prepared to analyze and document these potentially significant impacts. Potentially significant impacts on biological resources include construction impacts on protected nesting birds. However, a mitigation measure is provided in the Initial Study that would reduce this impact to a less than significant level. As such, impacts to biological resources will not be further addressed in the EIR.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact. The potential for cumulative impacts occurs when the independent impacts of a given Project are combined with the impacts of related projects in proximity to the Project Site that would create impacts that are greater than those of the Project alone. Related projects include past, current, and/or probable future projects whose development could contribute to potentially significant cumulative impacts in conjunction with a given project.

Each of the topics determined to have the potential for significant impacts in this Initial Study will be subject to further evaluation in the EIR, including evaluation of the potential for cumulatively significant impacts. Topics for which Initial Study determinations were "No Impact" or "Less Than Significant Impact" have been determined not to have the potential for significant cumulative impacts.

With respect to potential contributions to cumulative impacts for agricultural resources, biological resources, the potential for human remains, and mineral resources, the Project Site is located in an urbanized area, and like the Project, other development occurring in the area would also constitute urban infill in already densely developed areas. Thus, the Project is unlikely to combine with related projects or other cumulative growth to result in significant cumulative impacts with respect to agricultural and mineral resources. With respect to biological resources, the Project would implement Mitigation Measure BIO-MM-1, as stated under Checklist Question IV.a, which would ensure that potential impacts to nesting birds would be reduced to a less than significant level. Impacts to sensitive plant and animal species would not be cumulatively considerable, as no such habitat occurs in the vicinity of the Project Site or related projects due to the existing urban development. Biological resources are generally site-specific and need to be evaluated within the context of each individual project. In regards to human remains, the Project would be required to comply with existing regulatory requirements that would ensure impacts related to human remains are less than significant. Furthermore, related projects would be required to comply with existing regulatory requirements and the City's building permit review and approval process, which address these subjects.

With respect to aesthetics, because the Project is a mixed-use residential and employment center project that would be located on an infill site within a Transit Priority Area, under SB 743, aesthetic impacts of the Project would be considered less than significant. Aesthetic impacts would still be analyzed in the EIR for informational purposes only. The Project Site is not located in areas that are designated by the City or County to be Landslide areas, within a 100-year flood hazard area, inundation area, or a significant ecological area (SEA); therefore, the Project would have no impact and there would be no potential for cumulative impacts. Because the Project Site is already previously developed, approximately 100-percent impermeable, and served by existing wastewater infrastructure, there would be no Project or cumulative impact on septic tanks or the reduction of groundwater recharge. Since the Project Site is not located within two miles of an airport or within any flight paths, any cumulative impacts with regards to airports and air traffic would be less than significant. Impacts regarding dividing a community or displacing housing are site specific, and because the Project would have no impact on those issues, there would be no potential for cumulative impacts. Therefore, Project implementation would not be expected to result in a considerable contribution to cumulatively significant impacts for these resources. No further discussion of potential cumulative effects for these topics is required in the EIR.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Potentially Significant Impact. As discussed in this Initial Study, the Project could result in potentially significant environmental impacts associated with Aesthetics (Aesthetics, Views, Light and Glare, and Shade and Shadow), Air Quality, Cultural Resources (Archaeological, Paleontological, and Historical Resources), Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, Public Services (Fire, Police, Schools, Parks, and Libraries), Transportation/ Circulation (Traffic and Access), Tribal Cultural Resources, and Utilities (Water, Wastewater, and Solid Waste). These impacts could have potentially adverse effects on human beings, and the EIR will provide further analysis of these potential impacts.

A-3 Scoping Meeting Materials

CITY OF LOS ANGELES SCOPING MEETING

Times Mirror Square Project

Ronald F. Deaton Civic Auditorium

July 25, 2017

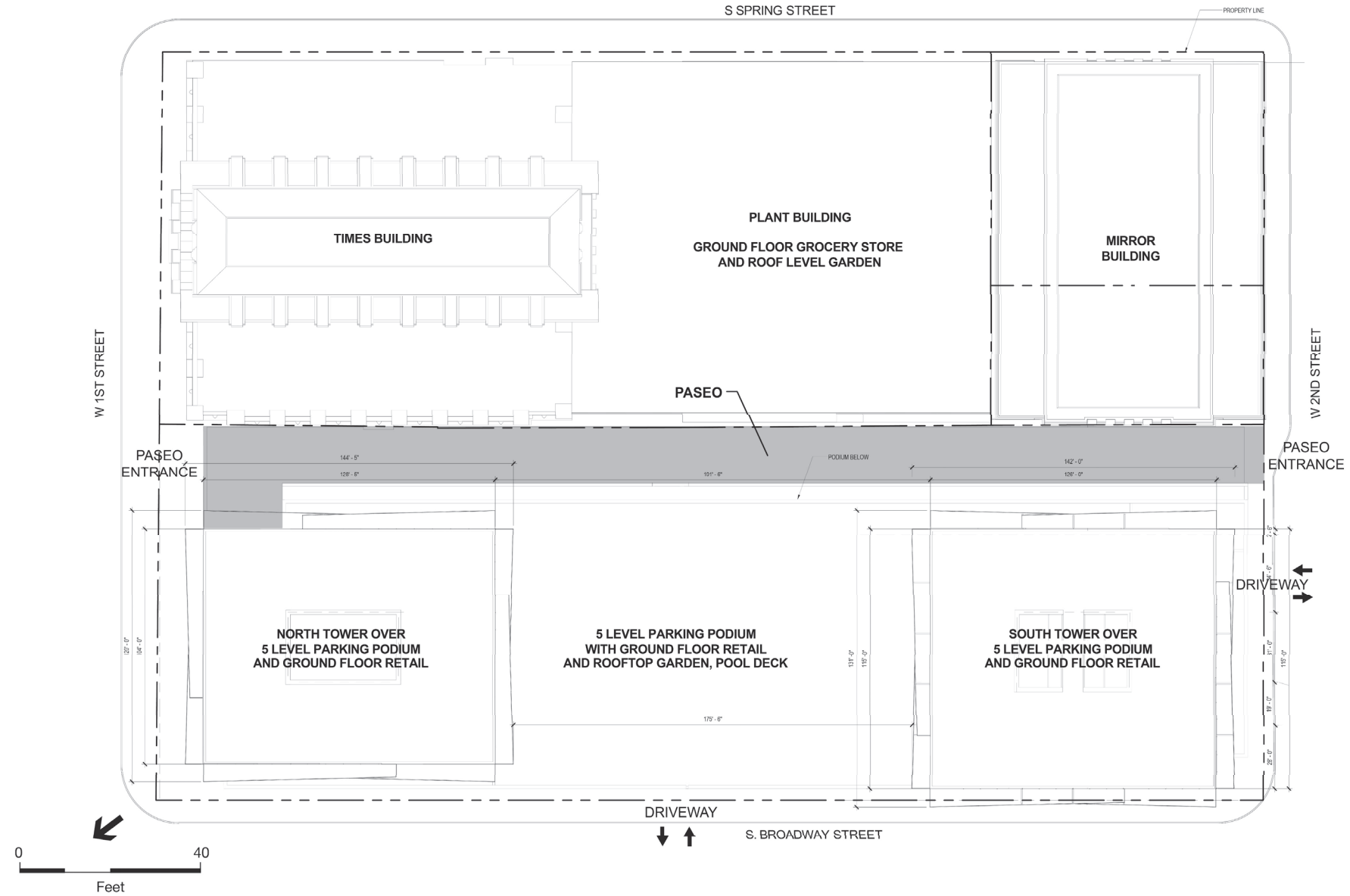
5:00 p.m. – 7:00 p.m.

SCOPING MEETING OBJECTIVES

- Provide information about the Times Mirror Square Project
- Provide information on Environmental Impact Report (EIR) process and timeline
- Identify environmental issues for analysis in the EIR
- Solicit community input regarding environmental issues of concern to be analyzed in the EIR

- The intent of the Scoping Meeting is to receive information that helps determine the scope and content of the EIR. The City is at the beginning of the environmental review process and has not yet analyzed all of the potential impacts of the project.

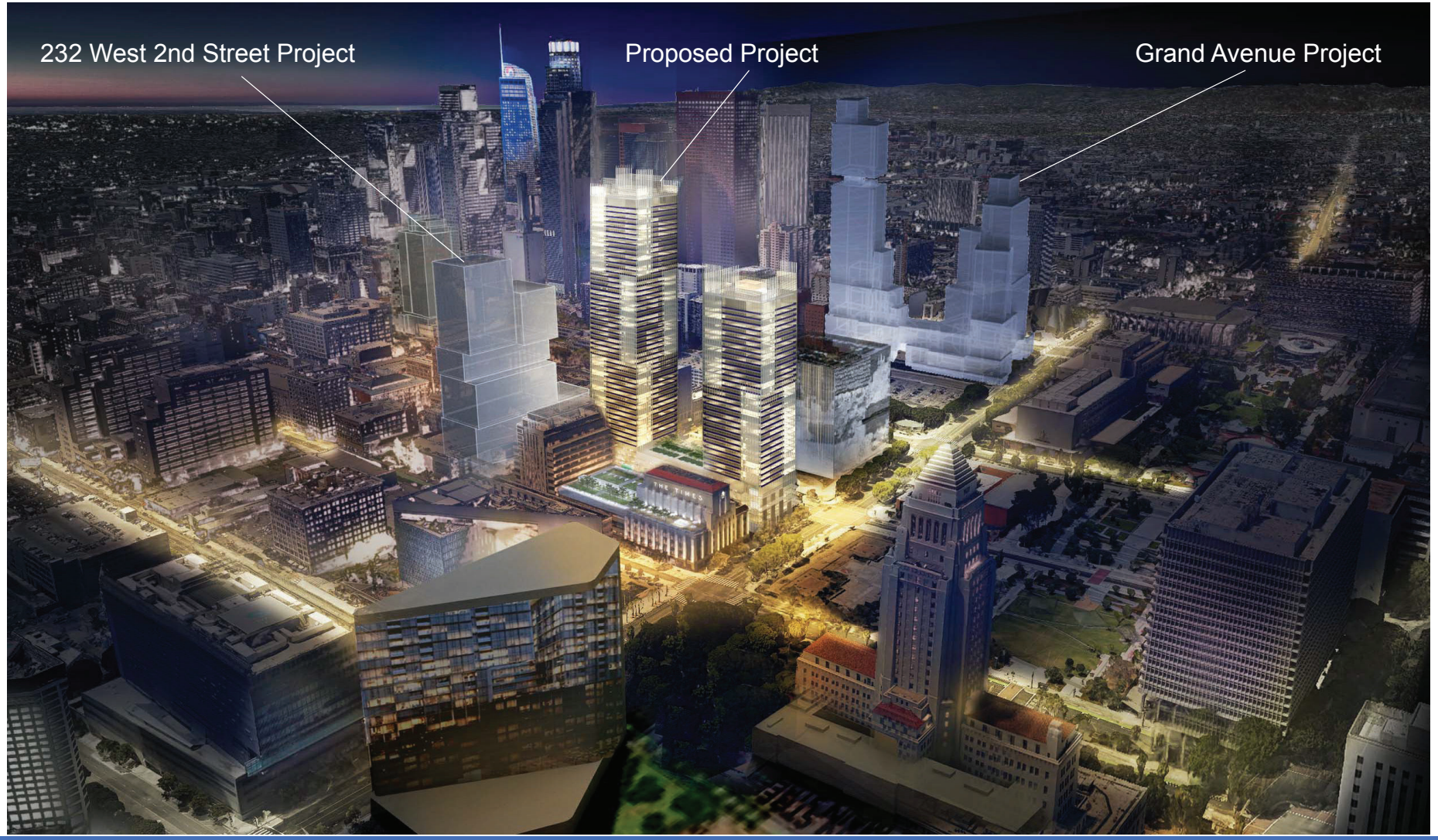
PROJECT SITE PLAN



Simulated View from 1st Street and Broadway



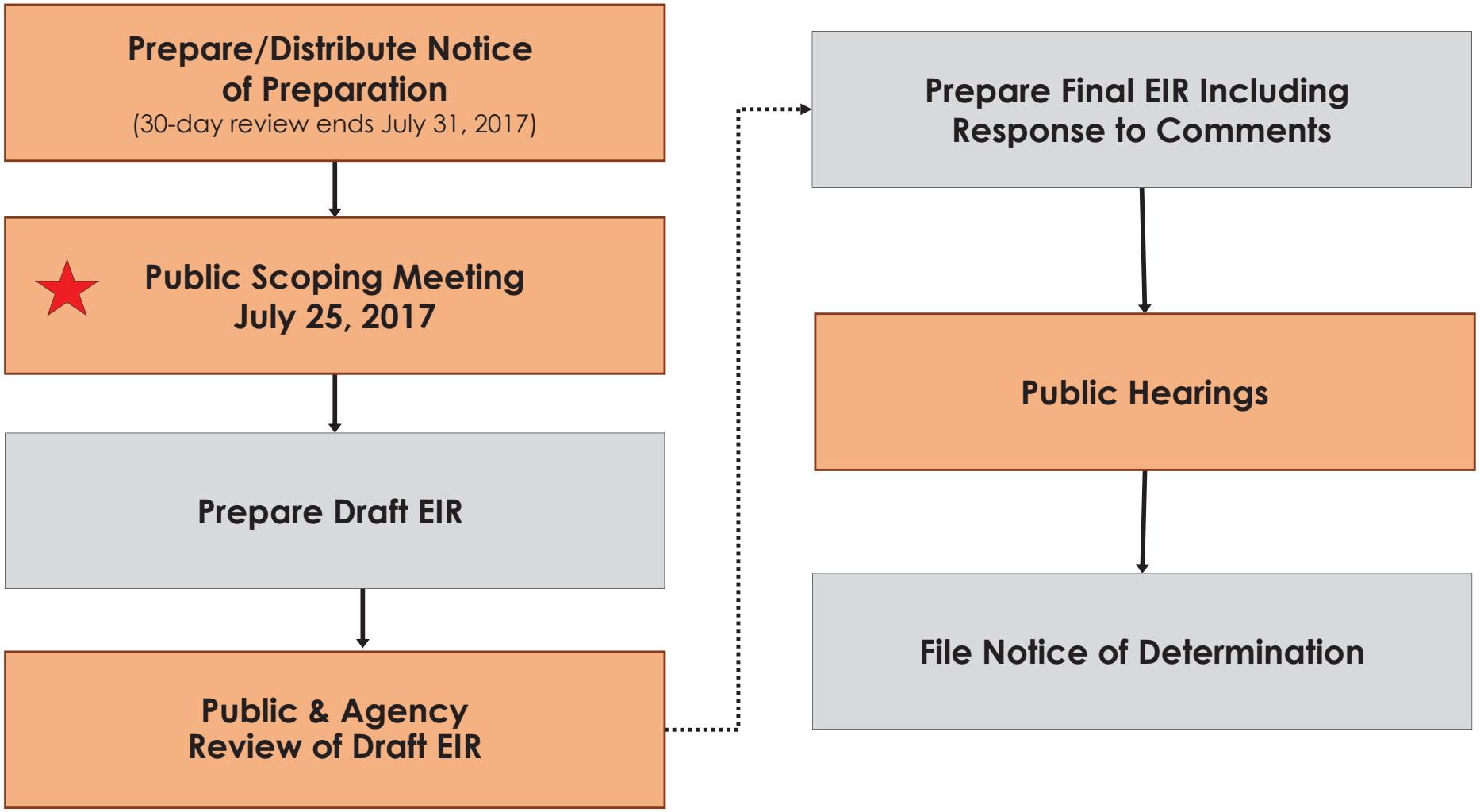
Simulated Aerial View from the Northeast



PROJECT OVERVIEW

- Rehabilitation of the Times, Plant, and Mirror Buildings
- Demolition of existing parking garage and Executive Building to develop the 37-story North Tower and 53-story South Tower
- North and South Towers would contain five-story parking podium, 1,127 residential units, and 34,572 square feet of commercial floor area
- Open-to-sky pedestrian Paseo on ground-level between W. 1st Street and W. 2nd Street
- Development Site: approximately 3.6 acres
- Floor Area Ratio: 9.42:1 proposed
- Total Development: 1,511,908 square feet (including new construction and rehabilitation)
- 129,477 square feet of open space
- 9 levels of subterranean and 5 levels of above-ground podium parking
- 1,744 vehicle parking spaces provided

THE EIR PROCESS



= Opportunities for Public Input

= We are here in the process

SCOPE OF EIR ANALYSIS

- Air Quality
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Population and Housing
- Public Services
  (Police, Fire, Schools, Parks)
- Recreation
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities
  (Water, Wastewater, Solid Waste)
- Energy

SUBMITTAL OF PUBLIC COMMENTS

Submit written comments using pre-addressed forms provided tonight:

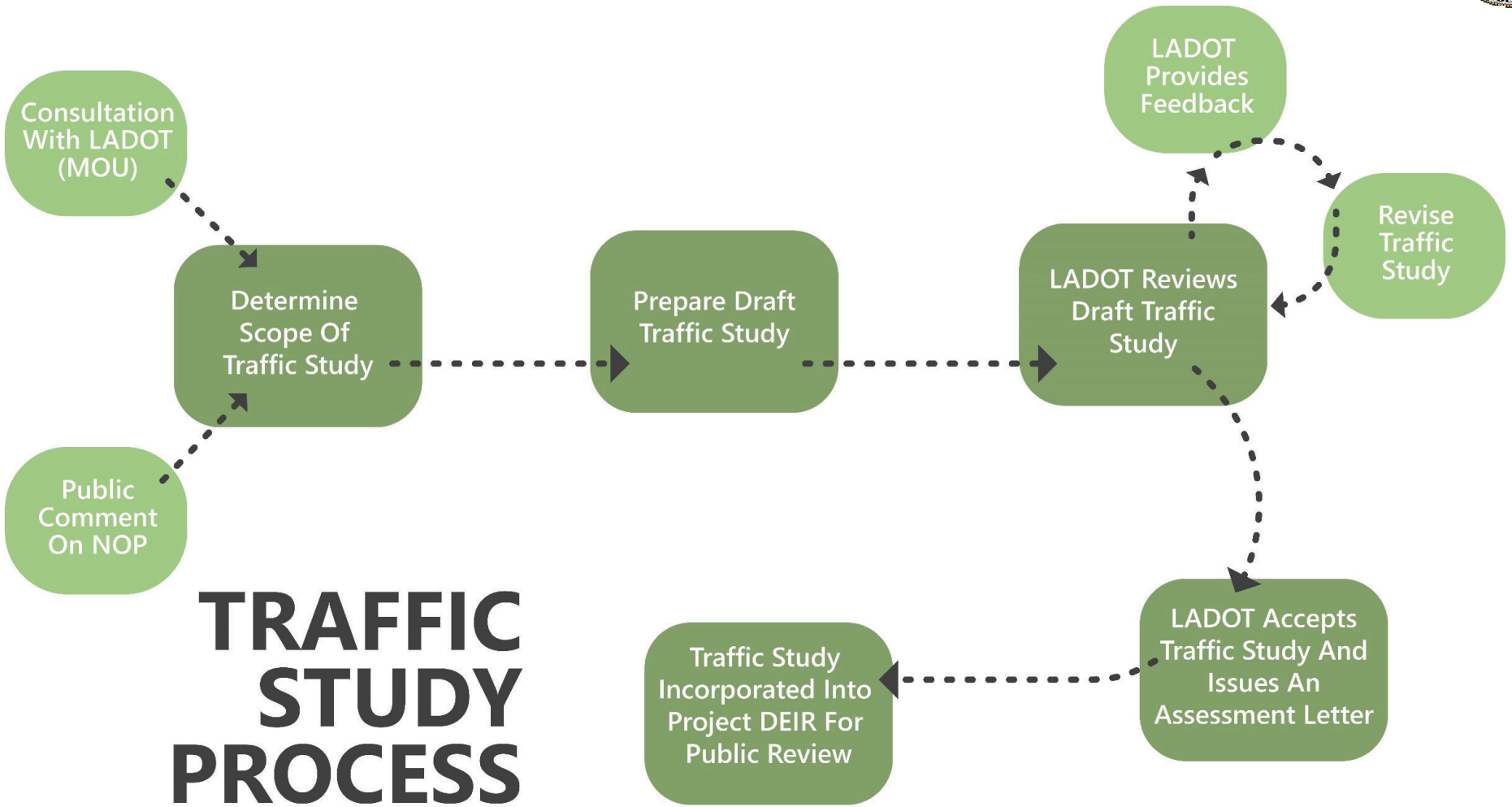
1. Leave in box or provide to City staff or EIR consultants.
2. Add postage and mail to City Hall.
   Please direct EIR comments to:

   William Lamborn
   City of Los Angeles
   Department of City Planning
   200 N. Spring Street, Room 750
   Los Angeles, CA 90012
   Reference: Times Mirror Square Project EIR

- Email: William.Lamborn@lacity.org

Written comments must be submitted by 4 pm, July 31, 2017.

Traffic Study Process

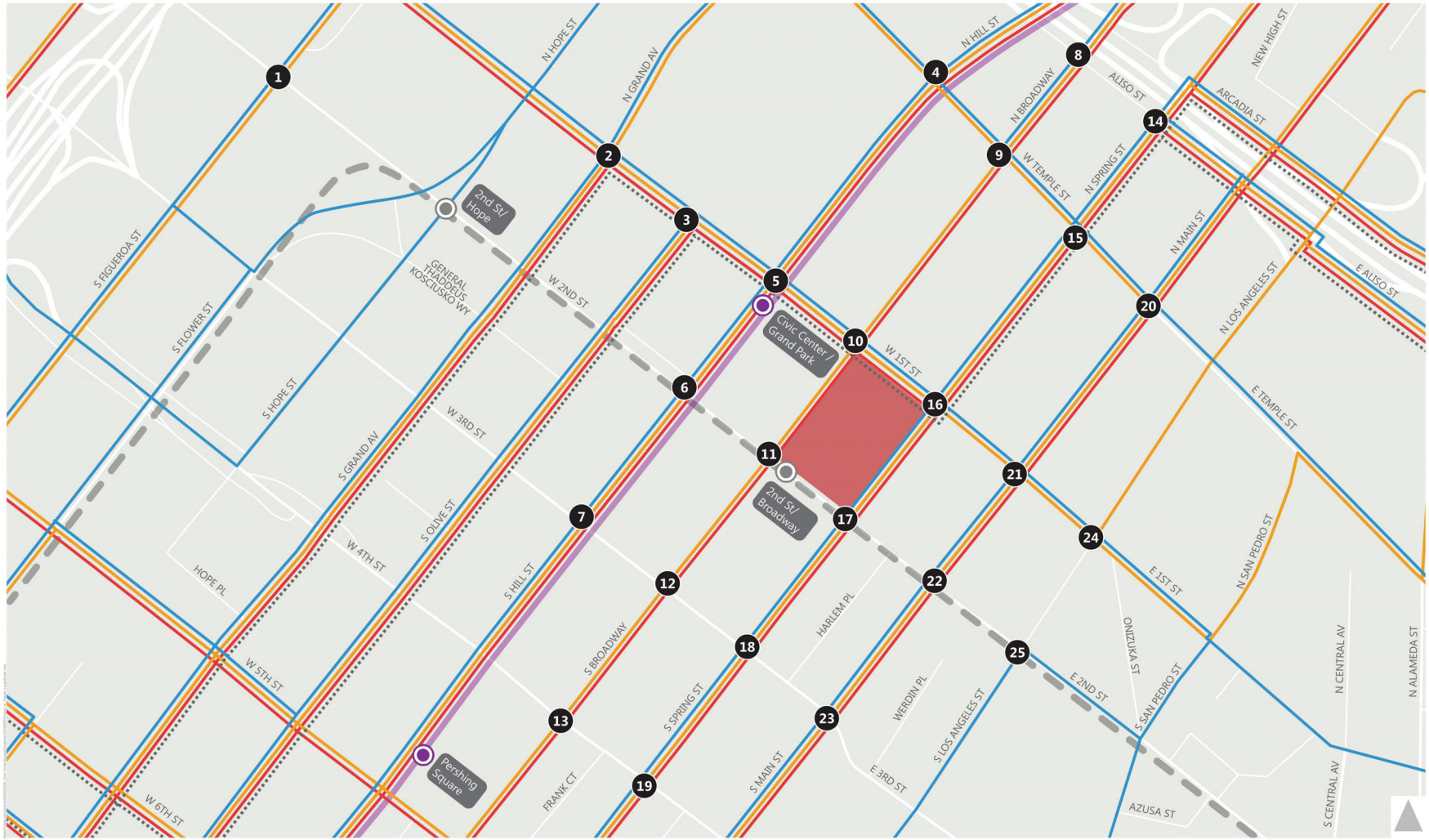


TRAFFIC STUDY PROCESS

Los Angeles Department of Transportation (LADOT)

FEHR PEERS

Project Site with Transit

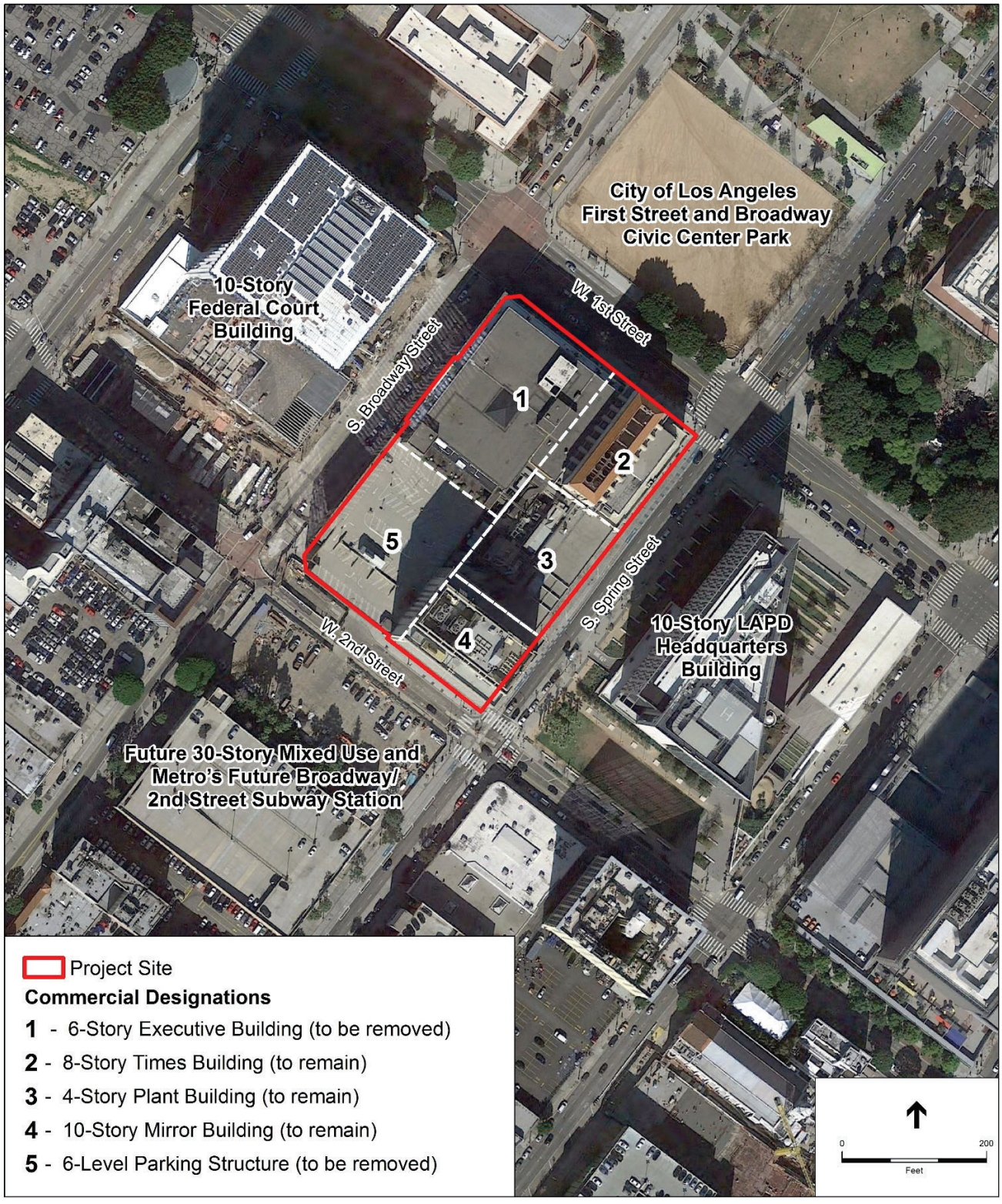


Project Site with
Study Intersections and Nearby Transit

PROPOSED ENTITLEMENTS

- Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site) (LAMC Sec. 14.5.6-B).
- Vesting Conditional Use Permit to permit floor averaging within a unified development (LAMC Sec. 12.24-W,19).
- Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces (LAMC Sec. 12.24-W,1).
- Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (LAMC Sec. 17.15). The Applicant is requesting to provide parking per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums.
- Construction permits, including building, grading, excavation, foundation, and associated permits.
- Haul Route Permit, as may be required.
- Other approvals as needed.

EXISTING USES ON-SITE



A-4 NOP and Scoping Meeting Comments

CITY OF LOS ANGELES
TIMES MIRROR SQUARE PROJECT ENVIRONMENTAL IMPACT REPORT
PUBLIC SCOPING MEETING
CASE NO.: ENV-2016-4676-EIR
JULY 25, 2017

Please include your mailing address if you wish to receive future notices regarding this case, including publication of the Draft and Final EIR.

Name	Organization (if any)	Address	City, Zip Code	E-mail
Shawn McCoy	U.S. General Services Administration	350 W. 1st Street, Suite 2470	Los Angeles, CA 90012	Shawn.mccoy@gsa.gov
Allan Harris	Self	108 West 2nd St 1002	LA 90012	harrisyounger@aol.com
Mika Seabrook		108 W. 2nd St. 1005	L.A., CA 90012	rmseabrook@ymail.com

We need your input!

Please take a few minutes to provide your comments and return the completed form to the Department of City Planning.

The purpose of the scoping process is to identify public and agency concerns, define the issues that will be examined in the Environmental Impact Report (EIR), and help to identify project impacts, alternatives, and mitigation measures that can lessen the negative impacts from both temporary construction activities and long-term operation of the proposed Project.

Comments must be provided **in writing** and can be submitted either at the scoping meeting, by mail or e-mail to William.Lamborn@lacity.org.

The deadline for submitting preliminary comments is Monday, July 31, 2017, 4pm. All written comments submitted will be considered during preparation of the Draft EIR, which will be available for public review at a later date. The Initial Study is available for review at the Dept. of City Planning, 200 N. Spring Street, Room 750, Los Angeles, CA 90012.

Thank you for your participation!

Tape Here

Attn: William Lamborn
RE: ENV-2016-4676-EIR
Major Projects Section
City of Los Angeles Department of City Planning
200 N. Spring Street, Room 750
Los Angeles, CA 90012

Place Required Postage Here

Los Angeles Department of City Planning

Public Scoping Meeting

Project Name:
Times Mirror Square Project

Planning Dept. Case No.:
ENV-2016-4676-EIR

State Clearinghouse No:
2017061083

Project Location:
121, 145, 147 S. Spring Street; 100, 102, 106, 108, 110, 118, 120, 124, 126, 128, 130, 140, 142 S. Broadway; 202, 212, 214, 220, 224, 228, 230, 234 W. 1st Street; 205, 211, 221 W. 2nd Street, Los Angeles, California 90012

Community Planning Area:
Central City

Council District:
CD 14, Jose Huizar

Due Date for Public Comments:
Monday, July 31, 2017, 4pm

The Notice of Preparation is available at:
https://planning.lacity.org/eir/nops/TimesMirrorSquare/nop.pdf

ENVIRONMENTAL ISSUES & IMPACTS

CEQA requires consideration of the following topics:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Traffic/Transportation
- Tribal Cultural Resources
- Utilities/Service Systems

Note: Any identifying information provided will become part of the public record and, as such, must be released to any individual upon request.

Written Comment Form

Use the space below to comment on areas of concern regarding the scope and content of the Draft EIR, and offer potential alternatives and/or measures to avoid or reduce environmental impacts.

My concern is the extreme height of the buildings is so out of place for this historical section of downtown. Please rethink these exciting ideas in a building size that better fits the area (Even 20 stories).

CONTACT INFORMATION (Optional, please print clearly)

Name: _____ Representing Agency or Organization: _____

Address: _____ City/State/Zip: _____

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

Notice of Preparation

RECEIVED
CITY OF LOS ANGELES
JUL 12 2017
MAJOR PROJECTS
UNIT

June 30, 2017

To: Reviewing Agencies

Re: Times Mirror Square
SCH# 2017061083

Attached for your review and comment is the Notice of Preparation (NOP) for the Times Mirror Square draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

William Lamborn
City of Los Angeles
200 N. Spring Street, Room 750
Los Angeles, CA 90012

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2017061083
Project Title Times Mirror Square
Lead Agency Los Angeles, City of

Type NOP Notice of Preparation

Description The project would develop a new mixed-use development and rehabilitate the Times, Plant, and Mirror Buildings on the approx. 3.6 acre site in Downtown LA. New development, consisting of the 37-story "North Tower" and 53-story "South Tower" would be located in the west sector of the block. The existing Executive Building and parking garage would be demolished to allow for the project's new mixed-use component. The North and South Towers, which would be constructed above a five-story parking podium, would contain an additional nine levels of subterranean parking. The combined commercial and residential floor area would total approx. 1,135,803 sq. ft. The existing Times, Plant, and Mirror Buildings have a combined floor area of 376,105 sq. ft. In total, including new construction and existing buildings to remain, the Project proposes approx. 1,511,908 sq. ft. of floor area. This would result in a floor area ration (FAR) of 9.42:1.

Lead Agency Contact

Name William Lamborn
Agency City of Los Angeles
Phone 213-978-1470 **Fax**
email
Address 200 N. Spring Street, Room 750
City Los Angeles **State** CA **Zip** 90012

Project Location

County Los Angeles
City Los Angeles, City of
Region
Cross Streets City block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway St.
Lat / Long 34° 3' 9.96" N / 118° 14' 44.10" W
Parcel No. 5149-001-003, -004, -005, -006, -007
Township **Range** **Section** **Base**

Proximity to:

Highways I-5, I-10, US 101, I-110
Airports
Railways Metrolink, Amtrak
Waterways LA River
Schools Various
Land Use C2-4D-SN, Regional Center Commercial

Project Issues Air Quality; Archaeologic-Historic; Drainage/Absorption; Forest Land/Fire Hazard; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Water Quality; Water Supply; Landuse; Cumulative Effects; Tribal Cultural Resources

Reviewing Agencies Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 5; Office of Emergency Services, California; Department of Housing and Community Development; Public Utilities Commission; Native American Heritage Commission; California Highway Patrol; Caltrans, District 7; Regional Water Quality Control Board, Region 4; Resources Agency

Date Received 06/30/2017 **Start of Review** 06/30/2017 **End of Review** 07/31/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P. O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH# 2017061083

Project Title: Times Mirror Square

Lead Agency: City of Los Angeles — Contact Person: William Lamborn

Mailing Address: Department of City Planning, 200 N. Spring Street, Room 750 — Phone: (213) 978-1470

City: Los Angeles — Zip: 90012 — County: Los Angeles

Project Location: County: Los Angeles County — City/Nearest Community: Los Angeles

Cross Streets: City block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway Street — Zip Code: 90012

Lat. / Long. (degrees, minutes, and seconds): 34° 3′ 9.96″ N/ 118° 14′ 44.10″ W — Total Acres: 3.6

Assessor's Parcel No.: 5149-001-003, -004, -005, -006, -007 — Section: ____ Twp.: ____ Range: ____ Base: ____

Within 2 Miles: State Hwy #: I-5, I-10, US-101, I-110 — Waterways: Los Angeles River

Airports: N/A — Railways: Metrolink, Amtrak — Schools: More than 10

Document Type:

CEQA: ☒ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ____ ☐ Other ____

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other ____

Governor's Office of Planning & Research

JUN 30 2017

STATE CLEARINGHOUSE

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☒ Use Permit ☒ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☐ Other ____

Development Type:

☒ Residential: Units 1,127 Acres ____
☒ Office: Sq.ft. 285,088 Acres ____ Employees ____
☒ Commercial: Sq.ft. 91,017 Acres ____ Employees ____
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational ____
☐ Recreational ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☐ Other: ____

Project Issues Discussed in Document:

☐ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☐ Biological Resources
☐ Coastal Zone
☒ Drainage/Absorption
☐ Economic/Jobs
☐ Fiscal
☐ Flood Plain/Flooding
☒ Forest Land/Fire Hazard
☒ Geologic/Seismic
☐ Minerals
☒ Noise
☒ Population/Housing Balance
☒ Public Services/Facilities
☒ Recreation/Parks
☒ Schools/Universities
☐ Septic Systems
☒ Sewer Capacity
☒ Soil Erosion/Compaction/Grading
☒ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation
☐ Vegetation
☒ Water Quality
☒ Water Supply/Groundwater
☐ Wetland/Riparian
☐ Growth Inducement
☒ Land Use
☒ Cumulative Effects
☒ Other: Tribal Cultural Resource

Present Land Use/Zoning/General Plan Designation:

C2-4D-SN, Regional Center Commercial

Project Description: *(please use a separate page if necessary)*

The Project would develop a new mixed-use development and rehabilitate the Times, Plant, and Mirror Buildings on the approximately 3.6-acre site in Downtown Los Angeles. New development, consisting of the 37-story "North Tower" and 53-story "South Tower" would be located in the west sector of the block. The existing Executive Building and parking garage would be demolished to allow for the Project's new mixed-use component. The North and South Towers, which would be constructed above a five-story parking podium, would contain approximately 1,127 residential units and approximately 34,572 square feet of commercial floor area. The space below the podium would contain an additional nine levels of subterranean parking. The combined commercial and residential floor area would total approximately 1,135,803 square feet. The existing Times, Plant, and Mirror Buildings have a combined floor area of 376,105 square feet. In total, including new construction and existing buildings to remain, the Project proposes approximately 1,511,908 square feet of floor area. This would result in a floor area ratio (FAR) of 9.42:1.

Note: The state Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

NOP Distribution List

CK

County: Los Angeles

SCH# 2017061083

Resources Agency

- [ ] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Lisa Johansen
- [ ] **Dept. of Conservation**
  Crina Chan
- [ ] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [ ] **Office of Historic Preservation**
  Ron Parsons
- [ ] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [ ] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [ ] **OES (Office of Emergency Services)**
  Monique Wilber
- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [ ] **Delta Stewardship Council**
  Kevan Samsam
- [ ] **California Energy Commission**
  Eric Knight
- [ ] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [ ] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Eric Federicks – South
  Susan Zanchi - North
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [ ] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- [ ] **Airport & Freight**
  Jack Wursten
  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [ ] **Industrial/Energy Projects**
    Mike Tollstrup
- [ ] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  Div. Drinking Water #_____
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

_____

_____

- [ ] _____
  Conservancy

Last Updated 4/28/17

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710

Edmund G. Brown Jr., Governor

July 7, 2017

RECEIVED
CITY OF LOS ANGELES
JUL 24 2017
MAJOR PROJECTS
UNIT

William Lamborn
City of Los Angeles
200 N. Spring Street, Room 750
Los Angeles, CA 90012

Sent via e-mail: William.lamborn@lacity.org

RE: SCH# 2017061083; Times Mirror Square Project, City of Los Angeles; Los Angeles County, California

Dear Mr. Lamborn:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for Draft Environmental Impact Report for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
       i. Planning and construction to avoid the resources and protect the cultural and natural context.
       ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
       i. Protecting the cultural character and integrity of the resource.
       ii. Protecting the traditional use of the resource.
       iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

cc: State Clearinghouse

William Lamborn <william.lamborn@lacity.org>

SCH# 2017061083 Times Mirror Square

1 message

noreply@nahc.ca.gov <noreply@nahc.ca.gov> Fri, Jul 7, 2017 at 1:18 PM
Reply-To: noreply@nahc.ca.gov
To: william.lamborn@lacity.org

Reply to: noreply@nahc.ca.gov <noreply@nahc.ca.gov>
Device Name: Not Set
Device Model: MX-4141N
Location: Not Set

File Format: PDF (Medium)
Resolution: 200dpi x 200dpi

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STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710

July 7, 2017

William Lamborn
City of Los Angeles
200 N. Spring Street, Room 750
Los Angeles, CA 90012

Sent via e-mail: William.lamborn@lacity.org

RE: SCH# 2017061083; Times Mirror Square Project, City of Los Angeles; Los Angeles County, California

Dear Mr. Lamborn:

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    c. Significance of the project's impacts on tribal cultural resources.
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5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
    a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
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    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

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9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
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    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
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    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

cc: State Clearinghouse

Department of Toxic Substances Control

Barbara A. Lee, Director
9211 Oakdale Avenue
Chatsworth, California 91311

Matthew Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

July 18, 2017

RECEIVED
CITY OF LOS ANGELES
JUL 28 2017
MAJOR PROJECTS
UNIT

Mr. William Lamborn
Major Projects Section
City of Los Angeles Department of City Planning
200 North Spring Street, Room 750
Los Angeles, California 90012

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE TIMES MIRROR SQUARE PROJECT (PROJECT), ENV-2016-4676-EIR

Dear Mr. Lamborn:

The Department of Toxic Substances Control (DTSC) has received your Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the above mentioned Project.

Based on the review of the document, the DTSC comments are as follows:

1) The EIR needs to identify and determine whether current or historic uses at the Project site have resulted in any release of hazardous wastes/substances at the Project area.

2) The EIR needs to identify any known or potentially contaminated site within the proposed Project area. For all identified sites, the EIR needs to evaluate whether conditions at the site pose a threat to human health or the environment.

3) The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may require remediation, and which government agency will provide appropriate regulatory oversight.

4) If during construction of the project, soil contamination is encountered or suspected, construction in the area should stop and appropriate Health and Safety procedures should be implemented. If it is determined that contaminated soil exists, the EIR should identify how any required investigation and/or remediation will be conducted, and which government agency will provide appropriate regulatory oversight.

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DTSC provides guidance for Preliminary Endangerment Assessment (PEA) preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP please visit DTSC's web site at www.dtsc.ca.gov. If you would like to meet and discuss this matter further please contact me at (818) 717-6539 or email juli.propes@dtsc.ca.gov.

Sincerely,

Juli Propes
Unit Chief
Brownfields and Environmental Restoration Program – Chatsworth Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

FORM GEN. 160 (Rev. 8-12)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

DATE: July 20, 2017

RECEIVED
CITY OF LOS ANGELES
JUL 26 2017
MAJOR PROJECTS UNIT

TO: Vincent P. Bertoni, Director of Planning
Department of City Planning

Attn: William Lamborn, City Planner
Department of City Planning

FROM: Ali Poosti, Division Manager
Wastewater Engineering Services Division
LA Sanitation

SUBJECT: **TIMES MIRROR SQUARE – NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING**

This is in response to your June 30, 2017 letter requesting a review of your proposed mixed-use project located at 121-147 S. Spring Street, 100-142 S. Broadway, 202-234 W. 1st Street, and 205-221 W. 2nd Street, Los Angeles, CA 90012. The project will consist of residential units, space amenities, lounges, loading areas, retail uses, grocery store, office, restaurant, and a swimming pool. LA Sanitation has conducted a preliminary evaluation of the potential impacts to the wastewater and stormwater systems for the proposed project.

WASTEWATER REQUIREMENT

LA Sanitation, Wastewater Engineering Services Division (WESD) is charged with the task of evaluating the local sewer conditions and to determine if available wastewater capacity exists for future developments. The evaluation will determine cumulative sewer impacts and guide the planning process for any future sewer improvement projects needed to provide future capacity as the City grows and develops.

Projected Wastewater Discharges for the Proposed Project:

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Proposed No. of Units	Average Daily Flow (GPD)
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Bank	50 GPD/1000 SQ.FT	7,500 SQ. FT	375
Cafeteria	50 GPD/1000 SQ.FT	11,250 SQ. FT	563
Proposed			
Residential: APT- Bachelor	75 GPD/DU	90 UNITS	6,750
Residential: APT- 1 BDRM	110 GPD/DU	546 UNITS	60,060
Residential: APT- 1 BDRM +Den	190 GPD/DU	160 UNITS	30,400

File Location: \\82mtcfs1\wesd\Div Files\SCAR\CEQA Review\FINAL CEQA Response LTRs\FINAL DRAFT\Times Mirror Square - NOP of EIR and Public Scoping Meeting.doc

Residential: APT- 2 BDRM	150 GPD/DU	324 UNITS	48,600
Residential: APT- 3 BDRM	190 GPD/DU	4 UNITS	760
Residential: Penthouse	230 GPD/DU	3 UNITS	690
Amenities+Lounges+Loading	350 GPD/1000 SQ.FT	29,539 SQ.FT	10,339
Retail	25 GPD/1000 SQ.FT	34,527 SQ.FT	863
Open Space	350 GPD/1000 SQ.FT	129,477 SQ.FT	45,317
Restaurant	300 GPD/1000 SQ.FT	41,017 SQ.FT	12,305
Grocery Store	50 GPD/1000 SQ.FT	50,000 SQ.FT	2,500
Office	120 GPD/1000 SQ.FT	285,088 SQ.FT	34,211
Swimming Pool	7.78 GPD/CU.FT	9,000 CU.FT	70,020
Total			**256,943**

SEWER AVAILABILITY

The sewer infrastructure in the vicinity of the proposed project includes an existing 12-inch line on Broadway. The sewage from the existing 12-inch line feeds into 27-inch line on Hill Street before discharging into a 50-inch sewer line on Grand Ave. Figure 1 shows the details of the sewer system within the vicinity of the project. The current flow level (d/D) in the 12-inch line cannot be determined at this time without additional gauging.

The current approximate flow level (d/D) and the design capacities at d/D of 50% in the sewer system are as follows:

Pipe Diameter (in)	Pipe Location	Current Gauging d/D (%)	50% Design Capacity
12	Broadway	*	991,386 GPD
12	Broadway	36	968,056 GPD
24	Hill St	23	5.21 MGD
24	Hill St	16	4.80 MGD
27	Hill St	29	6.50 MGD
50	Grand Ave	43	19.81 MGD

* No gauging available

Based on the estimated flows, it appears the sewer system might be able to accommodate the total flow for your proposed project. Further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point. If the public sewer has insufficient capacity then the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit will be made at that time. Ultimately, this sewage flow will be conveyed to the Hyperion Water Reclamation Plant, which has sufficient capacity for the project.

If you have any questions, please call Christopher DeMonbrun at (323) 342-1567 or email at chris.demonbrun@lacity.org.

STORMWATER REQUIREMENTS

LA Sanitation, Watershed Protection Program (WPP) is charged with the task of ensuring the implementation of the Municipal Stormwater Permit requirements within the City of Los Angeles. We anticipate the following requirements would apply for this project.

POST-CONSTRUCTION MITIGATION REQUIREMENTS

In accordance with the Municipal Separate Storm Sewer (MS4) National Pollutant Discharge Elimination System (NPDES) Permit (Order No. R4-2012-0175, NPDES No. CAS004001) and the City of Los Angeles Stormwater and Urban Runoff Pollution Control requirements (Chapter VI, Article 4.4, of the Los Angeles Municipal Code), the Project shall comply with all mandatory provisions to the Stormwater Pollution Control Measures for Development Planning (LID Ordinance) and as it may be subsequently amended or modified. Prior to issuance of grading or building permits, the Applicant shall submit a LID Plan to the City of Los Angeles, Bureau of Sanitation, Watershed Protection Division (WPD), for review and approval. The LID Plan shall be prepared consistent with the requirements of the Development Best Management Practices Handbook.

Current regulations prioritize infiltration, capture/use, and then biofiltration as the preferred stormwater control measures. The relevant documents can be found at: www.lacitysan.org. It is advised that input regarding LID requirements be received in the early phases of the project from WPD's plan-checking staff.

GREEN STREETS

The City is developing a Green Street Initiative that will require projects to implement Green Street elements in the parkway areas between the roadway and sidewalk of the public right-of-away to capture and retain stormwater and urban runoff to mitigate the impact of stormwater runoff and other environmental concerns. The goals of the Green Street elements are to improve the water quality of stormwater runoff, recharge local ground water basins, improve air quality, reduce the heat island effect of street pavement, enhance pedestrian use of sidewalks, and encourage alternate means of transportation. The Green Street elements may include infiltration systems, biofiltration swales, and permeable pavements where stormwater can be easily directed from the streets into the parkways and can be implemented in conjunction with the LID requirements. Green Street standard plans can be found at: www.eng2.lacity.org/techdocs/stdplans/

CONSTRUCTION REQUIREMENTS

All construction sites are required to implement a minimum set of BMPs for erosion control, sediment control, non-stormwater management, and waste management. In addition, construction sites with active grading permits are required to prepare and implement a Wet Weather Erosion Control Plan during the rainy season between October 1 and April 15. Additionally, construction sites that disturb more than one-acre of land are subject to the NPDES

Construction General Permit issued by the State of California, and are required to prepare, submit, and implement the Storm Water Pollution Prevention Plan (SWPPP).

If there are questions regarding the stormwater requirements, please call WPP's plan-checking counter at (213) 482-7066. WPD's plan-checking counter can also be visited at 201 N. Figueroa, 3rd Fl, Station 18.

GROUNDWATER DEWATERING REUSE OPTIONS

The Los Angeles Department of Water and Power (LADWP) is charged with the task of supplying water and power to the residents and businesses in the City of Los Angeles. One of the sources of water includes groundwater. The majority of groundwater in the City of Los Angeles is adjudicated, and the rights of which are owned and managed by various parties. Extraction of groundwater within the City from any depth by law requires metering and regular reporting to the appropriate Court-appointed Watermaster. LADWP facilitates this reporting process, and may assess and collect associated fees for the usage of the City's water rights. The party performing the dewatering should inform the property owners about the reporting requirement and associated usage fees.

On April 22, 2016 the City of Los Angeles Council passed Ordinance 184248 amending the City of Los Angeles Building Code, requiring developers to consider beneficial reuse of groundwater as a conservation measure and alternative to the common practice of discharging groundwater to the storm drain (SEC. 99.04.305.4). It reads as follows: "Where groundwater is being extracted and discharged, a system for onsite reuse of the groundwater, shall be developed and constructed. Alternatively, the groundwater may be discharged to the sewer."

Groundwater may be beneficially used as landscape irrigation, cooling tower make-up, and construction (dust control, concrete mixing, soil compaction, etc.). Different applications may require various levels of treatment ranging from chemical additives to filtration systems. When onsite reuse is not available the groundwater may be discharged to the sewer system. This allows the water to be potentially reused as recycled water once it has been treated at a water reclamation plant. If groundwater is discharged into the storm drain it offers no potential for reuse. The onsite beneficial reuse of groundwater can reduce or eliminate costs associated with sewer and storm drain permitting and monitoring. Opting for onsite reuse or discharge to the sewer system are the preferred methods for disposing of groundwater.

To help offset costs of water conservation and reuse systems, LADWP offers the Technical Assistance Program (TAP), which provides engineering and technical assistance for qualified projects. Financial incentives are also available. Currently, LADWP provides an incentive of $1.75 for every 1,000 gallons of water saved during the first two years of a five-year conservation project. Conservation projects that last 10 years are eligible to receive the incentive during the first four years. Other water conservation assistance programs may be available from Metropolitan Water District of Southern California. To learn more about available water conservation assistance programs, please contact LADWP Rebate Programs 1-888-376-3314 and LADWP TAP 1-800-544-4498, selection "3".

For more information related to beneficial reuse of groundwater, please contact Greg Reed, Manager of Water Rights and Groundwater Management, at (213)367-2117 or greg.reed@ladwp.com.

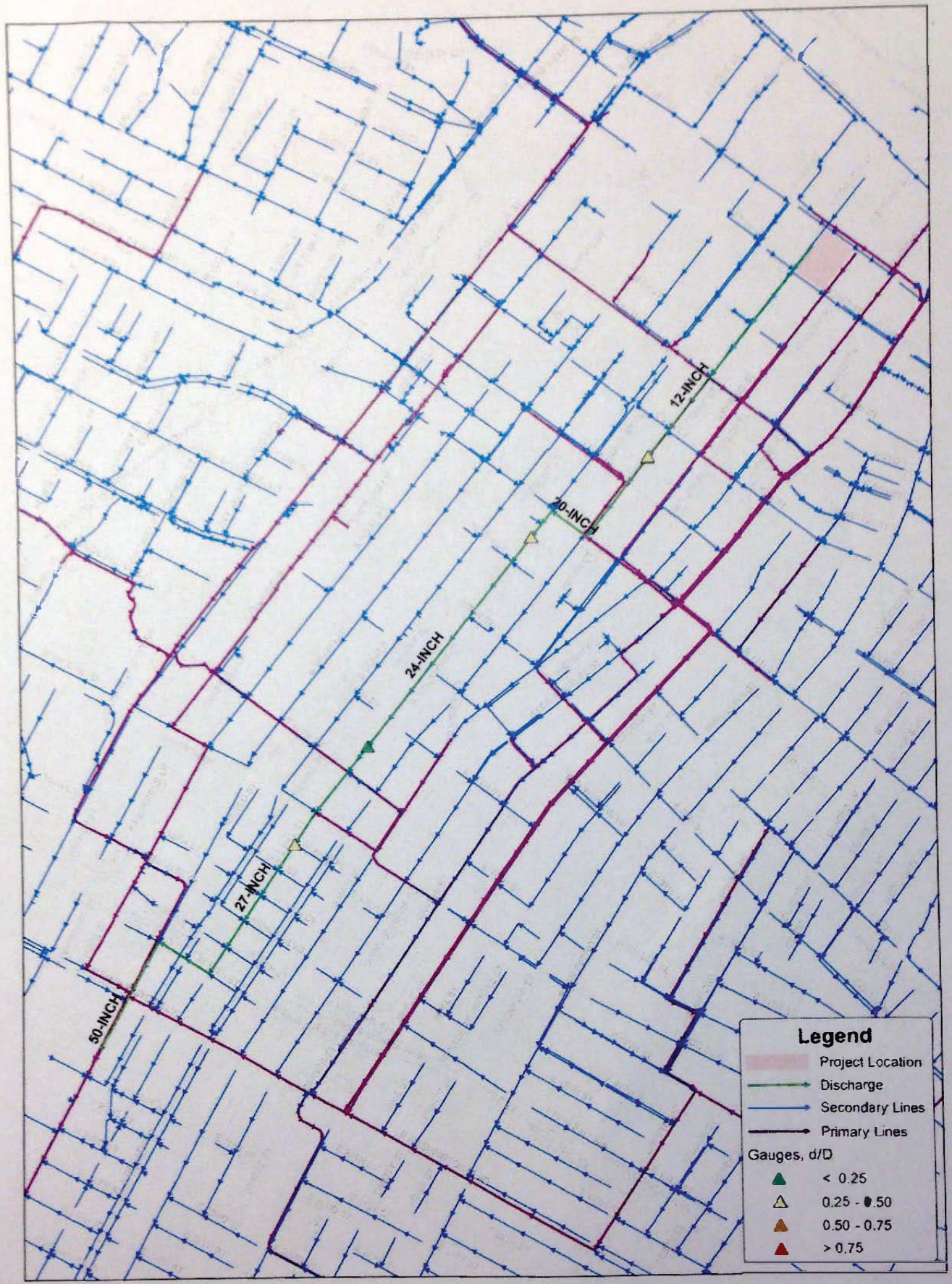
SOLID RESOURCE REQUIREMENTS

The City has a standard requirement that applies to all proposed residential developments of four or more units or where the addition of floor areas is 25 percent or more, and all other development projects where the addition of floor area is 30 percent or more. Such developments must set aside a recycling area or room for onsite recycling activities. For more details of this requirement, please contact Daniel Hackney of the Special Project Division at (213)485-3684.

CD/AP: yv

Attachment: Figure 1 – Sewer Map

c: Kosta Kaporis, LASAN
Daniel Hackney, LASAN
Christopher DeMonbrun, LASAN



Wastewater Engineering Services Division
City of Los Angeles

Figure 1
Times Mirror Square
Sewer Map

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Thomas Brothers Data reproduced with permission granted by THOMAS BROS MAP

FORM GEN. 160 (Rev. 8-12)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

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JUL 25 2017
CITY PLANNING DEPT.
EXECUTIVE OFFICE

RECEIVED
CITY OF LOS ANGELES
JUL 26 2017
MAJOR PROJECTS
UNIT

DATE: July 20, 2017

TO: Vincent P. Bertoni, Director of Planning
Department of City Planning

Attn: William Lamborn, City Planner
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CD/AP: yv

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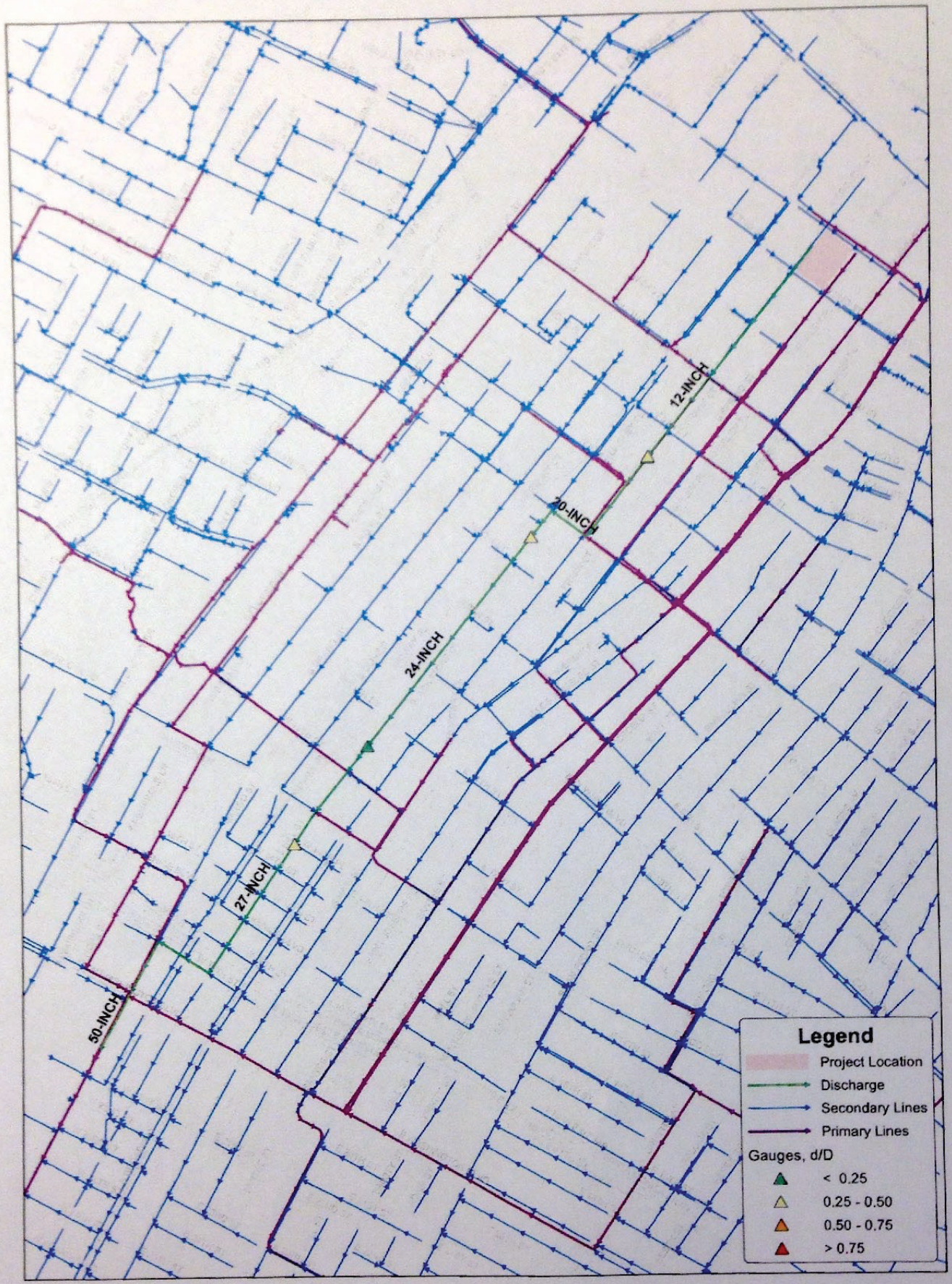
Daniel Hackney, LASAN
Christopher DeMonbrun, LASAN



Wastewater Engineering Services Division
LA Sanitation
City of Los Angeles

Figure 1
Times Mirror Square
Sewer Map

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0 280 560 1,120 1,680 2,240
Feet

Thomas Brother Data reproduced with permission granted by THOMAS BROS MAP

William Lamborn <william.lamborn@lacity.org>

SCAQMD Staff NOP Comments for the Times Mirror Square (ENV-2016-4676-EIR)

Lijin Sun <LSun@aqmd.gov> Thu, Jul 27, 2017 at 6:43 AM
To: "william.lamborn@lacity.org" <william.lamborn@lacity.org>
Cc: Jillian Wong <jwong1@aqmd.gov>

Dear Mr. Lamborn,

Attached are the SCAQMD staff comments on the Notice of Preparation of an Environmental Impact Report for the Times Mirror Square (ENV-2016-4676-EIR) (SCAQMD Control Number: LAC170705-12). The original, electronically signed letter will be forwarded to your attention by regular USPS mail. Please contact me if you have any questions regarding these comments. Thank you.

Sincerely,

Lijin Sun, J.D.

Program Supervisor, CEQA IGR

South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765

Direct: (909) 396-3308

Fax: (909) 396-3324

LAC170705-12 NOP Times Mirror Square.pdf
318K

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA USPS AND E-MAIL: July 27, 2017

William.lamborn@lacity.org
Willian Lamborn – Major Projects Section
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 750
Los Angeles, CA 90012

Notice of Preparation of an Environmental Impact Report for the Times Mirror Square (Case No.: ENV-2016-4676-EIR)

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Environmental Impact Report (EIR). Please send SCAQMD a copy of the EIR upon its completion. Note that copies of the EIR that are submitted to the State Clearinghouse are not forwarded to SCAQMD. Please forward a copy of the EIR directly to SCAQMD at the address shown in the letterhead. **In addition, please send with the EIR all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files[1]. These include emission calculation spreadsheets and modeling input and output files (not PDF files). Without all files and supporting documentation, SCAQMD staff will be unable to complete our review of the air quality analyses in a timely manner. Any delays in providing all supporting documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. More recent guidance developed since this Handbook was published is also available on SCAQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the Lead Agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

The SCAQMD has also developed both regional and localized significance thresholds. SCAQMD staff requests that the Lead Agency quantify criteria pollutant emissions and compare the results to the The SCAQMD's CEQA regional pollutant emissions significance thresholds to determine air quality impacts.

[1] Pursuant to the CEQA Guidelines Section 15174, the information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. Appendices to the EIR may be prepared in volumes separate from the basic EIR document, but shall be readily available for public examination and shall be submitted to all clearinghouses which assist in public review.

The SCAQMD's CEQA regional pollutant emissions significance thresholds can be found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. In addition to analyzing regional air quality impacts, SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the Lead Agency perform a localized analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the proposed project and all air pollutant sources related to the proposed project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Guidance[2] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

Mitigation Measures

In the event that the proposed project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize these impacts. Pursuant to CEQA Guidelines Section 15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying potential mitigation measures for the proposed project, including:

[2] In April 2017, CARB published a technical advisory, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*, to supplement CARB's Air Quality and Land Use Handbook: A Community Health Perspective. This technical advisory is intended to provide information on strategies to reduce exposures to traffic emissions near high-volume roadways to assist land use planning and decision-making in order to protect public health and promote equity and environmental justice. The technical advisory is available at: https://www.arb.ca.gov/ch/landuse.htm.

- Chapter 11 of the SCAQMD *CEQA Air Quality Handbook*
- SCAQMD's CEQA web pages available here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
- SCAQMD's Mitigation Monitoring and Reporting Plan (MMRP) for the 2016 Air Quality Management Plan (2016 AQMP) available here (starting on page 86): http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf?sfvrsn=5
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Alternatives

In the event that the proposed project generates significant adverse air quality impacts, CEQA requires the consideration and discussion of alternatives to the project or its location which are capable of avoiding or substantially lessening any of the significant effects of the project. The discussion of a reasonable range of potentially feasible alternatives, including a "no project" alternative, is intended to foster informed decision-making and public participation. Pursuant to CEQA Guidelines Section 15126.6(d), the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.

Permits

In the event that the proposed project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the proposed project. For more information on permits, please visit the SCAQMD webpage at: http://www.aqmd.gov/home/permits. Questions on permits can be directed to the SCAQMD's Engineering and Permitting staff at (909) 396-3385.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available at the SCAQMD's webpage (http://www.aqmd.gov).

SCAQMD staff is available to work with the Lead Agency to ensure that project air quality impacts are accurately evaluated and any significant impacts are mitigated where feasible. If you have any questions regarding this letter, please contact me at lsun@aqmd.gov or call me at (909) 396-3308.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC170705-12
Control Number



William Lamborn <william.lamborn@lacity.org>

Times Mirror Square Project Comments

Shawn McCoy - 9PLS <shawn.mccoy@gsa.gov> Mon, Jul 31, 2017 at 4:50 PM
To: william.lamborn@lacity.org
Cc: "Norma Quon (9P3PSLS)" <norma.quon@gsa.gov>

Hi William,

I would like to submit comments for the above named project on behalf of the General Services Administration which, on the behalf of the United States Government, owns and manages the United States Courthouse located at 350 W. 1st Street, Los Angeles, CA 90012. We are located directly across Broadway from the proposed project.

The potential impacts to our building are as follows, the particular CEQA consideration is in parenthesis in each section:

- Noise (noise)- During the demolition of the buildings and construction of the new buildings, there is likely to be considerable construction noise. The United States District Court, has courtrooms that back up to Broadway on the East side of our building. All court cases are recorded and any background noise could interfere with their recordings and court proceedings. Is there a way the EIR could address ways to mitigate this concern?

- Ground Vibration (geology/soils/noise)- During the demolition, site prep, and pile driving portions of construction, there will be considerable ground vibration near the building. We would like the EIR to look at ways to mitigate this issue as the vibrations could cause damage to the building.

- Dust (air quality)- Demolition and construction will likely create a lot of dust. The dust has the potential to foul the water in our cooling tower, require more changes to building air filters, and will likely cause our central plant equipment to have to be cleaned out more frequently to remove mud from the condenser water side of the equipment. The dust will also mean we will have to conduct window washing on a more regular basis and will likely increase the cleaning frequency in our courtyards.

- Ingress/Egress Loading Dock Access (traffic/transportation)- The building has one entrance to the loading dock and underground parking. The entrance can only be accessed from Broadway. We want to make sure that the entrance is accessible 24/7 during construction. If there will be a disruption to access, we would like to request that it be outside of normal business hours and that we receive as much advanced notice as possible.

- (Public Services) In reviewing the Public Services portion of the ESA, the United States Courthouse is not mentioned. Please make sure that the fact that the United States Courthouse is located so close to the project site, there is a possibility there will be an impact in the services we can offer during construction, depending on how well the environmental impacts can be remediated.

Thank you,
Shawn McCoy, RPA
Deputy Property Manager
1st Street Field Office
350 W. 1st Street, Suite 2470
Los Angeles, CA 90012
shawn.mccoy@gsa.gov
(213) 894-0420 (Office)
(213) 453-3768 (Cell)
(213) 894-4934 (Fax)

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square EIR ENV. 2016-4676-EIR

1 message

cheryl younger/allan harris <cheryl.younger@yahoo.com> Mon, Jul 31, 2017 at 9:42 AM
Reply-To: cheryl younger/allan harris <cheryl.younger@yahoo.com>
To: "William.lamborn@lacity.org" <William.lamborn@lacity.org>

Dear Mr. Lamborn:

Attached are my comments on the Times Mirror Square EIR.
Than you very much.

Allan Harris

Cheryl Younger and Allan Harris

Cheryl's USA Cell (001) 1 (212) 203 9645 **Allan's** USA Cell (001) 1 (212) 966 4035 **Skype #** (646) 233 3270

cheryl.younger@yahoo.com

Home:

LA 108 W 2ND ST #1002
Los Angeles, CA 90012

NYC 35 Mercer Street 3A
New York, NY 10013

Times Mirror Square EIR Comments.docx
120K

ALLAN M. HARRIS Attorney at Law

108 West 2nd Street 1002 Los Angeles, CA 90012

Admitted New York and New Jersey

p | 212.966.4035 e | cheryl.younger@yahoo.com

William Lamborn
City of Los Angeles Department of City Planning
200 N. Spring street, Room 750
Los Angeles, CA 90012

Re: Case No., ENV-2016-4676-EIR
Project Name: Times Mirror Square **July 31, 2017**

Dear Mr. Lamborn,

I am a resident of the Higgins Building at 108 West 2nd Street, a block east of the subject premises. In accordance with the request of the Department of City Planning for comments relating to the preparation of an environmental impact statement, the following are my comments:

!. Parking

There is a serious lack of parking in the area. Residents of the area already have difficulty find a place to park. Given the construction of the Metro Station at 2nd and Broadway, there will be an increased local need for adequate parking.

The proposed project across the street at 2nd and Broadway, 222 West 2nd Street, is estimated to reduce available parking in the area by 601 spaces. The construction of the Metro Station at 2nd and Broadway has has already eliminated an approximately 250 parking spaces to build the station. The completion of this huge project will create a serious parking problem. The developers should be required to provide more public parking.

2. Aesthetics

The proposed project presents two radically modern skyscrapers which at 37 and 53 stories are out of scale with its surrounding neighborhood. There is no building in the near vicinity which mirrors its size and design. These gargantuan proposals will stick out like a sore thumb.

The Project Site is surrounded by a mix of commercial office, government and civic office, retail, and residential uses contained in a range of low-rise to high-

rise buildings, which are physically separated from the Project Site by local roadways. Immediately to the west is the new 11-story Federal Court House on Broadway between 1st and 2nd streets. To the immediate north across 2nd Street is a vacant lot which is scheduled to be a continuation of Grand Park. East of the Project Site across Spring Street in the 10 Story Los Angeles Police Administration Building. To the south is the site of the new metro station at 2nd and Broadway and an existing 6-story parking lot. And most significantly just to the northeast is the majestic 28-story City Hall.

The Project Site lies at the northern end of the Broadway Theater and Entertainment District Community Design Overlay (CDO) area (just north of the 2nd street border), where development is encouraged to reflect the overall vision of a cohesive, pedestrian-friendly, and vibrant entertainment, commercial, and mixed-use district. The immediate area is defined by several iconic buildings, both old and new, including the Bradbury Building to the south, the Los Angeles Times buildings on the subject site and City Hall to the north, the new 11-story U.S. federal courthouse on Broadway between 1st and 2nd Streets to the west, the 10-story Los Angeles Police Department (LAPD) Headquarters, and the 15-story Caltrans buildings to the north and east, respectively. Residential uses in the Project vicinity include the 50-unit Douglas Building Lofts at 257 South Spring Street, the 135-unit Higgins Building Lofts at 108 West 2nd Street, and the seven-story, 40-unit Pan American Lofts at 253 South Broadway.

It should be noted that the Higgins Building is a 10 story building.

It is clear from a review of the surrounding area that the 37 story North Tower and 53 story South Tower are out of scale with the surrounding area and will substantially degrade its existing visual character and quality of its site.

Standard 1C of the Broadway Theater District requires "scale, massing and proportions" that characterize the historic district. There is no such building in the surrounding area that matches the project in size or design.

In order to accomplish the project, the massive transfer of floor area rights (TFAR) of 548, 440 is required.

If one views the area running East to the Los Angeles River, you encounter Little Tokyo and the Arts District, growing and evolving neighborhoods that are harmonious, attractive and of lower scale.

Downtown is sufficiently built up that each section of the downtown has its own scale and character as noted. Out of scale buildings that destroy the character of individual sections as this project should be avoided.

As presently constituted the Los Angeles architectural skyline is well designed with the center and focal point clustered around the US Bank building and new

Wilshire Grand. As proposed. a lofty intrusion into the skyline will erupt with the disturbing vision of the 37 and 53 story towers giving an unpleasant asymmetrical view. This effect has been described by critics as the "Manhattanization of Los Angeles"

Additionally, the effect of large and tall buildings on air quality, air flow and future climate temperature increase should be considered.

3. Aesthetic detriment to City Hall as an Architectural Monument.

Recent proposals in the area of City Hall of buildings far in excess of the height of City Hall, 28 stories, are troubling. The City Hall is a wonderful aesthetic feature of Los Angeles. Not only just in many movies, but in reality it stands perpetually as a splendid example of our city and its architectural beauty. Restrictions against buildings of the size that would mar its majesty in our skyline should be prohibited. Otherwise its incomparable majesty as an architectural masterpiece will be destroyed by a mish mash of tall barbaric monstrosities. The 53 and 37 story towers will dwarf and diminish the importance of City Hall.

4. Denigration of the views of Historic Buildings.

As a corollary to the objection as to the destruction of the significance of City Hall in our skyline, is the further denigration of the ability of residents East of the project to view Disney Hall. Disney Hall is in tandem with City Hall as the two most prominent architectural achievements in Los Angeles. The integrity and visual contributions of historic buildings should be preserved and protected.

5. Excessive Intrusion of Noise and Poor Air Quality.

The residents of the Higgins Building have already been subjected to excessive noise and poor air quality from the construction by Metro of the Broadway and Second Street Metro Station. This will continue for another estimated five years, on top of which the residents will be subjected to another four years of construction of the proposed project with the same poor environmental effect of excessive noise and poor air quality. This is an unreasonable social result and should not be permitted.

Respectfully submitted,

Allan M. Harris, Esq.
The undersigned is a licensed attorney of the States of New York and New Jersey. He is a retired Municipal Court Judge (Fair Lawn N.J.), and former counsel to the Paterson New Jersey Zoning Board of Adjustment.

William Lamborn <william.lamborn@lacity.org>

ENV-2016-4676-EIR Times Mirror Square

cheryl younger/allan harris <cheryl.younger@yahoo.com> Mon, Jul 31, 2017 at 10:58 AM
Reply-To: cheryl younger/allan harris <cheryl.younger@yahoo.com>
To: "william.lamborn@lacity.org" <william.lamborn@lacity.org>

William Lamborn
City of Los Angeles Department of City Planning
220 N. Spring Street. Room 750
Los Angeles, CA 90012

Dear Mr. Lamborn,

I object to the proposed buildings, Times Mirror Square Project, because it offers **NOTHING** to the surrounding community and the City of Los Angeles.

It **CREATES** the need for more parking places.
It **TAKES** away the view from of our skyline, **DIMINISHES** our landmark buildings, and they will stick up like sore thumbs.

Second Street has a possibility of being a beautiful wide street from the Disney Center and Broad Museum on down to Little Tokyo, if the Times Mirror Square project is **NOT** built as proposed. The proposed Gehry Development on Grand, like the new Federal Court Building is set back and provides green space. Attention was paid in their design not to overwhelm the premiere center of our City–City Hall. This grand building built in 1928 by AC Martin still maintains it grandeur. The earlier built part of the LA Times Building is magnificent, as is the new Police Administration Building (again set back and providing green space to the area), the architectural interesting Caltrans (again set back and provides a green wall and trees to 2nd Street). The historic designated Higgins Building and St. Vibiana (again with green trees lining 2nd street). When you reach the Weller Center–the builders made a point to provide a breathtakingly magnificent view of the city hall all within a profile lower than the grand center of our city–City Hall, itself.

Times Mirror Square offers **NOTHING** but gargantuan high rise apartments and office space. This is an area of historic and architecturally significant buildings, theaters and events **AND** the center of our city is the City Hall.
The LA Times building is magnificent and deserves to showcased, not diminished by these gargantuan monoliths.

They are asking asking for the right to erect two out of size and scale 53 and 37 story towers. This is not a high-rise area–take it to South Park and come up with a plan that fits the lot and the area.

These buildings should be no taller that the apartments on Olive Street, that way they fit with the area and does not disrupt the skyline.

The new buildings should also be moved back from Second Street (which could provide a low-rise park like area on the 2nd street side-not just between two towers as proposed which relates only to the project and not the environment), This would reiterate the wide park-like character of 2nd Street. Build a lower rise project on the property and you would have overwhelming community support and you have enhanced the city for generations.

There are some crappy buildings and vacant lots in this area, but, there are many more fabulous buildings on Broadway–buildings their builders were proud to put their name on, and their money in. Higgins (with architects Haley and A.C. Martin) built the Higgins Building on 2nd Street to be the first steel reinforced concrete building on the WEST Coast. AC Martin went on build some 1500 buildings (including City Hall) contributing to the greatness of the city. The civic buildings in this area are incredible and something our city can be proud of. We need to get it right this time, because the opportunity to build on the shoulders of these great Architects, will not come again. And the crappy new buildings and sore thumbs we allow now, will stand long after their developers sell them off for cash and leave town to blight other cities in their greed.

Cordially,

Cheryl Younger
108 W. 2nd Street #1002
Los Angeles, CA 90012
212 203 9645

Cheryl Younger is member of the Higgins Loft Architecture and Design Committee.

Cheryl Younger and Allan Harris

Cheryl's USA Cell (001) 1 (212) 203 9645 **Allan's** USA Cell (001) 1 (212) 966 4035 **Skype #** (646) 233 3270

cheryl.younger@yahoo.com

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New York, NY 10013

Cheryl Younger and Allan Harris

Cheryl's USA Cell (001) 1 (212) 203 9645 **Allan's** USA Cell (001) 1 (212) 966 4035 **Skype #** (646) 233 3270

cheryl.younger@yahoo.com

Home:

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Los Angeles, CA 90012

NYC 35 Mercer Street 3A
New York, NY 10013

William Lamborn <william.lamborn@lacity.org>

Letter re: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project

Ann Marie Gamez <agamez@lalawlibrary.org> Mon, Jul 31, 2017 at 3:07 PM
To: "William.lamborn@lacity.org" <William.lamborn@lacity.org>
Cc: Sandra Levin <slevin@lalawlibrary.org>, Jaye Steinbrick <JSteinbrick@lalawlibrary.org>

Dear Mr. Lamborn,

Please find attached a letter from the Executive Director of LA Law Library regarding scoping comments for the Times Mirror Square Project and its potential environmental impacts. We look forward to hearing your comments and to the overall success of the project. Please know I am also sending a hard copy of the letter to you via USPS.

If you have any questions please feel free to contact the Executive Director, Sandra J. Levin at slevin@lalawlibrary.org or you may contact me, Ann Marie Gamez at agamez@lalawlibrary.org.

Have a wonderful afternoon.

Best,

Ann Marie

Ann Marie Gamez
Executive Assistant
P 213.785.2511 | F 213.680.1727
www.lalawlibrary.org | agamez@lalawlibrary.org
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Letter to LA re scope for Times Mirror EIR - 20170731.pdf
355K

301 West First Street
Los Angeles, CA 90012-3140
Telephone 213.785.2529
Fax 213.613.1329
www.lalawlibrary.org

July 31, 2017

William Lamborn
City of Los Angeles, Department of City Planning
200 N Spring Street, Room 750
Los Angeles, CA 90012

Via US Mail and email: William.lamborn@lacity.org

RE: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project

Dear Mr. Lamborn:

I am writing on behalf of the Los Angeles County Law Library (the "Law Library") regarding the potential environmental impacts of the Times Mirror Square Project (the "Project").

The Law Library is open to the public six days per week (Monday through Saturday) year-round and provides a broad array of access-to-justice services, ranging from one-on-one assistance, to workshops and classroom, educational programs. The vast majority of the requests we receive are both urgent and The Law Library processes more than 50,000 requests for assistance per year.

The Law Library is located immediately across from the Project at 1st and Broadway (see attached diagram). There is a pedestrian entrance at the corner of 1st and Broadway and a vehicular entrance on Broadway, just north of 1st Street. The vehicular entrance is the exclusive means of access to the parking structure used by both patrons and staff. (There is a public parking structure adjacent to the Law Library on Hill St, but that structure does not connect to the parking structure located on Broadway.) The Law Library requests that the vehicular entrance on Broadway remain open and accessible at all times.

Furthermore, the air filtration system of the Law Library has large air intake openings facing Broadway and is highly susceptible to contamination from dust and other particulates. Dust generated from nearby construction therefore clogs our air filters and impairs the air quality at the Law Library. The Law Library requests that mitigation measures include a requirement of compliance with AQMD Rule 403 regarding fugitive dust emissions.

Accordingly, the Law Library requests that the EIR study any potential impacts resulting from either construction or operation of the Project on the sensitive and vital services provided at the Law Library, including impacts on:

1. access (both vehicular and pedestrian) to this important community resource;

LALAW LIBRARY

2. the quiet environment (necessary to deliver the services provided at a Law Library); and
3. air quality both external and internal to the Law Library.

Thank you for the opportunity to comment and for your efforts to improve and further develop our wonderful downtown community!

Sincerely,

Sandra J Levin
Executive Director, LA Law Library

LALAW LIBRARY



William Lamborn <william.lamborn@lacity.org>

Letter re: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project

Ann Marie Gamez <agamez@lalawlibrary.org> Mon, Jul 31, 2017 at 4:26 PM
To: William Lamborn <william.lamborn@lacity.org>
Cc: Sandra Levin <slevin@lalawlibrary.org>, Jaye Steinbrick <JSteinbrick@lalawlibrary.org>

Dear Mr. Lamborn,

Thank you for your reply. I meant to attach a map of LA Law Library and its proximity to the project. It is just for your records.

Thank you,

Ann Marie

From: William Lamborn [mailto:william.lamborn@lacity.org]
Sent: Monday, July 31, 2017 3:19 PM
To: Ann Marie Gamez
Cc: Sandra Levin; Jaye Steinbrick
Subject: Re: Letter re: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project

Thank you. Your comments have been received and will be taken into consideration in the preparation of the Draft Environmental Impact Report.

Regards,

Will Lamborn

On Mon, Jul 31, 2017 at 3:07 PM, Ann Marie Gamez <agamez@lalawlibrary.org> wrote:

Dear Mr. Lamborn,

Please find attached a letter from the Executive Director of LA Law Library regarding scoping comments for the Times Mirror Square Project and its potential environmental impacts. We look forward to hearing your comments and to the overall success of the project. Please know I am also sending a hard copy of the letter to you via USPS.

If you have any questions please feel free to contact the Executive Director, Sandra J. Levin at slevin@lalawlibrary.org or you may contact me, Ann Marie Gamez at agamez@lalawlibrary.org.

Have a wonderful afternoon.

Best,

Ann Marie

Ann Marie Gamez
Executive Assistant
P 213.785.2511 | F 213.680.1727
www.lalawlibrary.org | agamez@lalawlibrary.org
Access to Information = Access to Justice

Follow us:

--

William Lamborn

Major Projects

Department of City Planning

200 N. Spring Street, Rm 750

Ph: 213.978.1470

Please note that I am out of the office every other Friday.

Times Mirror Square.jpg
1445K


LA Law Library
Driveway
Times Mirror Square



William Lamborn <william.lamborn@lacity.org>

Letter re: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project

William Lamborn <william.lamborn@lacity.org> Mon, Jul 31, 2017 at 5:00 PM
To: Ann Marie Gamez <agamez@lalawlibrary.org>
Cc: Sandra Levin <slevin@lalawlibrary.org>, Jaye Steinbrick <JSteinbrick@lalawlibrary.org>

Thank you. The attached map has been received.

Best,
Will

On Mon, Jul 31, 2017 at 4:26 PM, Ann Marie Gamez <agamez@lalawlibrary.org> wrote:

> Dear Mr. Lamborn,
>
> Thank you for your reply. I meant to attach a map of LA Law Library and its proximity to the project. It is just for your records.
>
> Thank you,
>
> Ann Marie
>
> **From:** William Lamborn [mailto:william.lamborn@lacity.org]
> **Sent:** Monday, July 31, 2017 3:19 PM
> **To:** Ann Marie Gamez
> **Cc:** Sandra Levin; Jaye Steinbrick
> **Subject:** Re: Letter re: Scoping Comments on Potential Environmental Impacts of Times Mirror Square Project
>
> Thank you. Your comments have been received and will be taken into consideration in the preparation of the Draft Environmental Impact Report.
>
> Regards,
>
> Will Lamborn
>
> On Mon, Jul 31, 2017 at 3:07 PM, Ann Marie Gamez <agamez@lalawlibrary.org> wrote:
>
> Dear Mr. Lamborn,
>
> Please find attached a letter from the Executive Director of LA Law Library regarding scoping comments for the Times Mirror Square Project and its potential environmental impacts. We look forward to hearing your comments and to the overall success of the project. Please know I am also sending a hard copy of the letter to you via USPS.

If you have any questions please feel free to contact the Executive Director, Sandra J. Levin at slevin@lalawlibrary.org or you may contact me, Ann Marie Gamez at agamez@lalawlibrary.org.

Have a wonderful afternoon.

Best,

Ann Marie

Ann Marie Gamez
Executive Assistant
P 213.785.2511 | F 213.680.1727
www.lalawlibrary.org | agamez@lalawlibrary.org
Access to Information = Access to Justice

Follow us:

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William Lamborn

Major Projects

Department of City Planning

200 N. Spring Street, Rm 750

Ph: 213.978.1470

Please note that I am out of the office every other Friday.

--

William Lamborn
Major Projects
Department of City Planning
200 N. Spring Street, Rm 750
Ph: 213.978.1470
Please note that I am out of the office every other Friday.


LA Law Library
Driveway
Times Mirror Square
N Hill St
N Broadway
W 1st St
Hill St
N Broadway
S Broadway
VXI Global Solutions
S Spring St
3 min walk - work

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - NOP DEIR - Metro Comments

1 message

Zepeda, Eddi <ZepedaEd@metro.net> Mon, Jul 31, 2017 at 4:24 PM
To: "William.lamborn@lacity.org" <William.lamborn@lacity.org>
Cc: "Saponara, Nicholas" <SaponaraN@metro.net>, "Hull, Derek" <HullD@metro.net>, "Carvajal, Elizabeth" <CarvajalE@metro.net>

Dear Mr. Lamborn,

Thank you for the opportunity to comment on the proposed Times Mirror Square project in the Center City/Historic Core District of Downtown Los Angeles. Attached is Metro's comment letter, a hard copy of which will follow via mail. You'll also find the attachment documents referenced in the letter above. Please feel free to reach out should you have any questions.

Best regards,

Eddi Zepeda
LA Metro

Transportation Planner
Countywide Planning & Development, Joint Development
213.922.7658
metro.net | facebook.com/losangelesmetro | @metrolosangeles
Metro provides excellence in service and support.

2 attachments

2017-07-31 Times Mirror Square - NOP DEIR - Metro Comments.pdf
189K

Attachments.zip
2119K

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

Metro

July 31, 2017

William Lamborn
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 750
Los Angeles, CA 90012

RE: Times Mirror Square – Notice of Preparation of an Environmental Impact Report

Dear Mr. Lamborn,

Thank you for the opportunity to comment on the proposed Times Mirror Square development (Project) located in the Center City/Historic Core District of Downtown Los Angeles. This letter conveys comments from the Los Angeles County Metropolitan Transportation Authority (Metro) concerning issues that are germane to our agency's statutory responsibility in relation to our facilities and services that may be affected by the proposed Project.

Metro is committed to working with stakeholders across the County to support the development of transit oriented communities (TOCs). TOCs are built by considering transit within a broader community and creating vibrant, compact, walkable, and bikeable places centered around transit stations and hubs with the goal of encouraging the use of transit and other alternatives to driving. Metro collaborates with local municipalities, developers, and other stakeholders in land use planning and development efforts, and to find partnerships that support TOCs across Los Angeles County.

Project Location and Existing On-site Uses

The Project site is located at 121, 145, 147 S. Spring Street; 100, 102, 106, 108, 110, 118, 120, 124, 126, 128, 130, 140, 142 S. Broadway; 202, 212, 214, 220, 224, 228, 230, 234 W. 1st Street; 205, 211, 221 W. 2nd Street in Los Angeles. The site is an approximately 3.6-acre (five parcels totaling approximately 160,578 square feet [sf]) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway, and is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building, resulting in a total of approximately 559,863 sf.

Project Description

The Project would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 376,105 sf of offices and/or other retail and commercial uses, including an approximately 50,000 sf grocery store. These three buildings are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the Parking Garage and Executive buildings located on the western half of the site and construct two mixed-use towers (North and South Towers). The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st

Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include approximately 34,572 sf of retail uses, which would be located at ground level. Inclusive of the existing buildings to be retained and rehabilitated, the project would include a total of 1,511,908 sf of floor area for a resulting floor-area ratio (FAR) of approximately 9.42:1.

The Project would include a pedestrian paseo constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. Approximately 72,902 sf of common open space, including the approximately 15,708 sf paseo, would be provided as part of the North and South Towers component. Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023.

Metro Comments

Regional Connector Adjacency

It is noted that the Project site is in close proximity to the Metro Regional Connector subway tunnels and partially overlaps the Historic Broadway subway station. The tunnels and station are currently being constructed by Metro's contractor, Regional Connector Constructors (RCC). While Metro strongly supports development near transit connections, the following concerns related to the Project's proximity to the subway tunnels and station should be addressed:

1. Metro entered into the following agreements with the Project sponsor to facilitate the construction of the subway station and tunnels: "Acquisition Agreement Regarding 2nd/Broadway Station Portal" (executed May 29, 2014) and "Construction Agreement and Right of Entry for Construction Purposed" (executed February 27, 2015). Metro expects that the Project sponsor will continue to comply with the terms of these agreements, collectively referred to as the "Agreements," including:

    a. The sponsor's Project must be designed, constructed, and operated in such a way that ensures Metro and its patrons have clear, unobstructed sight lines and physical access to the station at all times.

    b. The Project sponsor shall at all times provide appropriate safety measures and protection to Metro's patrons from construction activities associated with the proposed Project.

    c. Project sponsor will not connect to Metro's station support walls or any part of station or portal without express written consent and approval by Metro of the Project sponsor's submitted architectural and engineering drawings.

    d. The Project sponsor will provide Metro an exclusive construction right of entry and construction permit to facilitate the construction of the subway station and tunnels for the durations defined in the Agreements.

    e. The sponsor's Project shall comply with Metro Rail Design Criteria Section 05 Structural –Geotechnical, Subsection 5.4.11-Adjacent Public Buildings (attached) to ensure the pressures created by the Project's building foundations do not exceed the design loads on Metro facilities using accepted geotechnical techniques of analysis.

2. The Project sponsor should be advised that the Metro Regional Connector subway may operate peak service as often as every four minutes in both directions and that trains may operate in and out of revenue service, 24 hours a day, seven days a week, in the station and tunnels immediately adjacent to the sponsor's Project.

3. The construction and operation of the sponsor's proposed Project must not disrupt the operation and maintenance activities of the Metro Regional Connector Line or the structural and systems integrity of Metro's subway tunnels or station facilities.

4. Considering the proximity of the sponsor's proposed Project to Metro's subway tunnels and station facilities, it is expected that rail operations may produce noise and vibration. A recorded Noise Easement Deed in favor of Metro is required prior to the completion and/or occupancy of the Project, a form of which is attached. In addition, any noise mitigation required for the Project must be borne by the developers of the Project and not Metro. The easement recorded in the Noise Easement Deed will extend to successors and tenants as well.

5. Consistent with ZI No. 1117, prior to the City issuing a building permit within 100 feet of Metro Rail, clearance shall be obtained from Metro. Metro must review construction plans and operations prior to any permits being issued. Metro will need to review the geotechnical report, structural foundation plans, sections, shoring plan sections, and calculations of the shoring system and permanent structures to ensure Metro's facility is not placed in risk at any time. . Please refer to the attached Metro "Design Criteria and Standards, Volume III - Adjacent Construction Design Manual" for more details regarding submitting drawings and calculations to Metro for review. Please note that Metro requires an Engineering Review Fee for evaluation of any impacts based on adjacency and relationship of the proposed building to the Metro existing structures.

6. Metro staff shall be permitted to monitor construction activity to ascertain any impact to the subway tunnels and station facilities.

7. The Project sponsor should be advised that the Project's concurrent construction with Metro's Regional Connector project construction activities may cause impacts on the decking system on 2nd Street and subway station construction schedule. Metro may request reimbursement for costs incurred as a result of Project construction/operation issues that cause delay or harm to Metro service delivery or infrastructure.

8. The Project sponsor will be required to notify Metro, as the Project develops, of any changes to the construction/ building plans that may or may not impact the subway tunnel and station facilities.

9. As the Project develops, Metro Regional Connector Project Engineering should be contacted regarding the Project's potential impacts on the subway station structures and tunnels. Michael Harrington, Director of Regional Connector Project Engineering, can be reached at 213.893.7163 or by email at HarringtonM@metro.net.

Bus Stop Adjacency

Several Metro bus lines operate on N. Broadway Street, W. 1st Street, S. Spring Street, and W. 2nd Street adjacent to the proposed Project. Three Metro bus stops located along N. Broadway Street , W. 1st Street, and S. Spring Street are adjacent to the proposed Project and serve lines 28, 30/330, 40, 45, 442, and 745. The following comments relate to bus operations and the bus stops:

1. Although the Project is not expected to result in any long-term impacts on bus operations, the developer should be aware of the bus facilities and services that are present. The existing Metro bus stops must be maintained as part of the final Project. During construction, the stops must be maintained or relocated consistent with the needs of Metro Bus Operations.

2. During construction, the stops must be maintained or relocated consistent with the needs of Metro Bus Operations. Please contact Metro Bus Operations Control Special Events Coordinator at 213-922-4632 and Metro's Stops and Zones Department at 213-922-5190 at least 30 days in advance of initiating construction activities. Other municipal buses may also be impacted and should be included in construction outreach efforts.

3. Metro encourages the installation of bus shelters with benches, wayfinding signage, enhanced crosswalks and ramps compliant with the Americans with Disabilities Act (ADA), as well as wide sidewalks, pedestrian lighting, and a continuous canopy of shade trees in paths of travel to access transit stops and other amenities that improve safety and comfort for transit riders. The City should consider requesting the installation of such amenities as part of the development of the site. Further, final design of the bus stops and surrounding sidewalk area must allow passengers with disabilities a clear path of travel to the bus stops from the proposed development.

4. Driveways accessing parking and loading at the Project site should be located away from transit stops, and be designed and configured to avoid potential conflicts with on-street transit services and pedestrian traffic to the greatest degree possible. Vehicular driveways should not be located in or directly adjacent to areas that are likely to be used as waiting areas for transit.

Transit Oriented Development

Considering the proximity of the Project to the future Historic Broadway Station and numerous Metro bus lines, Metro would like to identify the potential synergies associated with transit-oriented development:

1. Metro supports development of commercial and residential properties near transit stations and understands that increasing development near stations represents a mutually beneficial opportunity to increase ridership and enhance transportation options for the users of the developments. Metro encourages the City and Project sponsor to be mindful of the Project's proximity to the Historic Broadway Station, including orienting pedestrian pathways toward the station.

2. Metro would like to inform the Project sponsor of Metro's employer transit pass programs including the Annual Transit Access Pass (A-TAP) and Business Transit Access Pass (B-TAP) programs which offer efficiencies and group rates that businesses can offer employees as an incentive to utilize public transit. For more information on these programs, contact Devon Deming at 213-922-7957 or DemingD@metro.net.

3. Given the location of the project within a very dense walkable urban environment with easy access to numerous rail and bus rapid transit lines, the amount of parking proposed appears to be excessive. Metro encourages the incorporation of transit- and pedestrian-oriented parking provision strategies such as the reduction or removal of minimum parking requirements for specific areas and the exploration of shared parking opportunities or parking benefit districts. These strategies could be pursued to encourage more transit-oriented development and reduce automobile-orientation in design and travel demand.

4. Limiting parking and loading access to 1st Street should be considered to prevent unnecessary pedestrian/car conflicts along the Broadway, Spring Street and 2nd Street frontages, which are likely to have high pedestrian volumes, particularly when both the Historic Broadway Station and the downtown street car line open.

5. With an anticipated increase in traffic, Metro encourages an analysis of impacts on non-motorized transportation modes and consideration of improved non-motorized access to the station including pedestrian connections and bike lanes/paths. Appropriate analyses could include multi-modal LOS calculations, pedestrian audits, etc.

6. The Project should address first-last mile connections to transit, encouraging development that is transit accessible with bicycle and pedestrian-oriented street design connecting stations with housing and employment concentrations. For reference, we would like to direct City staff to view the First Last Mile Strategic Plan, authored by Metro and the Southern California Association of Governments (SCAG), available on line at: https://media.metro.net/docs/sustainability_path_design_guidelines.pdf.

7. Metro encourages the City to work with the applicant to promote bicycle use through adequate short-term bicycle parking, such as ground level bicycle racks and/or curbside bicycle corrals, as well as secure and enclosed long-term bicycle parking for guests, employees, and residents. The Project applicant should coordinate with Metro Bike Share program for potential Bike Share station at this development. Additionally, the applicant should help facilitate safe and convenient connections for pedestrians, people riding bicycles, and transit users to/from the Project site and nearby destinations such as Historic Broadway Station, Civic Center Station, etc. The Project is also encouraged to support these connections with wayfinding signage inclusive of all modes of transportation.

Congestion Management Program

Beyond impacts to Metro facilities and operations, Metro must also notify the applicant of specific City, County, and State requirements. For example, a Transportation Impact Analysis (TIA), with roadway and transit components, is required under the State of California Congestion Management Program (CMP) statute. The CMP TIA Guidelines are published in the "2010 Congestion Management Program for Los Angeles County," Appendix D (attached). The geographic area examined in the TIA must include the following, at a minimum:

1. All CMP arterial monitoring intersections, including monitored freeway on/off-ramp intersections, where the proposed Project will add 50 or more trips during either the a.m. or p.m. weekday peak hour (of adjacent street traffic).

2. If CMP arterial segments are being analyzed rather than intersections, the study area must include all segments where the proposed Project will add 50 or more peak hour trips (total of both directions). Within the study area, the TIA must analyze at least one segment between monitored CMP intersections.

3. Mainline freeway-monitoring locations where the Project will add 150 or more trips, in either direction, during either the a.m. or p.m. weekday peak hour.

4. Caltrans must also be consulted through the NOP process to identify other specific locations to be analyzed on the state highway system.

The CMP TIA requirement also contains two separate impact studies covering roadways and transit, as outlined in Sections D.8.1 – D.9.4. If the TIA identifies no facilities for study based on the criteria above, no further traffic analysis is required. However, projects must still consider transit impacts. For all CMP TIA requirements please see the attached guidelines.

If you have any questions regarding this response, please contact Nick Saponara at 213-922-4313 or by email at DevReview@metro.net. Metro looks forward to reviewing the Draft EIR. Please send it to the following address:

Metro Development Review
One Gateway Plaza MS 99-23-4
Los Angeles, CA 90012-2952

Sincerely,

Nick Saponara
Senior Director, Joint Development

Attachments:

- Adjacent Construction Design Manual
- CMP Appendix D: Guidelines for CMP Transportation Impact Analysis
- Metro Rail Design Criteria Section 05 Structural – Geotechnical, Subsection 5.4.11 – Adjacent Public Buildings
- Noise Easement Deed

ADJACENT CONSTRUCTION DESIGN MANUAL

1.0 INTRODUCTION

1.1 Parties planning construction over, under or adjacent to ~~a~~ Metropolitan Transportation Authority (MTA) facilit**ies**~~y~~ or structure**s** are advised to submit for review ~~seven (7)~~**two (2) hard** copies **and one (1) electronic copy** of their **design** drawings and ~~four (4) copies of their~~ calculations showing the relationship between their project and the MTA facilities, for MTA review. The purpose of the MTA review is to reduce the chance of conflict, damage, and unnecessary remedial measures for both MTA and the parties. Parties are defined as developers, agencies, municipalities, property owners or similar organizations proposing to perform or sponsor construction work near MTA facilities.

1.2 Sufficient drawings and details shall be submitted at each level of completion such as Preliminary, In-Progress, Pre-final and Final, etc. to facilitate the review of the effects that the proposed project may or may not have on the MTA facilities. An MTA review requires internal circulation of the construction drawings to concerned departments ~~(usually includes Construction, Operations, Maintenance, and Real Estate)~~**for MTA departments review**. Parties shall be responsible for all costs related to **MTA**~~drawing~~ review~~s by MTA~~. MTA costs shall be based upon the actual hours taken for review at the hourly rate of pay plus overhead charges. Drawings normally required for review are:

A. Site Plan

B. Drainage Area Maps and Drainage Calculations

C. Architectural drawings

D. Structural drawings and calculations

E. Civil Drawings

F. Utility Drawings

G. Sections showing Foundations and MTA Structures

H. Column Load Tables

I. Pertinent Drawings and calculations detailing an impact on MTA facilities

J. A copy of the Geotechnical Report.

K. Construction zone traffic safety and detour plans: Provide and regulate positive traffic guidance and definition for vehicular and pedestrian traffic adjacent to the construction site to ensure traffic safety and reduce adverse traffic circulation impact.

L. Drawings and calculations should be sent to:

MTA Third Party Administration (Permits Administration)
Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, California 90012

1.3 If uncertainty exists on the possible impacts a project may have on the MTA facilities, and before submitting a formal letter requesting a review of a construction project adjacent to the Metro System, the party or his agent may contact the MTA Third Party Administrator (Permits). The Party shall review the complexity of the project, and **contact MTA to** receive an informal evaluation of the amount of detail required for the MTA review. In those cases, whereby it appears the project will present no risk to MTA, the Third Party Administrator (Permits) shall immediately route the design documents to **Engineering,** Construction, Operations, Maintenance, and Real Estate departments for a preliminary evaluation. If it is then confirmed that MTA risk is not present, the Administrator shall process an approval letter to the party.

1.4 A period of 30 working days should be allowed for review of the drawings and calculations. Thirty (30) work days should be allowed for each successive review as required. It is noted that preliminary evaluations are usually produced within 5 working days.

1.5 The party shall reimburse the MTA for any technical review or support services costs incurred that are associated with his/her request for access to the Metro **Transit**~~Rail~~ System

1.6 The following items must be completed before starting any construction:

A. Each part of the project's design may be reviewed and approved by the MTA. The prime concern of the MTA is to determine the effect of the project on the MTA structure and its transit operations. A few of the other parts of a project to be considered are overhead protection, dust protection, dewatering, and temporary use of public space for construction activities.

B. Once the Party has received written acceptance of the design of a given project then the Party must notify MTA prior to the start of construction, in accordance with the terms of acceptance.

1.7 Qualified Seismic, Structural and Geotechnical Oversight

The design documents shall note the name of the responsible Structural Engineer and Geotechnical Engineer, licensed in the State of California.

2.0 REVIEW PROCEDURE

2.1 All portions of any proposed design that will have a direct impact on an MTA facility or structure will be reviewed to assure that the MTA facility or structure is not placed in risk at any time, and that the design meets all applicable codes and criteria. Any portion of the proposed design that is to form part of an MTA controlled area shall be designed to meet the MTA Design Criteria and Standards.

2.2 Permits, where required by the local jurisdiction, shall be the responsibility of the party. City of L.A. Dept. of Bldg. and Safety and the Bureau of Engineering permit review shall remain in effect. Party shall refer to MTA Third Party Administration policies and procedures, THD5 for additional information.

2.3 Monitoring of the temporary support of excavation structures for adjacent construction shall be required in all cases for excavations within the geotechnical zone of influence of MTA structures. The extent of the monitoring will vary from case to case.

2.4 Monitoring of the inside of MTA tunnels and structures shall be required when the adjacent excavation will unload or load the MTA structure or tunnel. Monitoring of vertical and horizontal distortions will include use of extensometers, inclinometers, settlement reference points, tiltmeters, groundwater observation wells, tape extensometer anchor points and load cells, as appropriately required. Acceptable limits of movement will depend on groundwater conditions, soil types and also the length of service the stations and tunnels have gone through. Escorts will be required for the survey parties entering the Metro operating system in accordance with MTA Operating Rules and Procedures. An MTA account number will be established and the costs for the escort monitoring and surveying service will be billed directly to the party or his agent as in section 1.2.

2.5 The calculations submitted for review shall include the following:

A. A concise statement of the problem and the purpose of the calculation.

B. Input data, applicable criteria, clearly stated assumptions and justifying rationale.

C. References to articles, manuals and source material shall be furnished with the calculations.

D. Reference to pertinent codes and standards.

E. Sufficient sketches or drawing references for the work to be easily understood by an independent reviewer. Diagrams indicating data (such as loads and dimensions) shall be included along with adequate sketches of all details not considered standard by MTA.

F. The source or derivation of all equations shall be shown where they are introduced into the calculations.

G. Numerical calculations shall clearly indicate type of measurement unit used.

H. Identify results and conclusions.

I. Calculations shall be neat, orderly, and legible.

2.6 When computer programs are used to perform calculations, the following information shall accompany the calculation, including the following:

A. Program Name.

B. Program Abstract.

C. Program Purpose and Applications.

D. Complete descriptions of assumptions, capabilities and limitations.

E. Instructions for preparing problem data.

F. Instructions for problem execution.

G. List (and explanation) of program acronyms and error messages.

H. Description of deficiencies or uncorrected errors.

I. Description of output options and interpretations.

J. Sample problem(s), illustrating all input and output options and hardware execution statements. Typically, these problems shall be verified problems.

K. Computer printout of all supporting calculations.

L. The "User's Manual" shall also include a certification section. The certification section shall describe the methods and how they cover the permitted options and uses of the program.

2.7 Drawings shall be drawn, to scale, showing the location and relationship of proposed adjacent construction to existing MTA structures at various stages of construction along the entire adjacent alignment. The stresses and deflections induced in the existing MTA structures should be provided.

2.8 The short-term and long-term effects of the new loading due to the adjacent construction on the MTA structures shall be provided. The soil parameters and other pertinent geotechnical criteria contained in existing contract documents for the affected structure, plus any additional conditions shall be used to analyze the existing MTA structures.

2.9 MTA structures shall be analyzed for differential pressure loadings transferred from the adjacent construction site.

3.0 MECHANICAL CRITERIA

3.1 Existing services to MTA facilities, including chilled water and condenser water piping, potable and fire water, storm and sanitary sewer, piping, are not to be used, interrupted nor disturbed without written approval of MTA.

3.2 Surface openings of ventilation shafts, emergency exits serving MTA underground facilities, and ventilation system openings of surface and elevated facilities are not to be blocked or restricted in any manner. Construction dust shall be prevented from entering MTA facilities.

3.3 Hot or foul air, fumes, smoke, steam, etc., from adjacent new or temporary facilities are not to be discharged within 40 feet of existing MTA ventilation system intake shafts, station entrances or portals. Tunnel ventilation shafts are both intake and discharge structures.

3.4 Clear access for the fire department to the MTA fire department connections shall be maintained at all times. Construction signs shall be provided to identify the location of MTA fire department connections. No interruption to fire protection water service will be permitted at any time.

3.5 Modifications to existing MTA mechanical systems and equipment, including ventilation shafts, required by new connections into the MTA System, shall only be permitted with prior review and approval by MTA. If changes are made to MTA property as built drawings shall be provided reflecting these changes.

At the option of MTA, the adjacent construction party shall be required to perform the field tests necessary to verify the adequacy of the modified system and the equipment performance. This verification shall be performed within an agreed time period jointly determined by MTA and the Party on a case by case basis. Where a modification is approved, the party shall be held responsible to maintain original operating capacity of the equipment and the system impacted by the modification.

4.0 OPERATIONAL REQUIREMENTS

4.1 GENERAL

A. Normal construction practices must be augmented to insure adequate safety for the general public entering Metro Stations and riding on Metro Trains and Buses. Design of a building, structure, or facility shall take into account the special safety considerations required for the construction of the facility next to or around an operating transit system.

B. Projects which require working over or adjacent to MTA station entrances shall develop their construction procedures and sequences of work to meet the following minimum requirements:

1. Construction operations shall be planned, scheduled and carried out in a way that will afford the Metro patrons and the general public a clean, safe and orderly access and egress to the station entrance during revenue hours.

2. Construction activities which involve swinging a crane and suspended loads over pedestrian areas, MTA station entrances and escalators, tracks or Metro bus passenger areas shall not be performed during revenue hours. Specific periods or hours shall be granted on a case-by-case basis**, with the approval of Construction Work Plan by MTA Construction Safety Department**.

3. All cranes must be stored and secured facing away from energized tracks, when appropriate.

4. All activity must be coordinated through the MTA Track Allocation process in advance of work activity. **All members of the work crew will be required to attend MTA Safety Training.**

5. In order to provide a safe zone to maintain adjacent developments. All developments adjacent to Metro At-Grade Stations, Aerial Stations or Track Guideways shall provide a minimum 5 foot setback from the Metro and developer's shared property line to the outside face of the proposed structure at Metro or the developer's property for maintenance to be performed or installed from within the zone created by this setbacks.

4.2 OVERHEAD PROTECTION - Station Entrances

A. Overhead protection from falling objects shall be provided over MTA facilities whenever there is possibility, due to the nature of a construction operation, that an object could fall in or around MTA station entrances, bus stops, elevators, or areas designed for public access to MTA facilities. Erection of the overhead protection for these areas shall be done during MTA non-revenue hours.

1. The design live load for all overhead protection shall be 150 pounds per square foot minimum. The design wind load on the temporary structures shall be 20 pounds per square foot, on the windward and leeward sides of the structure.

2. The overhead protection shall be constructed of fire rated materials. Materials and equipment shall not be stored on the completed shield. The roof of the

shield shall be constructed and maintained watertight.

B. Lighting in public areas and around affected MTA facilities shall be provided under the overhead protection to maintain a minimum level of twenty-five (25) footcandles at the escalator treads or at the walking surface. The temporary lighting shall be maintained by the Party.

C. Wooden construction fencing shall be installed at the boundary of the areas with public access. The fencing shall be at least eight-feet high, and shall meet all applicable code requirements.

D. An unrestricted public access path shall be provided at the upper landing of the entrance escalator-way in accordance with the following:

1. A vertical clearance between the walking surface and the lowest projection of the shield shall be 8'-0".
2. A clear pedestrian runoff area extending beyond the escalator newel shall be provided, the least dimension of which shall be twenty (20) feet.
3. A fifteen (15) foot wide strip (other than the sidewalk) shall be maintained on the side of the escalator for circulation when the escalator is pointed away from a street corner.
4. A clear path from any MTA emergency exit to the public street shall be maintained at all times.

E. Temporary sidewalks or pedestrian ways, which will be in use more than 10 days, shall be constructed of four (4") inch thick Portland cement concrete or four (4") inches of asphaltic concrete placed **over a minimum four (4") inches of untreated base material,** and finished by a machine.

4.3 OVERHEAD PROTECTION - Operating Right-of-Way Trackage

A. MTA Rail Operations Control Center shall be informed of any intent to work above, on, or under the MTA right-of-way. Crews shall be trained and special flagging operations shall be directed by MTA Rail Operations Control Center. The party shall provide competent persons to serve as Flaggers. These Flaggers shall be trained and certified by MTA Rail Operations prior to any work commencing. All costs incurred by MTA shall be paid by the party.

B. A construction project that will require work over, under or adjacent to the at grade and aerial MTA right-of-way should be aware that the operation of machinery, construction of scaffolding or any operation hazardous to the operation of the MTA facility shall require that the work be done during non-revenue hours and authorized through the MTA Track Allocation process.

C. MTA flagmen or inspectors from MTA Operations shall observe all augering, pile driving or other work that is judged to be hazardous. Costs associated with the flagman or inspector shall be borne by the Party.

D. The party shall request access rights or track rights to perform work during non-revenue hours. The request shall be made through the MTA Track Allocation process.-

4.4 OTHER METRO FACILITIES

A. Access and egress from the public streets to fan shafts, vent shafts and emergency exits must be maintained at all times. The shafts shall be protected from dust and debris. See Exhibit A for details.

B. Any excavation in the vicinity of MTA power lines feeding the Metro System shall be through hand excavation and only after authorization has been obtained through the MTA Track Allocation process. MTA Rail Operations Control Center shall be informed before any operations commences near the MTA power system.

C. Flammable liquids shall not to be stored over or within 25 feet horizontally of MTA underground facilities. If installed within 25 to 100 feet horizontally of the structure, protective encasement of the tanks shall be required in accordance with NFPA STD 130. Existing underground tanks located within 100 feet horizontally of MTA facilities and scheduled to be abandoned are to be disposed of in accordance with Appendix C of NFPA STD 130. NFPA STD 130 shall also be applied to the construction of new fuel tanks.

D. Isolation of MTA Facilities from Blast

Subsurface areas of new adjacent private buildings where the public has access or that cannot be guaranteed as a secure area, such as parking garages and commercial storage and warehousing, will be treated as areas of potential explosion. NFPA 130, Standard for Fixed Guideway Transit Systems, life safety separation criteria will be applied that assumes such spaces contain Class I flammable, or Class II or Class III Combustible liquids. For structural and other considerations, isolation for blast will be treated the same as seismic separation, and the more restrictive shall be applied.

E. Any proposed facility that is located within 20 feet radius of an existing Metro facility will require a blast and explosion study and recommendations to be conducted by a specialist who is specialized in the area of blast force attenuation. This study must assess the effect that an explosion in the proposed non-Metro facility will have on the adjacent Metro facility and provide recommendations to prevent any catastrophic damage to the existing Metro facility. Metro must approve the qualifications of the proposed specialist prior to commencement of any work on this specialized study.

4.5 SAFETY REGULATIONS

A. Comply with Cal/OSHA Compressed Air Safety Orders Title 8, Division 1, Chapter 4, Subchapter 3. Comply with California Code of Regulations Title 8, Title 29 Code of Federal Regulations; and/or the Construction Safety and Health Manual (Part F) of the contract whichever is most stringent in regulating the safety conditions to be maintained in the work environment as determined by the Authority. The Party recognizes that government promulgated safety regulations are minimum standards and that additional safeguards may be required

B. Comply with the requirements of Chemical Hazards Safety and Health Plan, (per 29 CFR 1910.120 entitled, (Hazardous Waste Operations and Emergency Response) with respect to the handling of hazardous or contaminated wastes and mandated specialty raining and health screening.

C. Party and contractor personnel while within the operating MTA right-of-way shall coordinate all safety rules and procedures with MTA Rail Operations Control Center.

D. When support functions and electrical power outages are required, the approval MUST be obtained through the MTA Track Allocation procedure. Approval of the support functions and power outages must be obtained in writing prior to shutdown.

5.0 CORROSION

5.1 STRAY CURRENT PROTECTION

A. Because stray currents may be present in the area of the project, the Party shall investigate the site for stray currents and provide the means for mitigation when warranted.

B. Installers of facilities that will require a Cathodic Protection (CP) system must coordinate their CP proposals with MTA. Inquiries shall be routed to the Manager, Third Party Administration.

C. The Party is responsible for damage caused by its contractors to MTA corrosion test facilities in public right-of-way.

End of Section

APPENDIX

D

GUIDELINES FOR CMP TRANSPORTATION IMPACT ANALYSIS

Important Notice to User: This section provides detailed travel statistics for the Los Angeles area which will be updated on an ongoing basis. Updates will be distributed to all local jurisdictions when available. In order to ensure that impact analyses reflect the best available information, lead agencies may also contact MTA at the time of study initiation. Please contact MTA staff to request the most recent release of "Baseline Travel Data for CMP TIAs."

D.1 OBJECTIVE OF GUIDELINES

The following guidelines are intended to assist local agencies in evaluating impacts of land use decisions on the Congestion Management Program (CMP) system, through preparation of a regional transportation impact analysis (TIA). The following are the basic objectives of these guidelines:

- Promote consistency in the studies conducted by different jurisdictions, while maintaining flexibility for the variety of project types which could be affected by these guidelines.
- Establish procedures which can be implemented within existing project review processes and without ongoing review by MTA.
- Provide guidelines which can be implemented immediately, with the full intention of subsequent review and possible revision.

These guidelines are based on specific requirements of the Congestion Management Program, and travel data sources available specifically for Los Angeles County. References are listed in Section D.10 which provide additional information on possible methodologies and available resources for conducting TIAs.

D.2 GENERAL PROVISIONS

Exhibit D-7 provides the model resolution that local jurisdictions adopted containing CMP TIA procedures in 1993. TIA requirements should be fulfilled within the existing environmental review process, extending local traffic impact studies to include impacts to the regional system. In order to monitor activities affected by these requirements, Notices of Preparation (NOPs) must be submitted to MTA as a responsible agency. Formal MTA approval of individual TIAs is not required.

The following sections describe CMP TIA requirements in detail. In general, the competing objectives of consistency & flexibility have been addressed by specifying standard, or minimum, requirements and requiring documentation when a TIA varies from these standards.

D.3 PROJECTS SUBJECT TO ANALYSIS

In general a CMP TIA is required for all projects required to prepare an Environmental Impact Report (EIR) based on local determination. A TIA is not required if the lead agency for the EIR finds that traffic is not a significant issue, and does not require local or regional traffic impact analysis in the EIR. Please refer to Chapter 5 for more detailed information.

CMP TIA guidelines, particularly intersection analyses, are largely geared toward analysis of projects where land use types and design details are known. Where likely land uses are not defined (such as where project descriptions are limited to zoning designation and parcel size with no information on access location), the level of detail in the TIA may be adjusted accordingly. This may apply, for example, to some redevelopment areas and citywide general plans, or community level specific plans. In such cases, where project definition is insufficient for meaningful intersection level of service analysis, CMP arterial segment analysis may substitute for intersection analysis.

D.4 STUDY AREA

The geographic area examined in the TIA must include the following, at a minimum:

- All CMP arterial monitoring intersections, including monitored freeway on- or off-ramp intersections, where the proposed project will add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic).
- If CMP arterial segments are being analyzed rather than intersections (see Section D.3), the study area must include all segments where the proposed project will add 50 or more peak hour trips (total of both directions). Within the study area, the TIA must analyze at least one segment between monitored CMP intersections.
- Mainline freeway monitoring locations where the project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours.
- Caltrans must also be consulted through the Notice of Preparation (NOP) process to identify other specific locations to be analyzed on the state highway system.

If the TIA identifies no facilities for study based on these criteria, no further traffic analysis is required. However, projects must still consider transit impacts (Section D.8.4).

D.5 BACKGROUND TRAFFIC CONDITIONS

The following sections describe the procedures for documenting and estimating background, or non-project related traffic conditions. Note that for the purpose of a TIA, these background estimates must include traffic from all sources without regard to the exemptions specified in CMP statute (e.g., traffic generated by the provision of low and very low income housing, or trips originating outside Los Angeles County. Refer to Chapter 5, Section 5.2.3 for a complete list of exempted projects).

D.5.1 Existing Traffic Conditions. Existing traffic volumes and levels of service (LOS) on the CMP highway system within the study area must be documented. Traffic counts must

be less than one year old at the time the study is initiated, and collected in accordance with CMP highway monitoring requirements (see Appendix A). Section D.8.1 describes TIA LOS calculation requirements in greater detail. Freeway traffic volume and LOS data provided by Caltrans is also provided in Appendix A.

D.5.2 Selection of Horizon Year and Background Traffic Growth. Horizon year(s) selection is left to the lead agency, based on individual characteristics of the project being analyzed. In general, the horizon year should reflect a realistic estimate of the project completion date. For large developments phased over several years, review of intermediate milestones prior to buildout should also be considered.

At a minimum, horizon year background traffic growth estimates must use the generalized growth factors shown in Exhibit D-1. These growth factors are based on regional modeling efforts, and estimate the general effect of cumulative development and other socioeconomic changes on traffic throughout the region. Beyond this minimum, selection among the various methodologies available to estimate horizon year background traffic in greater detail is left to the lead agency. Suggested approaches include consultation with the jurisdiction in which the intersection under study is located, in order to obtain more detailed traffic estimates based on ongoing development in the vicinity.

D.6 PROPOSED PROJECT TRAFFIC GENERATION

Traffic generation estimates must conform to the procedures of the current edition of Trip Generation, by the Institute of Transportation Engineers (ITE). If an alternative methodology is used, the basis for this methodology must be fully documented.

Increases in site traffic generation may be reduced for existing land uses to be removed, if the existing use was operating during the year the traffic counts were collected. Current traffic generation should be substantiated by actual driveway counts; however, if infeasible, traffic may be estimated based on a methodology consistent with that used for the proposed use.

Regional transportation impact analysis also requires consideration of trip lengths. Total site traffic generation must therefore be divided into work and non-work-related trip purposes in order to reflect observed trip length differences. Exhibit D-2 provides factors which indicate trip purpose breakdowns for various land use types.

For lead agencies who also participate in CMP highway monitoring, it is recommended that any traffic counts on CMP facilities needed to prepare the TIA should be done in the manner outlined in Chapter 2 and Appendix A. If the TIA traffic counts are taken within one year of the deadline for submittal of CMP highway monitoring data, the local jurisdiction would save the cost of having to conduct the traffic counts twice.

D.7 TRIP DISTRIBUTION

For trip distribution by direct/manual assignment, generalized trip distribution factors are provided in Exhibit D-3, based on regional modeling efforts. These factors indicate Regional Statistical Area (RSA)-level tripmaking for work and non-work trip purposes.

(These RSAs are illustrated in Exhibit D-4.) For locations where it is difficult to determine the project site RSA, census tract/RSA correspondence tables are available from MTA.

Exhibit D-5 describes a general approach to applying the preceding factors. Project trip distribution must be consistent with these trip distribution and purpose factors; the basis for variation must be documented.

Local agency travel demand models disaggregated from the SCAG regional model are presumed to conform to this requirement, as long as the trip distribution functions are consistent with the regional distribution patterns. For retail commercial developments, alternative trip distribution factors may be appropriate based on the market area for the specific planned use. Such market area analysis must clearly identify the basis for the trip distribution pattern expected.

D.8 IMPACT ANALYSIS

CMP Transportation Impact Analyses contain two separate impact studies covering roadways and transit. Section Nos. D.8.1-D.8.3 cover required roadway analysis while Section No. D.8.4 covers the required transit impact analysis. Section Nos. D.9.1-D.9.4 define the requirement for discussion and evaluation of alternative mitigation measures.

D.8.1 Intersection Level of Service Analysis. The LA County CMP recognizes that individual jurisdictions have wide ranging experience with LOS analysis, reflecting the variety of community characteristics, traffic controls and street standards throughout the county. As a result, the CMP acknowledges the possibility that no single set of assumptions should be mandated for all TIAs within the county.

However, in order to promote consistency in the TIAs prepared by different jurisdictions, CMP TIAs must conduct intersection LOS calculations using either of the following methods:

- The Intersection Capacity Utilization (ICU) method as specified for CMP highway monitoring (see Appendix A); or
- The Critical Movement Analysis (CMA) / Circular 212 method.

Variation from the standard assumptions under either of these methods for circumstances at particular intersections must be fully documented.

TIAs using the 1985 or 1994 Highway Capacity Manual (HCM) operational analysis must provide converted volume-to-capacity based LOS values, as specified for CMP highway monitoring in Appendix A.

D.8.2 Arterial Segment Analysis. For TIAs involving arterial segment analysis, volume-to-capacity ratios must be calculated for each segment and LOS values assigned using the V/C-LOS equivalency specified for arterial intersections. A capacity of 800 vehicles per hour per through traffic lane must be used, unless localized conditions necessitate alternative values to approximate current intersection congestion levels.

D.8.3 Freeway Segment (Mainline) Analysis. For the purpose of CMP TIAs, a simplified analysis of freeway impacts is required. This analysis consists of a demand-to-capacity calculation for the affected segments, and is indicated in Exhibit D-6.

D.8.4 Transit Impact Review. CMP transit analysis requirements are met by completing and incorporating into an EIR the following transit impact analysis:

- ❑ Evidence that affected transit operators received the Notice of Preparation.
- ❑ A summary of existing transit services in the project area. Include local fixed-route services within a ¼ mile radius of the project; express bus routes within a 2 mile radius of the project, and; rail service within a 2 mile radius of the project.
- ❑ Information on trip generation and mode assignment for both AM and PM peak hour periods as well as for daily periods. Trips assigned to transit will also need to be calculated for the same peak hour and daily periods. Peak hours are defined as 7:30-8:30 AM and 4:30-5:30 PM. Both "peak hour" and "daily" refer to average weekdays, unless special seasonal variations are expected. If expected, seasonal variations should be described.
- ❑ Documentation of the assumption and analyses that were used to determine the number and percent of trips assigned to transit. Trips assigned to transit may be calculated along the following guidelines:
  - ➢ Multiply the total trips generated by 1.4 to convert vehicle trips to person trips;
  - ➢ For each time period, multiply the result by one of the following factors:

    3.5% of Total Person Trips Generated for most cases, except:

    10% primarily Residential within 1/4 mile of a CMP transit center
    15% primarily Commercial within 1/4 mile of a CMP transit center
    7% primarily Residential within 1/4 mile of a CMP multi-modal transportation center
    9% primarily Commercial within 1/4 mile of a CMP multi-modal transportation center
    5% primarily Residential within 1/4 mile of a CMP transit corridor
    7% primarily Commercial within 1/4 mile of a CMP transit corridor
    0% if no fixed route transit services operate within one mile of the project

  To determine whether a project is primarily residential or commercial in nature, please refer to the CMP land use categories listed and defined in Appendix E, *Guidelines for New Development Activity Tracking and Self Certification*. For projects that are only partially within the above one-quarter mile radius, the base rate (3.5% of total trips generated) should be applied to all of the project buildings that touch the radius perimeter.

- ❑ Information on facilities and/or programs that will be incorporated in the development plan that will encourage public transit use. Include not only the jurisdiction's TDM Ordinance measures, but other project specific measures.

- Analysis of expected project impacts on current and future transit services and proposed project mitigation measures, and;
- Selection of final mitigation measures remains at the discretion of the local jurisdiction/lead agency. Once a mitigation program is selected, the jurisdiction self-monitors implementation through the existing mitigation monitoring requirements of CEQA.

D.9 IDENTIFICATION AND EVALUATION OF MITIGATION

D.9.1 Criteria for Determining a Significant Impact. For purposes of the CMP, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$); if the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$). The lead agency may apply a more stringent criteria if desired.

D.9.2 Identification of Mitigation. Once the project has been determined to cause a significant impact, the lead agency must investigate measures which will mitigate the impact of the project. Mitigation measures proposed must clearly indicate the following:

- Cost estimates, indicating the fair share costs to mitigate the impact of the proposed project. If the improvement from a proposed mitigation measure will exceed the impact of the project, the TIA must indicate the proportion of total mitigation costs which is attributable to the project. This fulfills the statutory requirement to exclude the costs of mitigating inter-regional trips.
- Implementation responsibilities. Where the agency responsible for implementing mitigation is not the lead agency, the TIA must document consultation with the implementing agency regarding project impacts, mitigation feasibility and responsibility.

Final selection of mitigation measures remains at the discretion of the lead agency. The TIA must, however, provide a summary of impacts and mitigation measures. Once a mitigation program is selected, the jurisdiction self-monitors implementation through the mitigation monitoring requirements contained in CEQA.

D.9.3 Project Contribution to Planned Regional Improvements. If the TIA concludes that project impacts will be mitigated by anticipated regional transportation improvements, such as rail transit or high occupancy vehicle facilities, the TIA must document:

- Any project contribution to the improvement, and
- The means by which trips generated at the site will access the regional facility.

D.9.4 Transportation Demand Management (TDM). If the TIA concludes or assumes that project impacts will be reduced through the implementation of TDM measures, the TIA must document specific actions to be implemented by the project which substantiate these conclusions.

D.10 REFERENCES

1. *Traffic Access and Impact Studies for Site Development: A Recommended Practice*, Institute of Transportation Engineers, 1991.
2. *Trip Generation*, 5th Edition, Institute of Transportation Engineers, 1991.
3. *Travel Forecast Summary: 1987 Base Model - Los Angeles Regional Transportation Study (LARTS)*, California State Department of Transportation (Caltrans), February 1990.
4. *Traffic Study Guidelines*, City of Los Angeles Department of Transportation (LADOT), July 1991.
5. *Traffic/Access Guidelines*, County of Los Angeles Department of Public Works.
6. *Building Better Communities*, Sourcebook, Coordinating Land Use and Transit Planning, American Public Transit Association.
7. *Design Guidelines for Bus Facilities*, Orange County Transit District, 2nd Edition, November 1987.
8. *Coordination of Transit and Project Development*, Orange County Transit District, 1988.
9. *Encouraging Public Transportation Through Effective Land Use Actions*, Municipality of Metropolitan Seattle, May 1987.

B. Live load of 100 plf applied at the free edges of the frame.

C. Wind load of 40 psf on windward side.

D. For traction type elevators, the surface structure shall be designed to support elevator beams. The end reaction of the elevator beams shall be 18,000 lb minimum. The location of the elevator beams varies with the type of elevator and its relative machine room location. The designer shall coordinate with elevator manufacturers regarding elevator beam locations.

5.4.10.6 Escalators

The support elements shall be designed for the end reactions from the escalators. The end reactions will be provided to the designer by Metro.

5.4.11 Adjacent Public Buildings

A. New building by private developers representing commercial interests or other public agencies that are planning pedestrian entrance access to Metro facilities must have their designs reviewed by Metro. It is the general policy of Metro to review designs on a case-by-case basis. This includes not only plans for physical attachment, but also all new construction within the influence zone of the existing Metro facilities.

B. A lateral separation of 8 feet shall be maintained between the finished exterior walls and foundations of underground Metro station facilities and those of new building construction if seismic isolation is to be assumed. Similarly, a vertical separation of 8 feet should be maintained between the finished exterior roofs of underground Metro station facilities and the mat or spread footing foundations of new building construction. All new construction closer than this, the developers shall demonstrate seismic isolation by submitting calculations.

C. High-rise tubular buildings, that create large perimeter loads on their foundations during seismic events, shall be ~~analyzed~~ **analysed** as special cases. This analysis shall demonstrate the pressures created by the building foundations do not exceed the design loads on Metro facilities using accepted geotechnical techniques of analysis.

D. Where joint development passageways interface directly with Metro station facilities, calculations shall be provided to demonstrate the new building elements have sufficient seismic and differential settlement ductility, as not to cause overstress to existing or new structural elements. The details shall be provided to demonstrate that waterproof integrity of the new construction with the existing station structure can be maintained for its anticipated service life.

In areas where the geotechnical investigation for Metro facilities, or that of the planned or joint development construction suggests a potential for the seismic consolidation or liquefaction of the soil, a special structural and geotechnical analysis of both designs shall be undertaken by the developers.

E. Temporary support of Metro facilities during the adjacent excavation for new buildings will be such that at any level, the station shell static lateral displacement shall not exceed 0.0005 times its overall height above the bottom of the base slab. The lateral forces used for the design of temporary excavation support shall consider both the static and dynamic loads for which Metro facility was designed. Where temporary support elements are used, details shall be provided to demonstrate that membrane waterproofing shall not be damaged.

F. Subsurface areas of new buildings where the public has access or that cannot be guaranteed as a secure area, such as parking garages and commercial storage and warehousing, will be treated as areas of potential explosion. NFPA 130, Standard for Fixed Guideway Transit Systems, life safety separation criteria will be applied that assumes such spaces contain Class I flammable, or Class II or Class III combustible liquids. For structural and other considerations, separation and isolation for blast shall be treated the same as for seismic, and the more restrictive shall be applied.

G. All static, dynamic, and geotechnical zone of influence calculations provided in support of the above criteria, will be sealed by a structural or Geotechnical engineer licensed in the State of California. Zone of influence calculation shall be based on intergranular soil pressures that consider the worst possible hydrostatic condition that might occur during the service life of Metro facilities.

5.4.12 Reinforced and Prestressed Concrete

5.4.12.1 Minimum Concrete Design Strengths

A. For all underground reinforced concrete cast-in-place structures including cut and cover box lines and stations, abutments, retaining walls, shafts, cross-passageways, portals, U- sections, spread footings, piles, drilled-in caissons, and basement walls:

- f'c = 4,000 psi.

B. For all aboveground reinforced concrete cast-in-place structures:

- f'c = 4,000 psi.

C. For prestressed concrete

- f'c = 6,000 psi.

D. For precast prestressed members

- f'c = 5,000 psi.

E. For all building foundations, floor slabs, pits and other miscellaneous foundations at yards and shops, miscellaneous foundations other than those specified, and station platform foundations

- f'c = 3,000 psi.

F. In certain cases, strengths of concrete other than those specified above might be required. These cases will be as recommended by the Contractor's Designer and accepted by Metro.

5.4.12.2 Reinforcing and Prestressing Steel

A. Comply with ASTM A706 for reinforcement resisting earthquake-induced flexural and axial forces in frame members and in wall boundary members. ASTM A615 grades 40 and 60 reinforcement are allowed in these members if (a) the actual yield strength based on mill tests does not exceed the specified yield strength by more than 18,000 psi (retests shall not exceed this value by more than an additional 3000 psi) and (b) the ratio of the actual ultimate tensile stress to the actual tensile yield strength is not less than 1.25. For aerial structures and bridges conform to the requirements of Caltrans BDS.

B. Prestressing steel: See Section 5.3.6.1

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Public Agency - No Tax Statement

NOISE EASEMENT DEED

For valuable consideration, receipt of which is hereby acknowledged, **(Name of Owner)**, a _____ , for themselves, their heirs, administrators, executors, successors, assigns, tenants, and lessees do hereby grant, bargain, sell, and convey to the **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY,** a public agency existing under the authority of the laws of the State of California ("Grantee"), its successors and assigns, for the use and benefit of the public and its employees, a perpetual, assignable easement in that certain real property in the City of Los Angeles, County of Los Angeles, State of California described in Exhibit "A" attached hereto and incorporated herein by this reference,

Said easement shall encompass and cover the entirety of the Grantors' Property having the same boundaries as the described Property and extending from the sub-surface upwards to the limits of the atmosphere of the earth, the right to cause in said easement area such noise, vibrations, fumes, dust, fuel particles, light, sonic disturbances, and all other effects that may be caused or may have been caused by the operation of public transit vehicles traveling along the Project right of way.

Grantor hereby waives all rights to protest, object to, make a claim or bring suit or action of any purpose, including or not limited to, property damage or personal injuries, against Grantee, its successors and assigns, for any necessary operating and maintenance activities and changes related to the Project which may conflict with Grantors' use of Grantors' property for residential and other purposes, and Grantors hereby grants an easement to the Grantee for such activities.

The granting of said Easement shall also establish the Grantors' right to further modify or develop the Property for any permitted use. However, Grantor's rights of development shall not interfere with the continued operation of Grantee's Project.

It is understood and agreed that these covenants and agreements shall be permanent, perpetual, will run with the land and that notice shall be made to and shall be binding upon all heirs, administrators, executors, successors, assigns, tenants and lessees of the Grantor. The Grantee is hereby expressly granted the right of third party enforcement of this easement.

IN WITNESS WHEREOF, the undersigned has caused its/their signature to be affixed this day of _____, 20___

By: _____
Name

By: _____
Name

(ATTACH NOTARY SEAL AND CERTIFICATE HERE.)

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)

County of _____)

On _____ before me, _____,

Date *Here Insert Name and Title of the Officer*

personally appeared _____

Name(s) of Signer(s)

_____,

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

Signature of Notary Public

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CERTIFICATE OF ACCEPTANCE

This is to certify that the interest in the real property conveyed by the foregoing Grant Deed from _____, a **California Limited Partnership**, ("Grantor") to **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY,** a public agency existing under the authority of the laws of the State of California ("LACMTA"), is hereby accepted by the undersigned on behalf of the LACMTA pursuant to authority conferred by resolution of the Board of Directors of the LACMTA, and the Grantee hereby consents to the recordation of this Deed by its duly authorized officer.

Dated this ____ day of _____, 20__

By: _____
Velma C. Marshall
Deputy Executive Officer - Real Estate



William Lamborn <william.lamborn@lacity.org>

SCAG Comments on the NOP of a DEIR for the Times Mirror Square [SCAG NO. IGR9321]

Anita Au <au@scag.ca.gov> Mon, Jul 31, 2017 at 8:53 AM
To: "William.lamborn@lacity.org" <William.lamborn@lacity.org>
Cc: Ping Chang <CHANG@scag.ca.gov>

Good morning William,

Please find attached SCAG Comments on the NOP of a DEIR for the Times Mirror Square [SCAG NO. IGR9321].

Please contact me at (213) 236-1874 or au@scag.ca.gov if you have any questions or difficulties with the attached file.

Thank you,

Anita Au

Assistant Regional Planner

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

818 West 7th Street, 12th Floor, Los Angeles, CA 90017

T: (213) 236-1874 | F: (213) 236-1962
E: au@scag.ca.gov

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IGR9321 NOP Times Mirror Square.pdf
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July 31, 2017

Mr. William Lamborn
City of Los Angeles, Department of City Planning
200 N. Spring Street, Suite 750
Los Angeles, California 90012
Phone: (213) 978-1470
E-mail: William.lamborn@lacity.org

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Times Mirror Square [SCAG NO. IGR9321]

Dear Mr. Lamborn,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Times Mirror Square ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS) pursuant to Senate Bill (SB) 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS) goals and align with RTP/SCS policies.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Times Mirror Square in Los Angeles County. The proposed project consists of the renovation of three existing buildings, the demolition of two existing buildings and the construction of two new towers with 34,572 square feet (sf) of retail space and 1,127 multi-family residential units on a 3.6 acre site. The proposed renovations of the three existing buildings would include 285,088 sf of office space, 40,387 sf of restaurant space, and 50,000 sf for a new grocery store. A total of 129,477 sf of open space is included in the plans for the proposed project.

When available, please send environmental documentation to *SCAG's office in Los Angeles or by email to au@scag.ca.gov* providing, at a minimum, the full public comment period for review. If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Anita Au, Assistant Regional Planner, at (213) 236-1874 or au@scag.ca.gov. Thank you.

Sincerely,

Ping Chang

Ping Chang
Acting Manager, Compliance and Performance Monitoring

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS for the purpose of determining consistency for CEQA. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a determination of consistency with the 2016 RTP/SCS for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE TIMES MIRROR SQUARE [SCAG NO. IGR9321]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS. For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the RTP/SCS.

2016 RTP/SCS GOALS

The SCAG Regional Council adopted the 2016 RTP/SCS in April 2016. The 2016 RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development and preserve the quality of life for the residents in the region. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health (see http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx). The goals included in the 2016 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2016 RTP/SCS are the following:

SCAG 2016 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and active transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies** **SCAG does not yet have an agreed-upon security performance measure.*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG 2016 RTP/SCS GOALS		
	Goal	Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

2016 RTP/SCS STRATEGIES

To achieve the goals of the 2016 RTP/SCS, a wide range of land use and transportation strategies are included in the 2016 RTP/SCS. Technical appendances of the 2016 RTP/SCS provide additional supporting information in detail. To view the 2016 RTP/SCS, please visit: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. The 2016 RTP/SCS builds upon the progress from the 2012 RTP/SCS and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that the SCAG region strives toward a more sustainable region, while the region meets and exceeds in meeting all of applicable statutory requirements pertinent to the 2016 RTP/SCS. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

DEMOGRAPHICS AND GROWTH FORECASTS

Local input plays an important role in developing a reasonable growth forecast for the 2016 RTP/SCS. SCAG used a bottom-up local review and input process and engaged local jurisdictions in establishing the base geographic and socioeconomic projections including population, household and employment. At the time of this letter, the most recently adopted SCAG jurisdictional-level growth forecasts that were developed in accordance with the bottom-up local review and input process consist of the 2020, 2035, and 2040 population, households and employment forecasts. To view them, please visit http://www.scag.ca.gov/Documents/2016GrowthForecastByJurisdiction.pdf. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts			Adopted City of Los Angeles Forecasts		
	Year 2020	Year 2035	Year 2040	Year 2020	Year 2035	Year 2040
Population	19,663,000	22,091,000	22,138,800	4,017,000	4,442,500	4,609,400
Households	6,458,000	7,325,000	7,412,300	1,441,400	1,618,900	1,690,300
Employment	8,414,000	9,441,000	9,871,500	1,899,500	2,104,100	2,169,100

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for the 2016 RTP/SCS for guidance, as appropriate. SCAG's Regional Council certified the Final PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on April 7, 2016 (please see: http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx). The Final PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

APPENDIX B
Aesthetics Documentation

ESA

B-1 City of Los Angeles Zoning Information No. 2452

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
ZONING INFORMATION FILE

ZI NO. 2452

TRANSIT PRIORITY AREAS (TPAs) / EXEMPTIONS TO AESTHETICS AND PARKING WITHIN TPAs PURSUANT TO CEQA

CITYWIDE

Note: This Zoning Information File is for information only and does not require any compliance check from LADBS or DCP.

COMMENTS:

On September 2013, the Governor signed into law Senate Bill (SB) 743, which instituted changes to the California Environmental Quality Act (CEQA) when evaluating environmental impacts to projects located in areas served by transit. While the thrust of SB 743 addressed a major overhaul on how transportation impacts are evaluated under CEQA, it also limited the extent to which aesthetics and parking are defined as impacts under CEQA. Specifically, Section 21099 (d)(1) of the Public Resources Code (PRC) states that a project's aesthetic and parking impacts shall not be considered a significant impact on the environment if:

1. The project is a residential, mixed-use residential, or employment center project, and

2. The project is located on an infill site within a transit priority area.

Section 21099 (a) of the PRC defines the following terms:

(1) "Employment center project" (TPAs) means a project located on property zoned for commercial uses with a floor area ratio of no less than 0.75 and that is located within a transit priority area.

(4) "Infill site" means a lot located within an urban area that has been previously developed, or on a vacant site where at least 75 percent of the perimeter of the site adjoins, or is separated only by an improved public right-of-way from, parcels that are developed with qualified urban uses.

(7) "Transit priority area" means an area within one-half mile of a major transit stop that is existing or planned. Section 21064.3 of the PRC defines a "major transit stop" as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods. For purposes of Section 21099 of the PRC, a transit priority area also includes major transit stops in the City of Los Angeles (city) that are scheduled to be completed within the planning horizon of the Southern California Association of Governments (SCAG) Regional Transportation Plan / Sustainable Community Strategy (RTP/SCS).

While the Governor's Office of Planning and Research (OPR) is still in the process of drafting guidance to substantially revise transportation impact methodology for infill projects, the

elimination of aesthetics and parking for infill projects went into effect January 2014. No further action is needed for the elimination of aesthetics and parking for infill projects, defined herein to take effect as part of the City's impact evaluations pursuant to CEQA.

INSTRUCTIONS:

Visual resources, aesthetic character, shade and shadow, light and glare, and scenic vistas or any other aesthetic impact as defined in the City's CEQA Threshold Guide shall not be considered an impact for infill projects within TPAs (shown in the attached map) pursuant to CEQA. However, this law did not limit the ability of the City to regulate, or study aesthetic related impacts pursuant to other land use regulations found in the Los Angeles Municipal Code (LAMC), or the City's General Plan, including specific plans. For example, DCP staff would still need to address a project's shade and shadow impacts if it is expressly required in a specific plan, Community Design Overlays (CDOs), or Historic Preservation Overlay Zones (HPOZs). Also note that the limitation of aesthetic impacts pursuant to Section 21099 of the PRC does not include impacts to historic or cultural resources. Impacts to historic or cultural resources will need to be evaluated pursuant to CEQA regardless of project location.

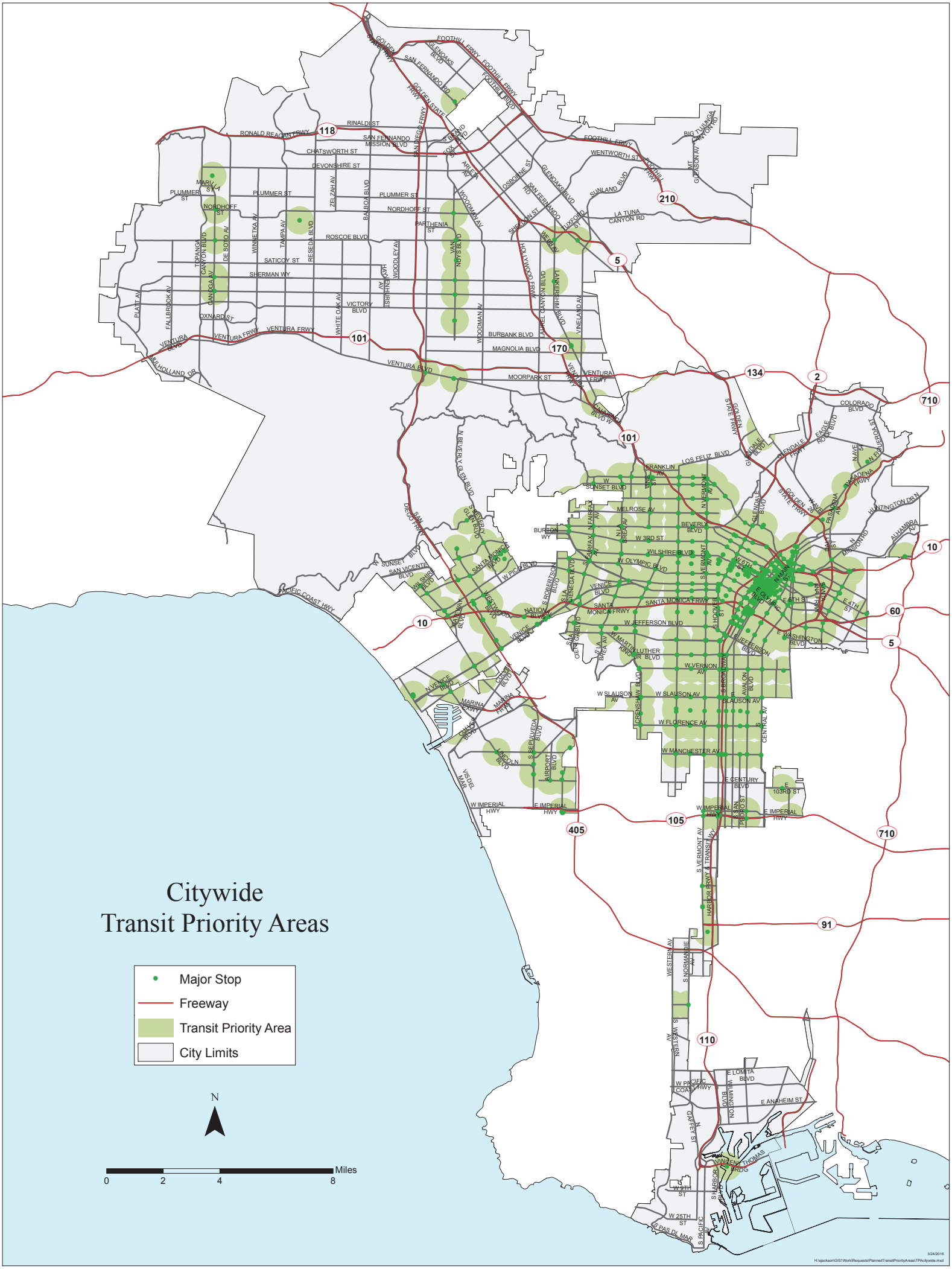
Find attached a citywide map of TPAs in the City of Los Angeles. Department of City Planning (DCP) staff should use this citywide map in determining if a project is clearly within a TPA, and if aesthetics and parking are not to be included in a project's impact evaluation in a negative declaration (ND), mitigated negative declaration (MND) or environmental impact report (EIR) prepared in accordance with CEQA. Eventually, TPAs will be identified in ZIMAS, however this map is to be referenced on an interim basis. Planners should also consult ZIMAS or Navigate LA if it cannot be determined from the map if a project site is within ½ mile of a major transit stop.

A project shall be considered to be within a TPA if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the major transit stop and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the major transit stop. Projects intersecting non-overlapping TPA boundaries would also need to demonstrate they are within one-half mile of a major transit stop based on boarding location information. The burden shall be on the project applicant to demonstrate their project is within a TPA for parcels along a TPA boundary.

For further information regarding TPAs or SB 743, contact David Somers at (213) 978-3307

Further reference:

http://opr.ca.gov/s_transitorienteddevelopmentsb743.php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B-2 Downtown Design Guidelines Analysis

Downtown Design Guide

The Downtown Design Guide encourages Downtown Los Angeles to develop as a more sustainable and livable community. The focus of the Downtown Design Guide is on the relationship of buildings to the street, including sidewalk treatment, character of the building as it adjoins the sidewalk, and connections to transit. To achieve this harmony between buildings and public right-of- ways, the Downtown Design Guide provides design goals and specific requirements for the design of sidewalks and setbacks, ground floor treatment, parking and access, building massing and street wall, on-site open space, architectural detail, streetscape improvements, signage, and public art, and promote civic and cultural life.

The Project would be in substantial compliance with the requirements of the Downtown Design Guide, which applies to all projects in the Central City. As discussed below, the Project would be consistent with the components of the Downtown Design Guide, including sustainable design, sidewalks and setbacks, ground floor treatment, parking and access, massing and street wall, on-site open space, architectural detail, streetscape improvements, signage, and contribution to civic and cultural life. Although the Project would incorporate public art, as recommended under the Downtown Design Guide, no specific details about art installations are currently available. Although no art installations are specifically anticipated, any statuary or water features would be installed out of the public right-of-way in the Paseo area, and would be consistent with the character of the Project's modern component. The Project would not include any wall murals or tall-wall signs along the public (street-facing) façade. As indicated below, the Project would be consistent with the following components of the Downtown Design Guide.

1. Sustainable Design

The Project would be consistent with Downtown Design Guide policies to support sustainability through proximity to transit and the Design Guide's encouraging of the use of transit use through its proximity to transit and orientation to provide convenient access to nearby transit stations. The Project would also be designed to achieve the equivalent of the LEED Silver Certification level for new buildings, per PDF AQ-1. The Project would incorporate green building techniques and other sustainability features, including those within the City of Los Angeles Green Building Code, where applicable. Some of the Project's design features that would contribute to energy efficiencies include the use of glass/window areas for ventilation and daylight accessibility, use of recyclable materials for flooring and removable partitions in limited amounts, on-site landscaping in the form of green walls in some areas, low albedo (high reflectivity) color paving to reduce heat island effect, conduit for solar panels installed on roof deck areas pursuant to code requirements, and landscaping of courtyards and roof decks. Other building features would include such items as installation of energy-efficient lighting, heating, ventilation, and air conditioning (HVAC) systems that utilize ozone-friendly refrigerants; use of

materials and finishes that emit low quantities of volatile organic compounds (VOCs); use of high efficiency fixtures and appliances; water conservation features; and dedicated on-site recycling area. The Project's inclusion of bicycle parking, including on-street, short-term bicycle parking would encourage the use of alternative modes of transportation. The Project would reduce outdoor potable water use by a minimum of 20 percent compared to baseline water consumption. Reductions would be achieved through drought-tolerant/California native plant species selection and artificial turf, landscape contouring to minimize precipitation runoff, irrigation system efficiency, alternative water supplies (e.g., stormwater retention for use in landscaping), smart irrigation systems (e.g., weather-based controls), and water-saving pool equipment. These on-site landscape elements would help reduce energy use as less water would be needed to be transported to the Project Site. In addition, to encourage carpooling and the use of electric vehicles by Project residents and visitors, the Project would designate a minimum of ten (10) percent of Code-required on-site non-residential parking spaces for carpool and/or alternative-fueled vehicles and ensure that at least twenty (20) percent of the total code-required parking spaces provided for all types of parking facilities are capable of supporting future electric vehicle supply equipment (EVSE), with five (5) percent of the Code-required spaces further improved with electric vehicle charging stations, per PDF AQ-2.

2. Sidewalks and Setbacks

The Project would provide for broader sidewalks and include new setbacks to better accommodate pedestrians and provide for sidewalk activity and furnishings, such as sidewalk cafés and seating. Under the Project, the public sidewalk along W. 1st Street would be widened to 36 feet from the existing 19 feet; the sidewalk along S. Broadway would be widened to 15 feet, 2 inches from the existing 10 feet, 2 inches; and the sidewalk along W. 2nd Street would be widened to various widths ranging from 11 feet and 21 feet from the existing 7 feet. The Project would provide an 18 to 24 inch wide access zone next to the curb, which would include the 6 inch curb and 12 inch granite or brick edge band adjacent to the back of the curb.

The Project would provide a landscaped Paseo, which would be constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street and W. 2nd Street. The landscaped Paseo and ground-level open space areas would help collect and reduce stormwater runoff.

3. Ground Floor Treatment

The Project would be consistent with the retail street frontage requirements of 50 percent to 75 percent of frontages used for retail or professional office uses. The W. 1st Street frontage at the new development site (west sector of the block) would be developed with minimum of 93.4 percent retail, the S. Broadway façade would be developed with 80 percent retail. All retail entrances would be oriented to the fronting street or the Paseo. The Times and Mirror Buildings would provide main entrances to W. 1st Street and W.

2nd Street, respectively, and the Plant Building ground floor would be converted to a grocery retail use that would occupy the frontage along S. Spring Street. In the west sector of the Project Site, the new podium would be lined with ground-floor restaurant or retail uses on the W. 1st Street, S. Broadway, and W. 2nd Street frontages, with the exceptions of the access driveways on S. Broadway and W. 2nd Street. At the intersections of W. 1st Street and Broadway and W. 2nd Street and Broadway, retail uses would wrap around the corners, as recommended by the Downtown Design Guide.

Primary entrances would be kept unlocked during business hours and located on a public street or on a courtyard, plaza or paseo that is connected to and visible from a public street. Street wall massing, articulation and detail, street level building entrances and storefront windows and doors, as well as the use of quality materials and decorative details, would be used to promote pedestrian-scaled architecture along the street. Lobby entrances to residential uses would be on S. Broadway.

The Project would not locate electrical transformers, mechanical equipment, other equipment, enclosed stairs, storage spaces, blank walls, and other elements that are not pedestrian-oriented within 100 feet of the corner on north-south streets and within 50 feet of the corner on east-west streets.

4. Parking and Access

Parking for the Project's range of uses, including customer parking, would be provided within the Podium and a subterranean garage below the Podium. As shown in future renderings (Figures IV.A-1 through IV.A-10), the Podium would be partially lined with habitable space and the design of the Podium would be integrated into the Project design by forming a base structure for the towers. No parking would be visible on the ground floor. The Podium, which would contain the parking areas, would incorporate similar materials, textures, and color values to the Mirror Building to visually link the entire development and provide a screen of the cars within the structure. The Project would provide 1,240 bicycle parking spaces for the residential uses and 34 bicycle parking spaces for the commercial uses (for a total of 1,744 spaces), exceeding the requirements of the Downtown Design Guide. Curbside drop-offs would be provided for both residential towers. There are no proposed interior drop-offs.

The Project would provide a continuous street wall along all four street frontages, with breaks only for the Paseo and the driveway entrances on S. Broadway and W. 2nd Street. The Project's W. 2nd Street driveway would be 25 feet, 8 inches for two lanes and the width of S. Broadway's three lane entrance driveway would be 35 feet, 8 inches. The entry point for the W. 2nd Street driveway would be more than 25 feet from the Paseo entrance, thus reducing pedestrian/vehicle conflicts. The setback of the towers from the podium edge would provide an identifiable break between the building's retail floors and the residential component.

5. Massing and Street Wall

The North Tower would rise 37 stories or approximately 495 feet above grade. The South Tower would rise 53 stories or approximately 665 feet above grade. While the Towers would be more than 300 feet in length, the Towers would contain strong horizontal planes at the base of the buildings and other horizontal features that would define the vertical walls of the Towers. These vertical walls would complement the distinctive vertical lines of the Times Building and would balance the horizontal planes that define the Mirror Building. The scale of the Podium supporting the new residential towers would be articulated with a contemporary base, body, and rooftop and would incorporate solid and transparent glazed materials and strong compositional features and punched and vertical articulation to also complement the architecture of the rehabilitated buildings. The solid portions of the Podium base would incorporate similar materials, textures, and color values to the Mirror Building to visually link the entire development. In accordance with the Downtown Design Guide, the Project would provide visual variety and depth through a variety of textures that bear a direct relationship to the building's massing and structural elements. The Project would have various height components that would contribute to the Downtown Los Angeles skyline. The setback between the two towers would retain views of the sky and add interest to the skyline as viewed from the east and west, and the majority of high-rise buildings in the Financial District and along S. Figueroa Street would continue to be visible as viewed from the north, and the Project's high-rise towers would contribute to the variety of the evolving skyline.

The two proposed towers would be set back from each other approximately 189 feet, thus complying with residential building setback requirements of at least 80 feet from all existing or possible future towers, both on the same block and approximately 55 feet across the street. The distance between the two proposed towers would also exceed residential unit spacing requirements.

The Project would be consistent with tower massing policies of the Downtown Design Guide, which are intended to reduce the overall sense of building mass. The tower footprints would be set back from the edge of the Podium. These setbacks and the distance between towers would reduce the overall appearance of bulk. The separation between the towers created by the lower 5-level Podium and the 4-story Plant Building in the background would allow light and visual relief from the mass of the North and South Towers, as viewed from the Federal Court Building and other uses to the west. The sense of mass would also be reduced by the façade design, which provides distinct vertical lines that although draws the eye upward along three distinct building sections. The roof detail also draws the eye upward to complement the linear aspect of the towers.

The Project would be consistent with policies that recommend simple faceted geometry and employ detailing in the exterior walls and the articulation of a human-scaled base at the street level. In accordance with the Downtown Design Guide, the two towers are complementary and employ the same architectural design approach. The towers represent contemporary interventions in the skyline and are not historicized.

6. On-Site Open Space

The Project would be consistent with the Design Guide's recommendations for open space in that the public open space represented by the 15,708 square-foot Paseo is located at the ground level, is open to the public during daylight hours, exceeds 5,000 square feet in size, is lined with ground floor spaces designed for retail, especially restaurants that include outdoor dining, and provides pedestrian amenities, including seating and landscaping. As recommended under the Downtown Design Guide, the Paseo is located in the center of the city block. The Paseo would be 25 feet wide, exceeding minimum requirements of 15 feet and would have a clear line of sight from W. 1st Street to W. 2nd Street.

The Project, which would provide new Sycamore trees supplementing existing trees along all four street frontages would be consistent with the Design Guide's recommendation that at least 50 percent of new trees be canopy trees that shade open spaces, sidewalks and buildings.

The Paseo would provide landscaped entrances and allow public access during normal business hours. Landscaping, including seating, rows of trees, and planters would be provided in the Paseo.

7. Architectural Detail

The Project would be consistent with the architectural detail recommendations of the Downtown Design Guide in that it would provide for an interactive street front that would avoid extensive blank walls that would detract from the experience and appearance of the streetscape. Building design would employ step-backs at the Podium level to horizontal variation reflect changes in the building uses or structure. The use of horizontal and vertical detail on the proposed tower facades would create scale and three-dimensional qualities. The ground-level Podium would exhibit a different architectural treatment on the ground floor façade than on the upper floors, and feature high quality materials that add scale, texture and variety at the pedestrian level. The step-back and change in architectural character of the towers from the Podium would provide an identifiable break between the building's ground floors and upper floors designed for residential uses. The Podium would incorporate solid and transparent glazed materials and strong compositional features, punched and vertical articulation, and mass, to complement the architecture of the existing Times, Mirror, and Plant Buildings. The solid portions of the Podium base would incorporate similar materials, textures, and color values to the Mirror Building to visually link the entire development and would, thus, be consistent with design recommendations that ground floor facades exhibit durable materials on ground floor façades.

In accordance with the Downtown Design Guide, the Project would provide visual variety and depth through a variety of textures that bear a direct relationship to the building's massing and structural elements. The color palette for a building would reinforce building

identity and complement existing coloration of the Times, Mirror, and Plant Buildings. Ground-floor window and door glazing would be transparent and non-reflective. Architectural lighting for the Project would relate to the pedestrian and accentuate major architectural features. Exterior lighting would be shielded to reduce glare and eliminate light being cast into the night sky. Security lighting would be integrated into the architectural and landscape lighting system. Security lighting would not be distinguishable from the Project's overall lighting system.

Mechanical equipment would be screened from public view or be integrated into the architectural design of the Plant Building and, any roof-top mechanical equipment would be integrated into the design of the tower components, per PDF AES-2. The Project's ventilation intakes/exhausts would be located to minimize adverse effects on pedestrian comfort along the sidewalk. Typically locating vents more than 20 feet vertically and horizontally from a sidewalk and directing the air flow away from the public realm will accomplish this objective. Lighting (exterior building and landscape) would be directed away from adjacent properties and roadways, and shielded as necessary. In particular, no exterior lighting, such as architectural lights or security lights, would be directed at the window of a residential unit either within or adjacent to a project so that the light source would be visible.

8. Streetscape Improvements

The Project would widen the sidewalk rights-of-way and provide streetscape improvements. The Project would provide street trees that would form a generally continuous canopy along the sidewalk. Trees would be planted at minimum 36" box trees. The predominant street light pattern would be continued. Any relocated historic street lights would be refurbished and relocated with supplemental replicas as required by the Bureau of Street Lighting. Project access locations would be designed to City standards and would provide adequate sight distance, sidewalks, crosswalks, and pedestrian movement controls that meet the City's requirements to protect pedestrian safety. Separate pedestrian entrances would provide access from the adjacent streets, parking facilities, and transit stops. Per the City of Los Angeles Broadway Streetscape Master Plan which was adopted on February 14, 2013, curb extensions have replaced travel lanes and left-turn prohibitions at the intersection of South Broadway and W. 2nd Street.

9. Signage

New signage would be used for identification of ground level retail and restaurant businesses, building identification, and way finding. No off-site advertising signage is proposed. Street level commercial and restaurant signage would be similar to other signage along the street frontages in the area and, with regard to Broadway, would be consistent with the Historic Broadway Supplemental Sign Use District. The proposed buildings would include accent lighting to complement the building architecture. All lighting would be designed and located to be compatible with the architecture and landscaping of the Project, and would be directed on-site and shielded as appropriate to

avoid light spill over onto adjacent properties. Pedestrian areas, including the Paseo, would be well lit for security. Existing light standards along all four street frontages, which are consistent with fixtures used throughout the Civic Center, would be retained. Lighting and signage would be developed in compliance with applicable LAMC requirements.

Other than the historic Times Building's illuminated clock and "The Times" building sign, the Project Site does not contain illuminated signage. Existing signage associated with the Times Building, including illuminated building signs and clock would be maintained as original features of the buildings. Signage would be consistent with the Historic Broadway Supplemental Sign Use District, which allows signage programs that complement and protect the character-defining features of Broadway's historic buildings.

12. Civic and Cultural Life

As required under the Downtown Design Guide, the Project would contribute to the civic and cultural life of the Downtown by building on and connecting to existing elements through the rehabilitation of the iconic Times and Mirror Buildings and by expanding services, such as a grocery store, for the growing downtown population. The Project would also contribute to the civic and cultural life of Downtown by introducing high-density housing and restaurant uses that would enliven the Historic Core/Civic Center with 24-hour, seven-day activity.

APPENDIX C
Air Quality Technical Report

ESA

TIMES MIRROR SQUARE PROJECT

Air Quality Technical Report

Prepared for
ONNI Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

March 2019

ESA

TIMES MIRROR SQUARE PROJECT

Air Quality Technical Report

Prepared for
ONNI Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

March 2019

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Acronyms and Abbreviations

Acronym	Description
AQMP	Air Quality Management Plan
ATCM	Air Toxics Control Measure
BACT	Best Available Control Technology
Basin	South Coast Air Basin
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEC	California Energy Commission
CEUS	Commercial End-Use Survey
CEQA	California Environmental Quality Act
City	City of Los Angeles
CO	carbon monoxide
EMFAC	on-road vehicle emissions factor model
hp	horsepower
LOS	Level of Service
LST	localized significance threshold
MATES IV	Multiple Air Toxics Exposure Study, May 2015
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	nitric oxide
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
Pb	lead
PM2.5	fine particulate matter
PM10	respirable particulate matter
ppm	parts per million
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SO_2	sulfur dioxide
TAC	toxic air contaminant
$\mu g/m^3$	micrograms per cubic meter
µm	micrometers
USEPA	United States Environmental Protection Agency
VDECS	Verified Diesel Emission Control Strategies
VOC	volatile organic compounds

EXECUTIVE SUMMARY

The ONNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project), which would include construction of two new mixed-use towers along with rehabilitation of three existing buildings, including an eight-story building (Times Building), a four-story building (Plant Building) and a 10-story building (Mirror Building) within the Times Mirror Square site. The Times Mirror Square site (Project Site) comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. The Project Site totals approximately 160,578 square feet of lot area or approximately 3.6 acres.

The proposed rehabilitated buildings, the Times, Plant, and Mirror Buildings, which have a total existing floor area of approximately 376,105 square feet, are located in the east sector of the block aligned with S. Spring Street. The existing Executive Building at the corner of W. 1st Street and S. Broadway and the parking structure at the corner of W. 2nd Street and S. Broadway would be demolished to allow for the development of the Project towers. The North and South Towers, which would be constructed above a five-story parking podium (Podium). The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park.

In accordance with the requirements under the California Environmental Quality Act (CEQA), this Technical Report provides an estimate of air quality emissions for the Project and the potential impacts from associated construction and operational activities. The report includes the categories and types of emission sources resulting from the Project, the calculation procedures used in the analysis, and any assumptions or limitations. This report summarizes the potential for the Project to conflict with an applicable air quality plan, to violate an air quality standard or threshold, to result in a cumulatively net increase of criteria pollutant emissions, to expose sensitive receptors to substantial pollutant concentrations, or to create objectionable odors affecting a substantial number of people. The findings of the analyses are as follows:

- The Project would be consistent with air quality policies set forth by the City of Los Angeles, the SCAQMD, and the Southern California Association of Governments (SCAG).
- Construction of the Project would not exceed the daily regional emission numeric indicators of significance set forth by the South Coast Air Quality Management District (SCAQMD) for volatile organic compounds (VOC), carbon monoxide (CO), sulfur dioxide (SO_2), respirable

particulate matter (PM10), and fine particulate matter (PM2.5) emissions. However, construction of the Project would exceed the daily regional emission numeric indicators of significance for nitrogen oxide (NO_X) on a temporary basis from Project construction. Mitigation measures would be required to reduce emissions to the extent feasible. Implementation of mitigation measures MM AQ-1 and MM AQ-2 would reduce NO_X emissions to less than significant to during all phases of Project construction with the exception of the two continuous concrete pouring activities for foundations. These two activities are expected to last up to approximately two days each and result in NO_X exceedances during the approximately four days total. There are no feasible mitigation measures that would reduce this short-term and temporary NO_X impact to less than significant. Therefore, construction of the project would result in a short-term and temporary significant and unavoidable air quality impact with respect to regional NO_X emissions. Construction of the Project would also result in a cumulatively considerable net increase of non-attainment pollutants on a temporary and short-term basis (up to approximately four days total). However, while maximum regional emissions would be significant and unavoidable during the continuous concrete pouring activity lasting up to approximately four days total, off-site sensitive receptors are not anticipated to be exposed to NO_2 or associated ozone levels in excess of the health-based ambient air quality standards to a degree that measureable and identifiable heath impacts would result.

- The incremental increase in emissions from operation of the Project would not exceed the daily regional emission numeric indicators of significance set forth by the SCAQMD for VOC, CO, SO_2, PM10 and PM2.5 emissions. However, operation of the Project would exceed the daily regional emission numeric indicators of significance for NO_X from Project operation. Mitigation measures would be required to reduce emissions to the extent feasible. Implementation of mitigation measures MM AQ-3, MM AQ-4, and MM AQ-5 would reduce NO_X emissions to less than significant during Project operation. Thus, with incorporation of mitigation measures, operation of the Project would not result in a regional violation of applicable air quality standards or jeopardize the timely attainment of such standards in the South Coast Air Basin. Operation of the Project, with mitigation measures, would also not result in a cumulatively considerable net increase of non-attainment pollutants.

- Construction of the Project would generate localized on-site emissions of NO_X, PM10 and PM2.5 that would exceed the localized significance thresholds set forth by the SCAQMD at sensitive receptors. Localized on-site emissions of CO would not exceed the localized significance thresholds. Thus, the Project would not potentially expose sensitive receptors to substantial levels of localized construction air pollutants and mitigation measures would be required. With implementation of mitigation measures MM AQ-1 and MM AQ-2, localized emissions would be reduced to less than significant during all phases of Project construction. Thus, localized construction impacts would be mitigated to less than significant.

- Operation of the Project would generate localized on-site emissions of NO_X, CO that would not exceed the localized significance thresholds set forth by the SCAQMD. However, localized on-site emissions of PM10 and PM2.5 would potentially exceed the localized significance thresholds. Implementation of mitigation measures MM AQ-3, MM AQ-4, and MM AQ-5 would reduce the impact to below the localized significance thresholds. Therefore, localized operational impacts would be mitigated to less than significant.

- Emissions from the increase in traffic due to operation of the Project would have a less than significant impact for 1-hour or 8-hour local CO concentrations from mobile source emissions.

- Construction of the Project would not result in a long-term (i.e., lifetime or 70-year) exposure to toxic air contaminants (TACs). Construction health risk impacts would less than significant.
- Project operations would not emit substantial TAC emissions and operational health risk impacts would be less than significant.
- Project operations would result in less than significant levels of odors.
- The Project, with implementation of mitigation measures MM AQ-1, MM AQ-2, MM AQ-3, MM AQ-4, and MM AQ-5, would result in a less than significant cumulative air quality impacts during construction and operations of the project, with the exception of significant and unavoidable short-term and temporary NO_X impacts from concrete pouring and foundation activities (up to approximately four days total).

SECTION 1
Introduction

1.1 Existing Conditions

The OMNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project) which would include construction of two new mixed-use residential and commercial towers along with rehabilitation of three existing buildings at 202 West 1st Street on an approximately 3.6- that comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway (Project Site).[1] The Project Site location is shown in **Figure 1**, *Vicinity Location Map.*

The Project Site is currently developed with five structurally distinct, but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to ten stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the ten-story Mirror Building, the six-story parking structure, and the six-story Executive Building. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, an approximately 11,250 square-foot cafeteria in the Plant Building. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. GHG emissions are currently associated with vehicle trips to and from the existing Project Site (on-road mobile sources), on-site combustion of natural gas for heating and cooking, on-site combustion emissions from landscaping equipment (area source), off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition, water conveyance, and wastewater treatment.

1.2 Project Description

The Project would demolish the Executive Building and parking structure and develop two high-rise mixed-use towers, the North Tower and South Tower that would replace these structures along the S. Broadway frontage, while the Times, Plant and Mirror Buildings would be renovated and preserved. The proposed Paseo would separate the existing Times, Plant, and Mirror Buildings from the new towers and intersect the Project Site between the W. 1st Street and W. 2nd Street sidewalks.

The North and South Towers, which would be constructed above a five-story parking podium (Podium). The North Tower would contain 450 residential units and the South Tower would contain 677 residential units, for a total of 1,127 residential units and approximately 34,572

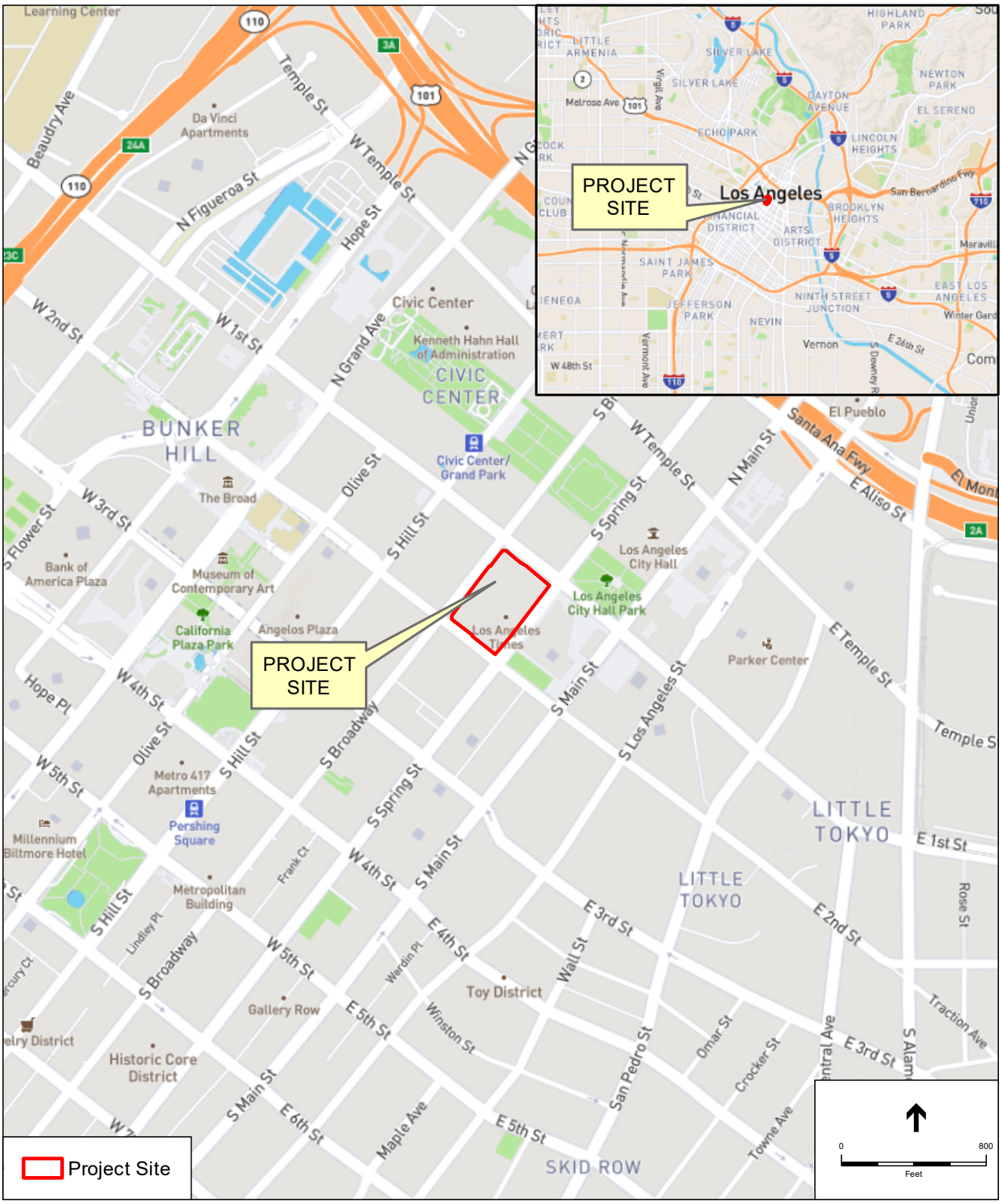
[1] The Project Site is zoned Commercial (C2-4D-SN), which permits general commercial and multi-family residential uses.

square feet of commercial floor area. Total residential floor area within the two towers would be approximately 1,071,692 square feet. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 square feet. Open space amenities available to residents of the North and South Towers include an approximately 28,777-square-foot residential terrace (Residential Terrace) on the rooftop of the five-story Podium (Level 6). The Residential Terrace, which is located on the rooftop of the Podium between the North and South Towers, would be open to sky and provide approximately 7,700 square feet of landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and other amenities such as dining tables and fire-side seating. The Project would provide other amenities at the 6th floor level, as well as ground-floor lounges in each of the tower buildings. These amenity areas are expected to include a gym, club rooms, meeting rooms, film screening room, private dining, and potentially other common areas to serve residents.

Approximately 73,128 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. Of the common open space, only the Paseo is available for public access. The remaining 57,420 square feet are provided as common use for the Project's residents. With the addition of approximately 56,349 square feet of private balconies, combined private and common open space would be approximately 129,477 square feet.

The Podium would be a five-story above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. The Project is designed for approximately 1,744 vehicle parking spaces in the five-level above-ground Podium and nine-level subterranean parking structure. The Project would also provide 1,240 bicycle parking spaces for the residential uses and 34 bicycle parking spaces for the commercial uses.

The existing buildings to remain approximately total 376,105 square feet. Under the Project, there would be approximately 307,288 square feet of commercial office uses, approximately 18,817 square feet of commercial restaurant uses, an approximately 50,000 square-foot grocery store, and an Office Terrace (Level 6 of the Plant Building). Although the total floor area of 376,105 square feet and the proportional mix of commercial uses would not change, the Project would allow flexibility in how the uses are allocated among the three existing buildings. The interiors of all three historic buildings have been heavily altered over time. The two original and architecturally distinctive interior spaces, the lobbies of the Times Building and Mirror Building, would be preserved. The upper floors contain little if any historic fabric, as it was removed as a result of past structural improvements and office modernizations. The upper floors would be reconfigured for office tenants, if required. The exteriors of all three buildings would be cleaned and repaired as necessary. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. The Project Site area and vicinity is provided in **Figure 2**, *Aerial Photograph of Project Site and Vicinity*.



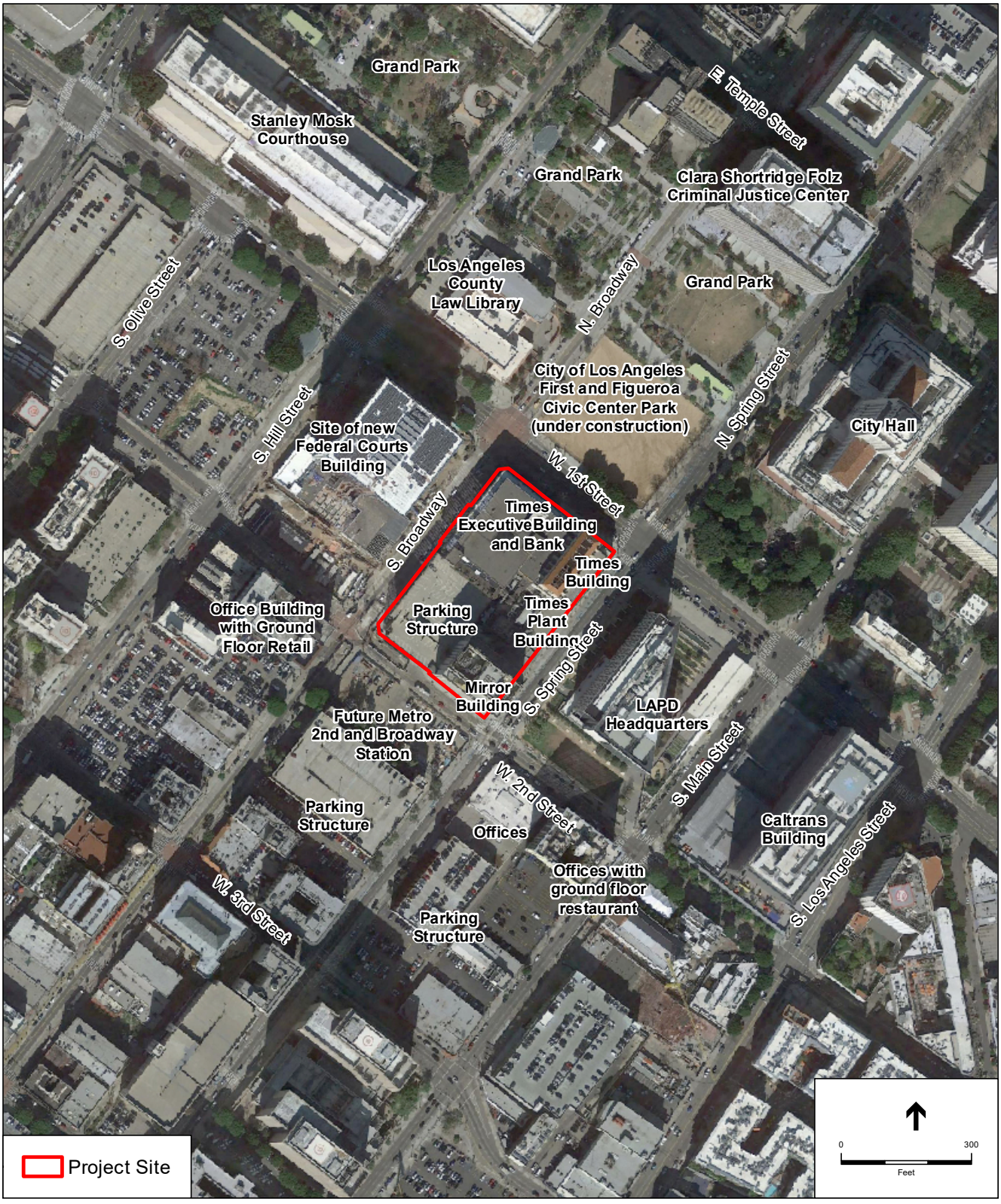
SOURCE: Open Street Map, 2016.

Times Mirror Square

Figure 1

Vicinity Location Map

ESA



SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square

Figure 2

Aerial Photograph of Project Site and Vicinity

ESA

Demolition activities on the subject property would include the removal of two of the five existing buildings. Approximately 35,000 tons of debris would be exported from the Project site. The Project would require the excavation of approximately 364,000 cubic yards of earth for the proposed nine levels of parking, four of which would be constructed above grade in the Podium and five of which would be constructed below grade.

1.3 Anticipated Construction Schedule

Construction of the Project is anticipated to begin in 2019, pending Project consideration and approval, and would be completed in late 2023. Construction of the Project is estimated to require approximately 48 months, starting as early as the third quarter of 2019. Construction activities would include demolition of the Executive Building and existing parking structure, excavation, foundations and concrete pouring, building construction, and architectural coatings. Heavy-duty equipment, vendor supply trucks and concrete trucks would be used during construction of foundations, parking structures, and buildings. Landscaping and architectural coating would occur during the finishing activities. The maximum daily regional emissions from these activities are estimated by construction phase and compared to the SCAQMD significance thresholds. The maximum daily regional emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The Project would comply with South Coast Air Quality Management District (SCAQMD) Rule 403 during demolition and grading activities which would limit fugitive dust emissions. A complete listing of the construction equipment by phase and construction phase duration assumptions used in this analysis is included within the California Emissions Estimator Model (CalEEMod) printout sheets that are provided in **Appendix C-2** of this Technical Report.

1.4 Existing Site Emissions

The Project Site is currently developed with five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings range from four to 10 stories in height. The buildings include the eight-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the six-story parking structure, and the six-story Executive Building. Combined the Times, Plant, Mirror, and Executive Buildings have a total floor area of approximately 559,863 square feet. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, and an approximately 11,250 square-foot cafeteria in the Plant Building. The current site usage generates air quality emissions from operations related to the commercial activities at the site. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. Therefore, the analysis assumes no existing emissions or vehicle trips are generated from the 40 percent vacant office spaces. **Table 1**, *Existing Site Operational Emissions*, identifies the existing site uses and emissions.

TABLE 1
EXISTING SITE OPERATIONAL EMISSIONS (POUNDS PER DAY) [a]

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Area	8	<1	<1	0	<1	<1
Energy (Natural Gas)	<1	2	1	<1	<1	<1
Motor Vehicles	8	35	97	<1	18	5
Total Existing Emissions	**16**	**37**	**98**	**<1**	**18**	**5**

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-1 of this Technical Report**. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. Therefore, the analysis assumes no existing emissions or vehicle trips are generated from the 40 percent vacant office spaces.

SOURCE: ESA, 2018.

1.5 Existing Air Quality Conditions

1.5.1 Regional Air Quality

The Project Site is located within the South Coast Air Basin (Air Basin). The Air Basin is an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Air Basin, as it is a coastal plain with connecting broad valleys and low hills.

The Air Basin lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. The usually mild climatological pattern is interrupted by periods of hot weather, winter storms, or Santa Ana winds. The extent and severity of pollutant concentrations in the Air Basin is a function of the area's natural physical characteristics (weather and topography) and man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential. The Air Basin's meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone, which is a secondary pollutant that forms through photochemical reactions in the atmosphere.

The greatest air pollution impacts throughout the Air Basin typically occur from June through September. This condition is generally attributed to the emissions occurring in the Air Basin, light winds, and shallow vertical atmospheric mixing. These factors reduce the potential for pollutant dispersion, thereby causing elevated air pollutant levels. Pollutant concentrations in the Air Basin vary with location, season, and time of day. Concentrations of ozone, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert.

Sources of Air Pollution

As detailed in the AQMP, the major sources of air pollution in the Air Basin are divided into four major source classifications: point, area, on-road, and off-road sources. Point and area sources are the two major subcategories of stationary sources.[2] Point sources are permitted facilities that contain one or more emission sources at an identified location (e.g., power plants, refineries). Area sources consist of many small emission sources (e.g., residential water heaters, architectural coatings, consumer products and permitted sources) which are distributed across the region. On-road sources and off-road sources are the two main subcategories of mobile sources, such as cars and trucks (on-road sources) and heavy construction equipment (off-road sources).

Criteria Pollutants

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality. The following pollutants are regulated by the United States Environmental Protection Agency (USEPA) and are subject to emissions control requirements adopted by federal, state and local regulatory agencies. These pollutants are referred to as "criteria air pollutants" as a result of the specific standards, or criteria, which have been adopted for them. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for each of the monitored pollutants and their effects on health are summarized in **Table 2,** *Ambient Air Quality Standards*. The NAAQS and CAAQS have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. A brief description of the health effects of these criteria air pollutants are provided below.

- **Ozone (O_3):** Ozone is a secondary pollutant formed by the chemical reaction of volatile organic compounds (VOCs) and nitrogen oxides (NO_X) in the presence of sunlight under favorable meteorological conditions, such as high temperature and stagnation episodes. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable. According to the USEPA, ozone can cause the muscles in the airways to constrict potentially leading to wheezing and shortness of breath.[3] Ozone can make it more difficult to breathe deeply and vigorously; cause shortness of breath and pain when taking a deep breath; cause coughing and sore or scratchy throat; inflame and damage the airways; aggravate lung diseases such as asthma, emphysema and chronic bronchitis; increase the frequency of asthma attacks; make the lungs more susceptible to infection; continue to damage the lungs even when the symptoms have

2 South Coast Air Quality Management District, Final 2012 AQMP, 2013. Available at: http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan. Accessed December 2018.

3 United States Environmental Protection Agency, Health Effects of Ozone Pollution, https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution, last updated October 10, 2018. Accessed January 2019.

disappeared; and cause chronic obstructive pulmonary disease.[4] Long-term exposure to ozone is linked to aggravation of asthma, and is likely to be one of many causes of asthma development and long-term exposures to higher concentrations of ozone may also be linked to permanent lung damage, such as abnormal lung development in children.[5] According to CARB, inhalation of ozone causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms and exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath.[6] The USEPA states that people most at risk from breathing air containing ozone include people with asthma, children, older adults, and people who are active outdoors, especially outdoor workers.[7] Children are at greatest risk from exposure to ozone because their lungs are still developing and they are more likely to be active outdoors when ozone levels are high, which increases their exposure.[8] According to CARB, studies show that children are no more or less likely to suffer harmful effects than adults; however, children and teens may be more susceptible to ozone and other pollutants because they spend nearly twice as much time outdoors and engaged in vigorous activities compared to adults.[9] Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults and are less likely than adults to notice their own symptoms and avoid harmful exposures.[10] Further research may be able to better distinguish between health effects in children and adults.[11]

- **Volatile Organic Compounds (VOCs):** VOCs are organic chemical compounds of carbon and are not "criteria" pollutants themselves; however, they contribute with NO_X to form ozone, and are regulated to prevent the formation of ozone.[12] According to CARB, some VOCs are highly reactive and play a critical role in the formation of ozone, other VOCs have adverse health effects, and in some cases, VOCs can be both highly reactive and have adverse health effects.[13] VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids, internal combustion associated with motor vehicle usage, and consumer products (e.g., architectural coatings, etc.).[14]

  Nitrogen Dioxide (NO_2) and Nitrogen Oxides (NO_X): NO_X is a term that refers to a group of compounds containing nitrogen and oxygen. The primary compounds of air quality concern include NO_2 and nitric oxide (NO). Ambient air quality standards have been promulgated for NO_2, which is a reddish-brown, reactive gas.[15] The principle form of NO_X produced by combustion is NO, but NO reacts quickly in the atmosphere to form NO_2,

4 United States Environmental Protection Agency, Health Effects of Ozone Pollution.
5 United States Environmental Protection Agency, Health Effects of Ozone Pollution.
6 California Air Resources Board, Ozone & Health, Health Effects of Ozone, https://ww2.arb.ca.gov/resources/ozone-and-health. Accessed January 2019.
7 United States Environmental Protection Agency, Health Effects of Ozone Pollution.
8 United States Environmental Protection Agency, Health Effects of Ozone Pollution.
9 California Air Resources Board, Ozone & Health, Health Effects of Ozone.
10 California Air Resources Board, Ozone & Health, Health Effects of Ozone.
11 California Air Resources Board, Ozone & Health, Health Effects of Ozone.
12 United States Environmental Protection Agency, Technical Overview of Volatile Organic Compounds, https://www.epa.gov/indoor-air-quality-iaq/technical-overview-volatile-organic-compounds, last updated April 12, 2017. Accessed January 2019.
13 California Air Resources Board, Toxic Air Contaminants Monitoring, Volatile Organic Compounds, https://www.arb.ca.gov/aaqm/toxics.htm, last reviewed June 9, 2016. Accessed January 2019.
14 California Air Resources Board, Toxic Air Contaminants Monitoring, Volatile Organic Compounds.
15 California Air Resources Board, Nitrogen Dioxide & Health, https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health. Accessed January 2019.

creating the mixture of NO and NO_2 referred to as NO_X.[16] Major sources of NO_X include emissions from cars, trucks and buses, power plants, and off-road equipment.[17] The terms NO_X and NO_2 are sometimes used interchangeably. However, the term NO_X is typically used when discussing emissions, usually from combustion-related activities, and the term NO_2 is typically used when discussing ambient air quality standards. Where NO_X emissions are discussed in the context of the thresholds of significance or impact analyses, the discussions are based on the conservative assumption that all NO_X emissions would oxidize in the atmosphere to form NO_2. According to the USEPA, short-term exposures to NO_2 can potentially aggravate respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms while longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections.[18] According to CARB, controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics.[19] In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.[20] Infants and children are particularly at risk from exposure to NO_2 because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration while in adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.[21] CARB states that much of the information on distribution in air, human exposure and dose, and health effects is specifically for NO_2 and there is only limited information for NO and NO_X, as well as large uncertainty in relating health effects to NO or NO_X exposure.[22]As shown below in Table 4, the Air Basin is designated as attainment for NO_2 and non-attainment for ozone (NAAQS and CAAQS). The primary pollutant of concern during construction and operational activities is NO_X since the Air Basin is non-attainment for ozone and NO_X is an ozone precursor emission.

- **Carbon Monoxide (CO):** Carbon monoxide (CO) is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel, such as natural gas, gasoline, or wood, with the majority of outdoor CO emissions from mobile sources.[23] According to the USEPA, breathing air with a high concentration of CO reduces the amount of oxygen that can be transported in the blood stream to critical organs like the heart and brain and at very high levels, which are possible indoors or in other enclosed environments, CO can cause dizziness, confusion, unconsciousness and death.[24] Very high levels of CO are not likely to occur outdoors; however, when CO levels are elevated outdoors, they can be of

16 California Air Resources Board, Nitrogen Dioxide & Health.

17 United States Environmental Protection Agency, Nitrogen Dioxide (NO_2) Pollution, https://www.epa.gov/no2-pollution/basic-information-about-no2, last updated September 8, 2016. Accessed January 2019.

18 United States Environmental Protection Agency, Nitrogen Dioxide (NO_2) Pollution.

19 California Air Resources Board, Nitrogen Dioxide & Health.

20 California Air Resources Board, Nitrogen Dioxide & Health.

21 California Air Resources Board, Nitrogen Dioxide & Health.

22 California Air Resources Board, Nitrogen Dioxide & Health.

23 California Air Resources Board, Carbon Monoxide & Health, https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health. Accessed January 2019.

24 United States Environmental Protection Agency, Carbon Monoxide (CO) Pollution in Outdoor Air, https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution, last updated September 8, 2016. Accessed January 2019.

particular concern for people with some types of heart disease since these people already have a reduced ability for getting oxygenated blood to their hearts and are especially vulnerable to the effects of CO when exercising or under increased stress.[25] In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina.[26] According to CARB, the most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain.[27] For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress; inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance.[28] Unborn babies, infants, elderly people, and people with anemia or with a history of heart or respiratory disease are most likely to experience health effects with exposure to elevated levels of CO.[29]

- **Sulfur Dioxide (SO_2):** According to the USEPA, the largest source of sulfur dioxide (SO_2) emissions in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities while smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore; natural sources such as volcanoes; and locomotives, ships and other vehicles and heavy equipment that burn fuel with a high sulfur content.[30] In 2006, California phased-in the ultra-low-sulfur diesel regulation limiting vehicle diesel fuel to a sulfur content not exceeding 15 parts per million, down from the previous requirement of 500 parts per million, substantially reducing emissions of sulfur from diesel combustion.[31] According to the USEPA, short-term exposures to SO_2 can harm the human respiratory system and make breathing difficult.[32] According to CARB, health effects at levels near the State one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity and exposure at elevated levels of SO_2 (above 1 ppm) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.[33] Children, the elderly, and those with asthma, cardiovascular disease, or chronic lung disease (such as bronchitis or emphysema) are most likely to experience the adverse effects of SO_2.[34,35]

- **Particulate Matter (PM10 and PM2.5):** Particulate matter air pollution is a mixture of solid particles and liquid droplets found in the air.[36] Some particles, such as dust, dirt, soot, or

25 United States Environmental Protection Agency, Carbon Monoxide (CO) Pollution in Outdoor Air

26 United States Environmental Protection Agency, Carbon Monoxide (CO) Pollution in Outdoor Air

27 California Air Resources Board, Carbon Monoxide & Health.

28 California Air Resources Board, Carbon Monoxide & Health.

29 California Air Resources Board, Carbon Monoxide & Health.

30 United States Environmental Protection Agency, Sulfur Dioxide (SO_2) Pollution, https://www.epa.gov/so2-pollution/sulfur-dioxide-basics, last updated June 28, 2018. Accessed January 2019.

31 California Air Resources Board, Final Regulation Order, Amendments to the California Diesel Fuel Regulations, Amend Section 2281, Title 13, California Code of Regulations, https://www.arb.ca.gov/regact/ulsd2003/fro2.pdf, approved July 15, 2004. Accessed January 2019.

32 United States Environmental Protection Agency, Sulfur Dioxide (SO_2) Pollution.

33 California Air Resources Board, Sulfur Dioxide & Health, https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health. Accessed January 2019.

34 California Air Resources Board, Sulfur Dioxide & Health.

35 United States Environmental Protection Agency, Sulfur Dioxide (SO_2) Pollution.

36 United States Environmental Protection Agency, Particulate Matter (PM) Pollution, https://www.epa.gov/pm-pollution/particulate-matter-pm-basics, last updated November 14, 2018. Accessed January 2019.

smoke, are large or dark enough to be seen with the naked eye while other particles are so small they can only be detected using an electron microscope.[37] Particles are defined by their diameter for air quality regulatory purposes: inhalable particles with diameters that are generally 10 micrometers and smaller (PM10); and fine inhalable particles with diameters that are generally 2.5 micrometers and smaller (PM2.5).[38] Thus, PM2.5 comprises a portion or a subset of PM10. Sources of PM10 emissions include dust from construction sites, landfills and agriculture, wildfires and brush/waste burning, industrial sources, and wind-blown dust from open lands.[39] Sources of PM2.5 emissions include combustion of gasoline, oil, diesel fuel, or wood.[40] PM10 and PM2.5 may be either directly emitted from sources (primary particles) or formed in the atmosphere through chemical reactions of gases (secondary particles) such as SO_2, NO_X, and certain organic compounds.[41] According to CARB, both PM10 and PM2.5 can be inhaled, with some depositing throughout the airways; PM10 is more likely to deposit on the surfaces of the larger airways of the upper region of the lung while PM2.5 is more likely to travel into and deposit on the surface of the deeper parts of the lung, which can induce tissue damage, and lung inflammation.[42] Short-term (up to 24 hours duration) exposure to PM10 has been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency department visits.[43] The effects of long-term (months or years) exposure to PM10 are less clear, although studies suggest a link between long-term PM10 exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that particulate matter in outdoor air pollution causes lung cancer.[44] Short-term exposure to PM2.5 has been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days and long-term exposure to PM2.5 has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children.[45] According to CARB, populations most likely to experience adverse health effects with exposure to PM10 and PM2.5 include older adults with chronic heart or lung disease, children, and asthmatics and children and infants are more susceptible to harm from inhaling pollutants such as PM10 and PM2.5 compared to healthy adults because they inhale more air per pound of body weight than do adults, spend more time outdoors, and have developing immune systems.[46]

- **Lead (Pb):** Major sources of lead emissions include ore and metals processing, piston-engine aircraft operating on leaded aviation fuel, waste incinerators, utilities, and lead-acid battery manufacturers.[47] In the past, leaded gasoline was a major source of lead emissions; however,

37 United States Environmental Protection Agency, Particulate Matter (PM) Pollution.

38 United States Environmental Protection Agency, Particulate Matter (PM) Pollution.

39 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10), https://www.arb.ca.gov/research/aaqs/common-pollutants/pm/pm.htm, last reviewed August 10, 2017. Accessed January 2019.

40 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

41 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

42 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

43 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

44 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

45 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

46 California Air Resources Board, Inhalable Particulate Matter and Health (PM2.5 and PM10).

47 United States Environmental Protection Agency, Lead Air Pollution, https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution, last updated November 29, 2017. Accessed January 2019.

the removal of lead from gasoline has resulted in a decrease of lead in the air by 98 percent between 1980 and 2014.[48] Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system, and affects the oxygen carrying capacity of blood.[49] The lead effects most commonly encountered in current populations are neurological effects in children, such as behavioral problems and reduced intelligence, anemia, and liver or kidney damage.[50] Excessive lead exposure in adults can cause reproductive problems in men and women, high blood pressure, kidney disease, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.[51]

TABLE 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Average Time	California Standards [a]		National Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
O_3 [h]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
NO_2 [i]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemiluminescence	100 ppb (188 µg/m^3)	None	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (100 µg/m^3)	Same as Primary Standard	
CO	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10mg/m^3)		9 ppm (10 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	
SO_2 [j]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[j]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) [j]	—	
PM10 [k]	24 Hour	50 µg/m3	Gravimetric or Beta Attenuation	150 µg/m3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		

48 United States Environmental Protection Agency, Lead Air Pollution.

49 United States Environmental Protection Agency, Lead Air Pollution.

50 California Air Resources Board, Lead & Health, https://ww2.arb.ca.gov/resources/lead-and-health. Accessed January 2019.

51 California Air Resources Board, Lead & Health.

Pollutant	Average Time	California Standards [a]		National Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
PM2.5 [k]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3 [k]	15 µg/m^3	
Lead [l,m]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[m]	Same as Primary Standard	
	Rolling 3-Month Average [m]	--		0.15 µg/m^3		
Visibility Reducing Particles [n]	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates (SO_4)	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [l]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Pollutant	Average Time	California Standards [a]		National Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

[c] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Any equivalent procedure which can be shown to the satisfaction of CARB to give equivalent results at or near the level of the air quality standard may be used.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Reference method as described by the USEPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the USEPA.

[h] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[i] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.

[j] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[k] On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The other PM2.5 and PM10 standards were retained.

[l] CARB has identified lead and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[m] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[n] In 1989, the California Air Resources Board converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

SOURCE: California Air Resources Board, Ambient Air Quality Standards, May 4, 2016. Available: https://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed December 2018.

Toxic Air Contaminants (TACs)

In addition to criteria pollutants, the SCAQMD periodically assesses levels of toxic air contaminants (TACs) in the Air Basin. A TAC is defined by California Health and Safety Code Section 39655:

> *“Toxic air contaminant” means an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health. A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal act (42 U.S.C. Sec. 7412(b)) is a toxic air contaminant.*

Between July 2012 and June 2013, the SCAQMD conducted the Multiple Air Toxics Exposure Study (MATES IV), which is a follow-up to previous air toxics studies conducted in the Air Basin. The MATES IV Final Report was issued in May 2015. The study, based on actual monitored data throughout the Air Basin, consisted of several elements. These included a

monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic risk across the Air Basin from exposure to TACs. The study concluded that the average of the modeled air toxics concentrations measured at each of the monitoring stations in the Air Basin equates to a background cancer risk from long-term inhalation exposure to TAC emissions of approximately 418 in one million based on the average of 10 fixed monitoring sites and 367 in one million based on a population-weighted average risk. The overall cancer risk was about 65 percent lower for the average of 10 fixed monitoring sites and 57 percent lower for the population-weighted risk than the previous MATES III cancer risks.[52]

Approximately 68 percent of the risk is attributed to diesel particulate matter (DPM) emissions, approximately 22 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 10 percent of all airborne carcinogenic risk is attributed to stationary sources (which include industries and certain other businesses, such as dry cleaners and chrome plating operations).[53] The study also found lower ambient concentrations of most of the measured air toxics compared to the levels measured in the previous study conducted during 2004 and 2006. Specifically, benzene and 1,3-butadiene, pollutants generated mainly from vehicles, were down 35 percent and 11 percent, respectively.[54] The reductions were attributed to air quality control regulations and improved emission control technologies. In addition to air toxics, MATES IV included continuous measurements of black carbon and ultrafine particles (particles smaller than 0.1 microns in size), which are emitted by the combustion of diesel fuels. Sampling sites located near heavily-trafficked freeways or near industrial areas were characterized by higher levels of black carbon and ultrafine particles compared to more rural sites.

1.5.2 Local Air Quality

Existing Criteria Pollutant Levels at Nearby Monitoring Stations

The SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin to measure ambient pollutant concentrations. The nearest monitoring station most representative of the Project Site is the Central Los Angeles County Monitoring Station, located 1.35 miles north east of the Project Site at 1603 North Main Street, Los Angeles, CA 90012. Criteria pollutants monitored at this station include O_3, NO_2, CO, SO_2, Pb, PM10 and PM2.5. The most recent data available from the SCAQMD for this monitoring station are from years 2012 to 2016. The pollutant concentration data for these years are summarized in **Table 3,** *Ambient Air Quality Data*. As shown in **Table 3**, the CAAQS and NAAQS were not exceeded in the Project vicinity for most pollutants between 2012 and 2016, except for ozone and particulate matter (PM10 and PM2.5).

52 South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, page ES-2-3, 2015, http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-final-draft-report-4-1-15.pdf?sfvrsn=7. Accessed December 2018.

53 South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, 2015. ES-2.

54 South Coast Air Quality Management District, Final Report – Multiple Air Toxics Exposure Study in the South Coast Air Basin, 2015. 6-1.

TABLE 3
AMBIENT AIR QUALITY DATA

Pollutant/Standard [a]	2012	2013	2014	2015	2016
O_3 (1-hour)					
Maximum Concentration (ppm)	0.093	0.081	0.113	0.104	0.103
Days > CAAQS (0.09 ppm)	0	0	3	2	2
O_3 (8-hour)					
Maximum Concentration (ppm)	0.077	0.069	0.094	0.074	0.078
4th High 8-hour Concentration (ppm)	0.068	0.060	0.072	0.072	0.071
Days > CAAQS (0.070 ppm)	2	0	7	6	4
Days > NAAQS (0.070 ppm)	2	0	7	6	4
NO_2 (1-hour)					
Maximum Concentration (ppm)	0.077	0.090	0.082	0.079	0.065
98th Percentile Concentration (ppm)	0.069	0.063	0.067	0.062	0.061
NO_2 (Annual)					
Annual Arithmetic Mean (0.030 ppm)	0.025	0.022	0.022	0.022	0.021
CO (1-hour)					
Maximum Concentration (ppm)	N/A	N/A	3	3.2	1.9
Days > CAAQS (20 ppm)	0	0	0	0	0
CO (8-hour)					
Maximum Concentration (ppm)	1.9	2.0	2.0	1.8	1.4
Days > CAAQS (9.0 ppm)	0	0	0	0	0
SO_2 (1-hour)					
Maximum Concentration (ppm)	0.005	0.006	0.005	0.013	0.013
99th Percentile Concentration (ppm)	0.005	0.005	0.004	0.006	0.003
Days > CAAQS (0.075 ppm)	0	0	0	0	0
SO_2 (24-hour)					
Maximum Concentration (ppm)	0.002	0.002	0.001	0.001	0.001
Days > CAAQS (0.14 ppm)	0	0	0	0	0
PM10 (24-hour)					
Maximum Concentration (µg/m^3)	80	57	87	88	67 [b]
Samples > CAAQS (50 µg/m^3)	4	1	32	26	18
Samples > NAAQS (150 µg/m^3)	0	0	0	0	0
PM10 (Annual Average)					
Annual Arithmetic Mean (20 µg/m^3)	30.2	29.5	35.4	33.0	32.4
PM2.5 (24-hour)					
Maximum Concentration (µg/m^3)	58.7	43.1	59.9 [b]	56.4	44.4
98th Percentile Concentration (µg/m^3)	31.8	29.0	34.5	38.0	27.3
Samples > NAAQS (35 µg/m^3)	4	1	6	7	2
PM2.5 (Annual)					
Annual Arithmetic Mean (12 µg/m^3)	12.6	12.0	12.4	12.4	11.8
Lead					
Maximum 30-day average (µg/m^3)	0.014	0.013	0.013	0.013	0.016
Samples > CAAQS (1.5 µg/m^3)	0	0	0	0	0

[a] ppm = parts per million; µg/m^3 = micrograms per cubic meter
[b] Exceptional events occurred in 2013 for PM2.5. Exceptional events are not considered violations of an ambient air quality standard.

SOURCE: South Coast Air Quality Management District, Historical Data by Year, http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year; California Air Resources Board, Air Quality Data Statistics, http://www.arb.ca.gov/adam/; U.S. Environmental Protection Agency, AirData, http://www.epa.gov/airdata/ad_rep_mon.html. Accessed December 2018.

Existing Toxic Air Contaminant Risk Levels

The SCAQMD has prepared a series of maps that show regional trends in estimated outdoor long-term inhalation cancer risk from toxic emissions, as part of an ongoing effort to provide insight into relative risks. The maps represent the estimated number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years). The background potential cancer risk per million people using the update OEHHA methodology is estimated at 1,830 per million (compared to an overall South Coast Air Basin-wide risk of 1,023 per million).[55] Generally, the risk from air toxics is lower near the coastline: it increases inland, with higher risks concentrated near diesel sources (e.g., freeways, airports, and ports).

Sensitive Receptors and Locations

Certain population groups, such as children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases), are considered more sensitive to the potential effects of air pollution than others. As a result, certain land uses that are occupied by these population groups, such as residences, hospitals and schools, are considered to be air quality sensitive land uses. The Project Site is primarily surrounded by civic and commercial uses, although there are areas of air quality sensitive land uses within 1,000 feet of the Project Site, as shown in **Figure 3,** *Sensitive Receptor Locations Nearest to the Project Site*. Air quality sensitive land uses nearest to the Project Site are described below. Maximum air quality impacts are evaluated for these air quality sensitive land uses. Other air quality sensitive land uses are located farther from the Project Site and would experience lower impacts.

- The City Hall Park is located approximately 150 feet feet to the northeast of the Project Site, respectively.
- Grand Park is located approximately 434 feet to the north of the Project Site.
- The one-acre park just south of the LAPD Headquarters Building is located approximately 80 feet southeast of the Project Site.
- The Higgins Building Lofts apartment complex is located at the corner of S. Main Street and West 2nd Street approximately 250 feet southeast of the Project Site.
- The Douglas Lofts apartment complex is located at the corner of Spring Street and West 3rd Street approximately 530 feet southwest of the Project Site.
- The Victor Clothing apartment complex is located on Broadway approximately 480 feet to the southwest of the of the Project Site.
- The Pan American Lofts building is located at the corner of Broadway and W. 3rd Street approximately 550 feet southwest of the Project Site.

[55] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study, MATES IV Carcinogenic Risk Interactive Map, https://scaqmd-online.maps.arcgis.com/apps/webappviewer/index.html?id=470c30bc6daf4ef6a43f0082973ff45f. Accessed December 2018.

- The newly constructed STOA apartment complex is located on S. Main Street approximately 550 feet southeast of the Project Site.

Future Sensitive Receptors and Locations (Sensitive Receptors Not Built Yet)

Beyond the existing development that could potentially be impacted by Project construction, there are three future projects in the nearby vicinity of the Project Site that could be impacted should they become constructed and occupied prior to the construction of the Project. Future sensitive land uses in close proximity to the Project Site are also shown in **Figure 3**, and include the following:

- A mixed-use residential development is planned for construction over the future Metro station at the corner of 2nd Street and Broadway approximately 50 feet southwest of the Project Site.

- The First and Broadway Civic Center Park will be constructed at the corner of 1st and Broadway approximately 130 feet northwest of the Project Site.

- The Lotus 77 apartment complex will be constructed at 118 Astronaut E S Onizuka Street approximately 1,300 feet southeast of the Project Site.

SECTION 2
Regulatory Setting

A number of statutes, regulations, plans and policies have been adopted which address air quality concerns. The Project Site and vicinity is subject to air quality regulations developed and implemented at the federal, State, and local levels. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of the federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile source requirements and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g., stationary source requirements) are implemented through delegation of authority to State and local agencies. A number of plans and policies have been adopted by various agencies that address air quality concerns. Those plans and policies that are relevant to the Project are discussed below.

2.1 Federal

The federal Clean Air Act of 1963 was the first federal legislation regarding air pollution control and has been amended numerous times in subsequent years, with the most recent amendments occurring in 1990. At the federal level, USEPA is responsible for implementation of certain portions of the Clean Air Act including mobile source requirements. Other portions of the Clean Air Act, such as stationary source requirements, are implemented by state and local agencies.

The Clean Air Act establishes federal air quality standards, known as NAAQS and specifies future dates for achieving compliance. The Clean Air Act also mandates that the state submit and implement a State Implementation Plan for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met. The 1990 amendments to the Clean Air Act identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the Clean Air Act which are most applicable to the Project include Title I (Non-attainment Provisions) and Title II (Mobile Source Provisions).

Title I requirements are implemented for the purpose of attaining NAAQS for the following criteria pollutants: (1) O_3; (2) NO_2; (3) CO; (4) SO_2; (5) PM10; (6) PM2.5, and (7) lead. The NAAQS were amended in July 1997 to include an 8-hour standard for O_3 and to adopt a NAAQS for PM2.5. The NAAQS were also amended in September 2006 to include an established methodology for calculating PM2.5 as well as revoking the annual PM10 threshold. **Table 3** shows the NAAQS currently in effect for each criteria pollutant.

Table 4, *South Coast Air Basin Attainment Status (Los Angeles County)*, shows the attainment status of the Air Basin for each criteria pollutant. As shown in **Table 4**, the Air Basin is currently in non-attainment for O_3, PM2.5, and one area of the Air Basin for Pb under the NAAQS.

TABLE 4
SOUTH COAST AIR BASIN ATTAINMENT STATUS (LOS ANGELES COUNTY)

Pollutant	National Standards (NAAQS)	California Standards (CAAQS)
O_3 (1-hour standard)	N/A [a]	Non-attainment – Extreme
O_3 (8-hour standard)	Non-attainment – Extreme	Non-attainment
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
PM10	Attainment	Non-attainment
PM2.5	Non-attainment – Serious	Non-attainment
Lead (Pb)	Non-attainment (Partial) [b]	Attainment
Visibility Reducing Particles	N/A	Unclassified
Sulfates	N/A	Attainment
Hydrogen Sulfide	N/A	Unclassified
Vinyl Chloride [c]	N/A	N/A

NOTES: N/A = not applicable

[a] The NAAQS for 1-hour ozone was revoked on June 15, 2005, for all areas except Early Action Compact areas.

[b] Partial Non-attainment designation – Los Angeles County portion of the Air Basin only for near-source monitors.

[c] In 1990, the California Air Resources Board identified vinyl chloride as a toxic air contaminant and determined that it does not have an identifiable threshold. Therefore, the California Air Resources Board does not monitor or make status designations for this pollutant.

SOURCE: United States Environmental Protection Agency, Non-Attainment Areas for Criteria Pollutants (Greenbook), Last Updated September 30, 2018, https://www.epa.gov/green-book. Accessed December 2018; California Air Resources Board, Area Designations Maps/State and National, Last Reviewed October 18, 2017, http://www.arb.ca.gov/desig/adm/adm.htm. Accessed December 2018.

In addition to criteria pollutants, Title I also includes air toxics provisions which require the USEPA to develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health. In accordance with Section 112, the USEPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs). The list of hazardous air pollutants (HAPs), or air toxics, includes specific compounds that are known or suspected to cause cancer or other serious health effects.

Title II requirements pertain to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles which have strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially, and the specification requirements for cleaner burning gasoline are more stringent.



SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square

Figure 3

Sensitive Receptor Locations Nearest to the Project Site

ESA

2.2 State of California

2.2.1 California Air Resources Board

CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal Clean Air Act from the USEPA.

2.2.2 California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the CAAQS by the earliest practical date. The CAAQS apply to the same criteria pollutants as the federal Clean Air Act but also include state-identified criteria pollutants, which include sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. CARB has primary responsibility for ensuring the implementation of the California Clean Air Act,[56] responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. **Table 2** shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the state. As shown in **Table 2**, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. **Table 4** provides a summary of the attainment status of the Los Angeles County portion of the Air Basin with respect to the state standards. The Air Basin is designated as attainment for the California standards for sulfates and unclassified for hydrogen sulfide and visibility-reducing particles.[57] As shown in **Table 4**, the Air Basin is currently in non-attainment for O_3, PM10, and PM2.5 under the CAAQS. Since vinyl chloride is a carcinogenic toxic air contaminant, CARB does not classify attainment status for this pollutant.

2.2.3 Air Quality and Land Use Handbook

CARB published the *Air Quality and Land Use Handbook* in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect

56 Chapter 1568 of the Statutes of 1988.

57 California Air Resources Board, State Area Designations Definitions, 2016, https://www.arb.ca.gov/desig/adm/define.htm. The term unclassified is defined by CARB as a category given to an area with insufficient data and are treated as attainment areas for regulatory purposes.

sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines; and (4) avoid siting sensitive receptors within 300 feet of a large gasoline dispensing facility (3.6 million gallons per year or more) or 50 feet of a typical gasoline dispensing facility (less than 3.6 million gallons per year).[58]

2.2.4 On-Road and Off-Road Vehicle Rules

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB approved the Truck and Bus regulation to reduce NO_X, PM10, and PM2.5 emissions from existing diesel vehicles operating in California (13 CCR, Section 2025).[59] The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. For the largest trucks in the fleet, those with a GVWR greater than 26,000 pounds, there are two methods to comply with the requirements. The first way is for the fleet owner to retrofit or replace engines, starting with the oldest engine model year, to meet 2010 engine standards, or better. This is phased over 8 years, starting in 2015 and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this option would meet or exceed the 2010 engine emission standards for NO_X and DPM by 2023. The second option, if chosen, requires fleet owners, starting in 2012, to retrofit a portion of their fleet with diesel particulate filters (DPFs) achieving at least 85 percent removal efficiency, so that by January 1, 2016 their entire fleet is equipped with DPFs. However, DPFs do not lower NO_X emissions. Thus, fleet owners choosing the second option must still comply with the 2010 engine emission standards for their trucks and busses by 2020.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standard for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel

[58] California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, 2005. Available at: https://www.arb.ca.gov/ch/handbook.pdf. Accessed December 2018.

[59] California Air Resources Board, Final Regulation Order, Amendments to the Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use On-Road Diesel-Fueled Vehicles, http://www.arb.ca.gov/msprog/onrdiesel/documents/TBFinalReg.pdf. Accessed December 2018.

soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR, Section 2449).[60] Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with large fleets beginning compliance in 2014, medium fleets in 2017, and small fleets in 2019. Each fleet must demonstrate compliance through one of two methods. The first option is to calculate and maintain fleet average emissions targets, which encourages the retirement or repowering of older equipment and rewards the introduction of newer cleaner units into the fleet. The second option is to meet the Best Available Control Technology (BACT) requirements by turning over or installing Verified Diesel Emission Control Strategies (VDECS) on a certain percentage of its total fleet horsepower. The compliance schedule requires that BACT turn overs or retrofits (VDECS installation) be fully implemented by 2023 in all equipment for large and medium fleets and across 100 percent of small fleets by 2028.

2.3 Regional

2.3.1 South Coast Air Quality Management District

The SCAQMD has jurisdiction over air quality planning for all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a subregion within SCAQMD jurisdiction. While air quality in the Air Basin has improved, the Air Basin requires continued diligence to meet the air quality standards.

Air Quality Management Plan

The SCAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. The 2012 AQMP incorporates scientific and technological information and planning assumptions, including regional growth projections[61] to achieve federal standards for air quality in the Air Basin. It incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, and on-road and off-road mobile sources. The 2012 AQMP includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. Additionally, it highlights the significant amount of emission reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal Clean Air Act.

The SCAQMD released the Draft 2016 AQMP on June 30, 2016 for public review and comment. A revised Draft 2016 AQMP was released in October 2016 and the SCAQMD

60 California Air Resources Board, Final Regulation Order, Regulation for In-Use Off-Road Diesel-Fueled Fleets, http://www.arb.ca.gov/regact/2010/offroadlsi10/finaloffroadreg.pdf. Accessed December 2018.

61 South Coast Air Quality Management District, 2012 Air Quality Management Plan, 2013, http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan. Accessed February December 2018.

Governing Board adopted the 2016 AQMP on March 3, 2017.[62] CARB approved the 2016 AQMP on March 23, 2017. Key elements of the 2016 AQMP include implementing fair-share emissions reductions strategies at the federal, state, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits from greenhouse gas, energy, transportation and other planning efforts.[63] The strategies included in the 2016 AQMP are intended to demonstrate attainment of the NAAQS for the federal non-attainment pollutants ozone and PM2.5.[64] Similar to the 2012 AQMP, the 2016 AQMP relies on "…aggressive mobile source control strategy supplemented with focused and strategic stationary source control measures." The 2016 AQMP also recognizes the reduction in traditional air pollutants which occur as a "co-benefit" with the reduction in climate change-related pollutants achieved through greenhouse gas (GHG) emission reduction programs and policies, and commercial building energy efficiency measures.[65] This analysis considers the 2016 AQMP as the most recent SCAQMD adopted plan.

Air Quality Guidance Documents

The SCAQMD published the California Environmental Quality Act (CEQA) Air Quality Handbook to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts.[66] The CEQA Air Quality Handbook provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook. While this process is underway, the SCAQMD recommends that lead agencies avoid using the screening tables in Chapter 6 (Determining the Air Quality Significance of a Project) of the CEQA Air Quality Handbook, because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory, and the trip generation characteristics of the land uses identified in these screening tables were based on the fifth edition of the Institute of Transportation Engineer's Trip Generation Manual, instead of the most current edition. Additionally, the lead agency should avoid using the on-road mobile source emission factors in Table A9-5-J1 through A9-5-L (EMFAC7EP Emission Factors for Passenger Vehicles and Trucks, Emission Factors for Estimating Material Hauling, and Emission Factors for Oxides of Sulfur and Lead). The SCAQMD instead recommends using other approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod) software.[67] The SCAQMD has published a guidance document called the *Final Localized*

62 South Coast Air Quality Management District, 2016 Air Quality Management Plan (AQMP). Available: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15. Accessed December 2018.

63 Ibid.

64 South Coast Air Quality Management District, NAAQS/CAAQS and Attainment Status for South Coast Air Basin, 2016. Available at http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2. December 2018.

65 South Coast Air Quality Management District, NAAQS/CAAQS and Attainment Status for South Coast Air Basin, 2016.

66 South Coast Air Quality Management District, CE Air Quality Handbook (1993). Available: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). Accessed December 2018.

67 South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

Significance Threshold Methodology that is intended to provide guidance in evaluating localized effects from mass emissions during construction.[68] The SCAQMD adopted additional guidance regarding PM2.5 in a document called *Final Methodology to Calculate Particulate Matter ($PM)_{2.5}$ and PM2.5 Significance Thresholds*.[69] This latter document has been incorporated by the SCAQMD into its CEQA significance thresholds and Localized Significance Threshold Methodology.

SCAQMD Rules and Regulations

Several SCAQMD rules adopted to implement portions of the AQMP may apply to the proposed Project. The Project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which apply to the Project:

- **Rule 401 – Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.

- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter (µg/m3) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for specific sources. The following is a list of rules which may apply to the Project:

- **Rule 1113 – Architectural Coatings:** This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the

[68] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, 2008. Available: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed December 2018.

[69] South Coast Air Quality Management District, Final Methodology to Calculate Particulate Matter ($PM)_{2.5}$ and $PM_{2.5}$ Significance Thresholds, 2006. Available: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/pm-2-5-significance-thresholds-and-calculation-methodology. Accessed December 2018.

use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- **Rule 1138 – Control of Emissions from Restaurant Operations:** This rule specifies emissions and odor control requirements for commercial cooking operations that use chain-driven charbroilers to cook meat.

- **Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters:** This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.

- **Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations:** This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).

Regulation XIII – New Source Review (NSR): Regulation XIII sets requirements for preconstruction review required under both federal and state statutes for new and modified sources located in areas that do not meet the Clean Air Act standards ("non-attainment" areas). NSR applies to both individual permits and entire facilities. Any permit that has a net increase in emissions is required to apply BACT. Facilities with a net increase in emissions are required to offset the emission increase by use of Emission Reduction Credits (ERCs). The regulation provides for the application, eligibility, registration, use and transfer of ERCs. For low emitting facilities, the SCAQMD maintains an internal bank that can be used to provide the required offsets. In addition, certain facilities are subject to provisions that require public notice and modeling analysis to determine the downwind impact prior to permit issuance.

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants. The following is a list of rules which may apply to the Project:

- **Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities:** This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

- **Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines:** This rule applies to stationary compression ignition (CI) engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

2.3.2 Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated Metropolitan Planning Organization (MPO) for the majority of the Southern California region and is the largest MPO in the nation, where by law, SCAG is required to ensure that transportation activities are supportive of and comply with the goals of regional and state air quality plans in order to attain the NAAQS. In addition, SCAG co-produces the transportation strategy and transportation control measure sections of the AQMP with the SCAQMD for the Air Basin. With regard to air quality planning, SCAG adopted the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in April 2016, which addresses regional development and growth forecasts and forms the basis for the land use and transportation control portions of the AQMP. The growth forecasts are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP/SCS and AQMP are based on projections originating within local jurisdictions.

SCAG's Sustainable Communities Strategy provides specific implementation strategies. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and culture and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles. [70]

In 2008, SCAG released the Regional Comprehensive Plan which addresses regional issues such as housing, traffic/transportation, water, and air quality. The Regional Comprehensive Plan serves as an advisory document to local agencies in the Southern California region for their information and voluntary use for preparing local plans and handling local issues of regional significance. The Regional Comprehensive Plan presents a vision of how Southern California can balance air quality with growth and development by including goals such as: reducing emissions of criteria pollutants to attain federal air quality standards by prescribed dates and stated ambient air quality standards as soon as practicable; reverse current trends in GHG emissions to support sustainability goals for energy, water supply, agriculture, and other resource areas; and to minimize land uses that increase the risk of adverse air pollution-related health impacts from exposure to TACs, particulates (PM10 and PM2.5) and CO.

[70] Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, pages 74-101, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf. Accessed December 2018.

2.4 Local

Local jurisdictions, such as the City of Los Angeles, have the authority and responsibility to reduce air pollution through its land use decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City's General Plan Air Quality Element includes city-wide goals, objectives, and policies related to air quality resources. A number of these goals, objectives, and policies are relevant to the Project and are related to traffic mobility, minimizing particulate emissions from construction activities, discouraging single-occupancy vehicle trips, managing traffic congestion during peak hours, and increasing energy efficiency in City facilities and private developments.

The City of Los Angeles is also responsible for the implementation of transportation control measures, as outlined in the AQMP. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts as appropriate, installation of energy-efficient streetlights, and synchronization of traffic signals. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation measures.

SECTION 3
Thresholds of Significance

3.1 State CEQA Guidelines Appendix G

In accordance with the State CEQA Guidelines Appendix G (Appendix G), the Project would have a significant impact related to air quality if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

For this analysis, the Appendix G Thresholds are relied upon. The analysis utilizes factors and considerations identified in the 2006 L.A. CEQA Thresholds Guide and criteria from the SCAQMD, as appropriate, to assist in answering the Appendix G Threshold questions.

3.2 2006 L.A. CEQA Thresholds Guide

The L.A. CEQA Thresholds Guide (*Thresholds Guide*), identifies the following factors for consideration on a case-by-case basis to evaluate air quality impacts:

Construction

- Combustion Emissions from Construction Equipment
  - Type, number of pieces and usage for each type of construction equipment;
  - Estimated fuel usage and type of fuel (diesel, natural gas) for each type of equipment; and
  - Emission factors for each type of equipment.
- Fugitive Dust: Grading, Excavation and Hauling

- Amount of soil to be disturbed on-site or moved off-site;
- Emission factors for disturbed soil;
- Duration of grading, excavation and hauling activities;
- Type and number of pieces of equipment to be used; and
- Projected haul route.

– Fugitive Dust: Heavy-Duty Equipment Travel on Unpaved Roads

- Length and type of road;
- Type, number of pieces, weight and usage of equipment; and
- Type of soil.

– Other Mobile Source Emissions

- Number and average length of construction worker trips to project site, per day; and
- Duration of construction activities.

While these factors are important inputs in determining the amounts and nature of air pollution emissions generated by a project during construction, construction air quality emissions are also evaluated in accordance with the most recent criteria adopted by the SCAQMD in connection with its *CEQA Air Quality Handbook, Air Quality Analysis Guidance Handbook,* and subsequent SCAQMD guidance as discussed below.[71]

a) Regional Emissions

The SCAQMD has established regional numerical emission indicators of significance for construction and operational activities. The numerical emission indicators are based on the recognition that the Air Basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health.[72] Given that construction impacts are temporary and limited to the construction phase, the SCAQMD has established numerical indicators of significance specific to construction activity. Based on the indicators in the SCAQMD CEQA Air Quality Handbook,[73] the Project would potentially cause or contribute to an exceedance of an ambient air quality standard if Project construction or operation would generate regional emissions that would exceed the following:

71 While the SCAQMD CEQA Air Quality Handbook contains significance thresholds for lead, project construction and operation would not include sources of lead emissions and would not exceed the established thresholds for lead. Unleaded fuel and unleaded paints have virtually eliminated lead emissions from commercial land use projects such as the Project. As a result, lead emissions are not further evaluated in this Technical Report.

72 South Coast Air Quality Management District, CEQA Air Quality Handbook, (1993).

73 South Coast Air Quality Management District, Air Quality Significance Thresholds, 2015, http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2. Accessed December 2018.

- Construction:
  - 75 pounds a day for VOC
  - 100 pounds per day for NO_X
  - 550 pounds per day for CO
  - 150 pounds per day for SO_2
  - 150 pounds per day for PM10
  - 55 pounds per day for PM2.5
- Operation:
  - 55 pounds a day for VOC
  - 55 pounds per day for NO_X
  - 550 pounds per day for CO
  - 150 pounds per day for SO_2
  - 150 pounds per day for PM10
  - 55 pounds per day for PM2.5

b) Localized Emissions

In addition to the regional numerical emission indicators of significance listed above, the SCAQMD has developed a methodology to assess the potential for localized emissions to cause an exceedance of applicable ambient air quality standards or ambient concentration limits. Impacts would be considered significant if the following would occur:

- Maximum daily localized emissions of NO_X and/or CO during construction or operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent ambient air quality standards for NO_2 and/or CO.[74]
- Maximum daily localized emissions of PM10 and/or PM2.5 during construction are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site to exceed 10.4 $\mu g/m^3$ over 24 hours (SCAQMD Rule 403 control requirement).
- Maximum daily localized emissions of PM10 and/or PM2.5 during operation are greater than the applicable localized significance thresholds, resulting in predicted ambient concentrations in the vicinity of the Project Site to exceed 2.5 $\mu g/m^3$ over 24 hours (SCAQMD Rule 1303 allowable change in concentration).

The SCAQMD has established localized screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards or ambient concentration limits without project-specific dispersion modeling. The use of the localized screening criteria are conservative mass daily emission limits that would satisfy the

74 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, 2008.

concentration-based limits listed above. This analysis uses the localized screening criteria to evaluate impacts from localized emissions where applicable.

To evaluate potential impacts associated with mobile sources, this assessment evaluates the potential for the Project to cause the following condition to would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:

- The Project would cause or contribute to an exceedance of the CAAQS 1-hour or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively.

Based on the criteria set forth by the SCAQMD, the Project would expose sensitive receptors to substantial concentrations of toxic air contaminants if any of the following would occur:[75]

- The Project emits carcinogenic materials or TACs that exceed the maximum incremental cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas greater than or equal to 1 in 1 million) or an acute or chronic hazard index of 1.0.

Per the 2006 L.A. CEQA Thresholds Guide, the determination of significance shall be made on a case-by-case basis, considering the following factors:

- The regulatory framework for the toxic material(s) and process(es) involved;
- The proximity of the toxic air contaminants to sensitive receptors;
- The quantity, volume and toxicity of the contaminants expected to be emitted;
- The likelihood and potential level of exposure; and
- The degree to which a project's design will reduce the risk of exposure.

[75] South Coast Air Quality Management District, CEQA Air Quality Handbook, 1993.

SECTION 4
Methodology

The evaluation of potential impacts to regional and local air quality that may result from the construction and long-term operations of the Project is conducted as follows. Detailed modeling calculations and supporting files are provided in **Appendix C-1** through **C-5** of this Technical Report.

4.1 Consistency with Air Quality Plan

The SCAQMD is required, pursuant to the Clean Air Act, to reduce emissions of criteria pollutants for which the Air Basin is in non-attainment of the NAAQS (e.g., ozone and PM2.5). The SCAQMD's 2012 Air Quality Management Plan contains a comprehensive list of pollution control strategies directed at reducing emissions and achieving the NAAQS. These strategies are developed, in part, based on regional growth projections prepared by the SCAG. Projects that are consistent with the assumptions used in the Air Quality Management Plan do not interfere with attainment because the growth is included in the projections utilized in the formulation of the Air Quality Management Plan. Thus, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the Air Quality Management Plan would be consistent with the Air Quality Management Plan, even if they exceed the SCAQMD's numeric indicators.[76] As noted above, the 2016 AQMP has been adopted by the SCAQMD and CARB. Therefore, this analysis considers the 2016 AQMP. The Project's consistency with the AQMP is evaluated based on consistency with the applicable growth projections and emission control strategies.

4.2 Construction Emissions

Construction of the Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from workers and haul trucks traveling to and from the Project Site, and through building activities, such as the application of paint and other surface coatings. In addition, fugitive dust emissions would result from various soil-handling activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions.

Construction emissions were estimated assuming an early starting period. In order to provide a conservative emissions analysis, for modeling purposes, construction emissions were modeled

[76] South Coast Air Quality Management District, CEQA Air Quality Handbook, Chapter 12, 1993, page 12-1.

with a starting time period in calendar year 2018. The Project would be expected to be fully built-out will full operation of all uses by calendar year 2023. Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. If the onset of construction is delayed to a later date than assumed in the modeling analysis, construction impacts would be less than those analyzed, because a more energy-efficient and cleaner burning construction equipment and vehicle fleet mix would be expected in the future, pursuant to State regulations that require construction equipment fleet operators to phase-in less polluting heavy-duty equipment. As a result, should the Project commence construction on a later date than modeled in this air quality impact analysis, air quality impacts would be less than the impacts disclosed herein. Emissions are estimated using the CalEEMod (Version 2016.3.2) software, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California and is recommended by the SCAQMD.[77]

Daily regional emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The input values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. Construction haul and vendor truck emissions during demolition, grading, concrete pour and building construction were evaluated using regional heavy-duty truck emission factors from EMFAC2014. Daily truck trips and default trip length data were used to assess roadway emissions from truck exhaust. The maximum daily emissions are estimated values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in **Appendix C-2** of this Technical Report.

Construction of the Project is estimated to require approximately 48 months, starting as early as the first quarter of 2019. Subphases of construction would include demolition of the Executive Building and parking structure, site preparation, grading and excavation, foundation pouring, building construction, paving, and architectural coating. Demolition activities would generate approximately 35,000 tons of demolition debris (asphalt and general construction debris). The Project would export approximately 364,000 cubic yards of soil during grading and excavation activities. Heavy-duty equipment, vendor supply trucks and concrete trucks would be used during construction of foundations, parking structures, and buildings. Landscaping and architectural

[77] South Coast Air Quality Management District, California Emissions Estimator Model, http://www.aqmd.gov/caleemod/. Accessed December 2018.

coating would occur during the finishing activities. The maximum daily regional emissions from these activities are estimated by construction phase and compared to the SCAQMD significance thresholds. The maximum daily regional emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. **Table 5**, *Modeled Construction Schedule*, presents the anticipated construction schedule for the Project.

TABLE 5
MODELED CONSTRUCTION SCHEDULE

Phase and Subphase	Start Date [a]	End Date [a]	Work Days
Demolition	7/1/2018	1/31/2019	184
Site Preparation	2/1/2019	2/28/2019	24
Grading	3/1/2019	9/30/2019	183
Foundation (North Tower)	10/1/2019	10/2/2019	2
Foundation (South Tower)	10/3/2019	10/4/2019	2
Subterranean Parking Structure Construction	10/5/2019	6/26/2020	228
Podium Construction	6/27/2020	8/27/2020	53
Building Construction	8/28/2020	10/6/2022	660
Paving	3/1/2022	10/6/2022	189
Architectural Coating	1/1/2021	10/6/2022	552
Renovation [b]	7/1/2018	8/8/2020	660

NOTES:

[a] The emissions were estimated assuming construction begins at the earliest possible date (2018). This provides for a conservative emissions estimate as emission factors decline in future years. Project construction may commence at a later date, which would generally result in similar or reduced emissions, primarily due to vehicles meeting more stringent emissions standards. If construction starts at a later date, emissions could occur in calendar year 2021 and 2022; however, the emissions would be similar or reduced compared to the emissions reported in this Technical Report.

[b] Renovation activity could occur at a later time. In order to provide a conservative assessment, renovation activity was modeled at the earliest possible time since emission factors are higher in earlier years compared to later years.

SOURCE: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018.

Construction haul and vendor truck emissions during grading, concrete pour and building construction were evaluated using regional heavy-duty truck emission factors from EMFAC2014. Daily truck trips and default trip length data were used to assess roadway emissions from truck exhaust, as well as typical CARB idling times of local emissions on-site. Emissions from hauling demolition material and soil are estimated by construction phase. It should be noted that the maximum daily emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The maximum daily emissions are compared to the SCAQMD daily regional numeric indicators.

4.2.1 Emissions from Construction Equipment

Mobile source emissions, primarily NO_X and particulate matter, would result from the use of construction equipment such as bulldozers, wheeled loaders, and cranes. During the finishing phase, the application of architectural coatings (i.e., paints) and other building materials would release reactive organic compounds. Construction emissions can vary substantially from day to

day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Truck and construction equipment emissions will vary with engine model years in which newer equipment will emit fewer pollutants. The CalEEMod model uses an emission rate for equipment and trucks which represents an average model year for available equipment unless the specific emissions standards are applied to the equipment. The proposed Project would incorporate into the Project design the use of standardized and environmentally protective construction equipment consistent with state regulations (13 CCR Section 2449) and SCAQMD AQMP control strategies to control emissions (refer to the discussion of PDFs discussed below). CalEEMod calculates the exhaust emissions based on CARB OFFROAD methodology using the equation presented below.

Construction Off-Road Equipment:

$$Emissions_{Diesel}\,[g] = \sum_i (EF_i \times Pop_i \times AvgHP_i \times Load_i \times Activity_i$$

Where:	EF_i	=	Emission factor from OFFROAD [g/bhp-hr]
	Pop_i	=	Population [quantity of same equipment type]
	$AvgHP_i$	=	Maximum rated average horsepower [hp]
	$Load_i$	=	Load Factor [dimensionless]
	$Activity_i$	=	Hours of operation [hours]
	i	=	Summation index

The CalEEMod tool provides options for specifying equipment, horsepower ratings, load factors, and operational hours per day. Construction equipment lists for each phase of activity were provided by the applicant and/or applicant's construction contractor(s) and architect(s). The amount of construction equipment used and the duration of construction activity could have a substantial effect upon the amount of construction emissions, concentrations and the resulting impacts occurring at any one time. As such, the emission forecasts provided reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Fugitive dust emissions during construction activities were estimated in CalEEMod, which are based on the methods described in the USEPA AP-42 Compilation of Air Pollutant Emission Factors.[78]

4.2.2 Emissions from On-Road Trips

Construction generates on-road vehicle exhaust, evaporative, and dust emissions from personal vehicles for worker and vendor commuting, and trucks for soil and material hauling. These emissions are based on the number of trips and VMT along with emission factors from EMFAC2014.

Running emissions for all pollutants and particulate matter emissions from tire and brake wear were divided by the VMT of each respective vehicle class from each scenario year and adjusted

[78] United States Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emissions Factors, Chapter 13: Miscellaneous Sources, https://www3.epa.gov/ttn/chief/ap42/ch13/index.html.

for unit conversions to derive emission factors in units of grams per VMT. All other emissions (including evaporative) were divided by the number of trips to derive emission factors in units of grams per trip. The emissions from mobile sources were calculated with the trip rates, trip lengths and emission factors for running from EMFAC2014 as follows:

Construction On-Road Trips:

$Emissions_{pollutant} = VMT * EF_{running,pollutant}$

Where: $Emissions_{pollutant}$ = emissions from vehicle running for each pollutant [g]
VMT = vehicle miles traveled [miles]
$EF_{running,pollutant}$ = emission factor for running emissions [g/mile]

4.2.3 Emissions from Architectural Coating

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings. The CalEEMod tool calculates the VOC evaporative emissions from application of residential and non-residential surface coatings using the following equation:

Construction Architectural Coating Emissions:

$E_{AC} = EF_{AC} \times F * A_{paint}$

Where: E = emissions [lb VOC]
EF = emission factor [lb/sqft]
A = building surface area [sqft].

The CalEEMod tool assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user. All of the land use information provided by a metric other than square footage will be converted to square footage using the default conversions or user defined equivalence.

F = fraction of surface area [%].

The default values based on SCAQMD methods used in their coating rules are 75 percent for the interior surfaces and 25 percent for the exterior shell. Parking areas are based on 6 percent coverage.

The emission factor (EF) is based on the VOC content of the surface coatings and is calculated estimated using the equation below:

Construction Surface Coating Emission Factor:

$EF_{AC} = C_{voc} / 454[g/lb] \times 3.785[L/Gal]/180[sqft]$

Where: EF = emission factor [lb/sqft]
C = VOC content [g/L]. This varies by location and year

The emission factors for coating categories are calculated using the equation above based on default VOC content provided by the air districts or CARB's statewide limits.

4.2.4 Emissions from Paving

While there is no specific screen associated with asphalt paving emissions, CalEEMod estimates VOC off-gassing emissions associated with asphalt paving of parking lots using the following equation:

Construction Paving Emissions:

$E_{AP} = EF_{AP} \times A_{Parking}$

Where: E = emissions [lb]
EF = emission factor [lb/acre]. The SMAQMD default emission factor is 2.62 lb/acre.
A = area of the parking lot [acre]

4.3 Operational Emissions

Operation of the Project has the potential to generate criteria pollutant emissions through vehicle trips traveling to and from the Project Site. In addition, emissions would result from area sources on-site such as natural gas combustion from water heaters, landscaping equipment, and use of consumer products. Stationary sources of emissions may also be generated by on-site charbroiling associated with food preparation activities at the proposed restaurant land uses if the restaurant were to install charbroiling equipment. Criteria pollutant emissions would also be generated by point sources including new cooling towers and new emergency generators. Operational impacts were assessed for the existing uses in the year of 2017 (see Table 1 above), which represents the NOP baseline year, and for the full Project buildout year of 2023. Detailed operational emissions calculations are provided in **Appendix C-3** of this Technical Report.

The California Supreme Court issued an opinion regarding the environmental baseline to be used in an EIR for a long-range transportation improvement in the case *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority,* 57 Cal. 4th 439 (2013) (NFSR) in August 2013. In its decision, the Court held in part that "nothing in CEQA precludes an agency...from considering both types of baseline—existing and future conditions—in its primary analysis of the project's significant adverse effects," but if an agency "chooses to evaluate only the impacts on future conditions, foregoing the existing conditions analysis called for under the State CEQA Guidelines," the agency needs to justify that choice. An air-quality analysis of the conditions when the Project becomes fully operational in 2023 would provide the most accurate and environmentally meaningful assessment of the Project's operational air quality impacts, as the Project could not be operational in 2017 because it is seeking entitlements at this time and would require approximately 48 months of construction once the entitlements have been obtained. Thus, any operational impacts produced by modeling a hypothetical 2017 build out year could not in fact occur, and thereby could not realistically create a significant impact on the environment.

The operational emissions were also estimated using the CalEEMod software. CalEEMod was used to forecast the daily regional emissions from area and stationary sources that would occur during long-term Project operations. In calculating mobile-source emissions, the trip length values were based on the distances provided in CalEEMod. The trip distances were applied to the maximum daily trip estimates, based on the trip rates in the Project Transportation Impact Analysis.[79] The trips take into account trip and vehicle miles traveled (VMT) reductions from Project characteristics, including internal capture from co-locating commercial and residential uses on the Project Site, access to nearby mass transit, and the Project Site's proximity to nearby office, library, retail, restaurant, theater, entertainment, park, and other commercial and recreational uses in Downtown Los Angeles.

Area source emissions are based on natural gas combustion rates for building heating, water heaters and cooking, landscaping equipment fuel combustion, and consumer product usage (including paints) rates provided in CalEEMod. Natural gas usage factors in CalEEMod are based on the California Energy Commission (CEC) California Commercial End Use Survey data set, which provides energy demand by building type and climate zone.[80] The Project does not include fireplaces in the design of the residential towers, which consists primarily of studios, one, and two bedroom apartments. Therefore, residential fireplaces were not included in the emissions analysis.

Stationary-source emissions are estimated separately outside of the CalEEMod software. Stationary sources may include charbroiling of meat that may occur on-site during food preparation activities in the restaurant kitchen. Charbroiling emissions are calculated based on emissions factors available from the SCAQMD. In order to provide a conservative analysis, it was assumed that the restaurant uses would charbroil meat with relatively high emission factors (i.e., hamburger meat and chicken). The quantity of meat charbroiled in the restaurant uses are based on survey data from the SCAQMD and San Joaquin Valley Air Pollution Control District. The estimated emissions account for reductions from compliance with emissions control requirements consistent with SCAQMD Rule 1138.

Stationary sources would also include four on-site cooling towers to assist in dissipating heat from commercial processes of the Project, and would utilize a flow rate of approximately 17,820 gallons per day (refer to Section IV.R, *Water Supply*, of the Project's Draft EIR). Emissions from the cooling tower occur as a result of air containing chemical impurities passing through the cooling water in the tower where some of the liquid water is entrained into the air stream and carried out of the tower as "drift" droplets where the particulate matter constituent of the drift droplets may be classified as an emission. Large drift droplets often settle out of the tower exhaust air stream and deposit near the tower, while other drift droplets may evaporate before being deposited in the area surrounding the tower, and they also can produce PM emissions. To estimate daily emissions, particulate matter emission factors for wet cooling towers calculated by

79 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

80 California Energy Commission, California Commercial End-Use Survey. Available at http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed December 2018.

the USEPA were used, conservatively assuming it would operate 24 hours a day, every day of the year using the above mentioned daily flow rate.[81]

Stationary source emissions are estimated for new emergency generators expected in each tower (two generators for the Project), rated at approximately 414 kilowatts (555 horsepower) for the North Tower emergency generator and 623 kilowatts (835 horsepower) for the South Tower emergency generator based on preliminary engineering assumptions. The emergency generators would result in emissions during maintenance and testing operations. The emergency generator emissions are calculated based on compliance with the Tier 4 interim emissions standards and compliance with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) mandated emission limits and operating hour constraints. Emergency generators are permitted by the SCAQMD and regulated under SCAQMD Rule 1470. Maintenance and testing would not occur daily, but rather periodically, up to 50 hours per year per Rule 1470. For the purposes of estimating daily emissions, it is estimated that the emergency generators would operate for up to two hours on days with maintenance and testing activities.

Operational air quality impacts are assessed based on the incremental increase in emissions compared to baseline conditions. Under CEQA, the baseline environmental setting for an EIR is generally established at or around the time that the Notice of Preparation for the EIR is published. As discussed previously, the Project Site is currently developed with five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to ten stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the ten-story Mirror Building, the six-story parking structure, and the six-story Executive Building. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, an approximately 11,250 square-foot cafeteria in the Plant Building. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. Therefore, the analysis assumes no existing emissions or vehicle trips are generated from the 40 percent vacant office spaces. The net operational emissions generated by the proposed Project are equal to the Project's emissions minus the existing Project Site emissions. The maximum daily net emissions from operation of the Project are compared to the SCAQMD daily regional numeric indicators.

4.3.1 Area Sources (Consumer Products and Coatings)

Area source emissions were calculated using CalEEMod default assumptions for of the multi-family residential, retail, and restaurant land uses. Area sources include hearths, consumer product use, architectural coatings, and landscape maintenance equipment. Emissions associated with natural gas usage in space heating, water heating, and stoves as these are calculated in the building energy use module discussed below.

[81] United States Environmental Protection Agency, Air Pollutant Factors (AP-42), Fifth Edition, Volume I - Chapter 13.4: Wet Cooling Towers, https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s04.pdf. Accessed December 2018.

Consumer Products

Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products; but does not include other paint products, furniture coatings, or architectural coatings. The SCAQMD conducted an evaluation of consumer product use compared to the total square footage of buildings using data from the CARB consumer product Emission Inventory and determined a VOC emission rate for consumer products applicable to areas within the SCAQMD jurisdiction.[82] To calculate the VOC emissions from consumer product use, CalEEMod incorporates the following equation and SCAQMD-approved emission factor:

Consumer Products:

Emissions = EF × Building Area

Where: EF = pounds of VOC per building square foot per day

The factor is 2.04×10^{-5} lbs/sqft/day for SCAQMD areas.

Building Area = The total square footage of all buildings including residential square footage.

Architectural Coatings

VOC off-gassing emissions result from evaporation of solvents contained in surface coatings such as in paints and primers. The methodology for operations is the same as the construction methodology discussed above.

4.3.2 Building Energy Usage

With regard to energy usage, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates criteria pollutants. Future fuel consumption rates are estimated based on specific square footage of the multi-family residential, retail, and restaurant land uses, as well as predicted water supply needs of the Project. Energy usage (off-site electricity generation and on-site natural gas consumption) for the Project is calculated within CalEEMod using the CEC CEUS data set.[83] This data set provides energy intensities of different land uses throughout the state and different climate zones. However, since the data from the CEUS is from 2002, the CalEEMod software incorporates correction factors to account for compliance with the Title 24 Building Standards Code.

Natural gas-related emissions of criteria pollutants associated with operation of the Project are based on the size of the multi-family residential, retail, and restaurant land uses, and the natural gas demand factors for the land uses. Natural gas demand is based on data from the CEUS, which lists energy demand by building type.[84] However, since the data from the CEUS is from 2002,

[82] California Air Pollution Control Officer's Association, California Emissions Estimator Model, Appendix E, Technical Source Documentation, Section 7 Studies on Amount of Parking Lot Area Painted, 2016.

[83] California Energy Commission, California Commercial End-Use Survey.

[84] California Energy Commission, California Commercial End-Use Survey.

CalEEMod incorporates correction factors to account for compliance with the 2008 Title 24 Building Standards Code. Since the Project would also be required to meet the Title 24 standards in effect at the time of building permit application, this analysis incorporates an additional correction factor to account for the updated Title 24 Building Standards Code. The correction factors are applied only to the new building construction.

4.3.3 Mobile Source Emissions

The trip distances were applied to the maximum daily trip estimates, based on the trip generation rates for each land use provided by the Project Transportation Impact Analysis[85] to estimate the total VMT. The VMT estimates take into account trip and VMT reductions from Project land use characteristics including internal capture from co-locating land uses on the Project Site, pedestrian trips, nearby transit options, and nearby off-site recreational, residential, commercial, restaurant, and office land uses.

Trip Type

The trip type breakdown describes the purpose of the trip generated at each land use. For example, the trip type breakdown indicates the percentage of trips generated at single family home for work, for shopping, and for other purposes. Multiplying the total trips for a land use by trip type breakdown percentage yields trips of a given trip type. Two sets of trip type breakdown are used in CalEEMod – residential breakdown and commercial breakdown.

Residential trip type: These include home-work (H-W), home-shop (H-S), or home-other (H-O). A home-work trip represents the trip from the home to the workplace. A home-shop trip represents the trip from the home to a land use where shopping takes place (generally retail). A home-other represents all other types of trips generated from the resident such as school, entertainment, etc. The trip type breakdown is from district supplied information or the 1999 Caltrans Statewide Travel Survey is used as default or specific information obtained from the various air quality management and air pollution control districts.

Commercial trip type: These include commercial-customer (C-C), commercial-work (C-W) and commercial-nonwork (C-NW). A commercial-customer trip represents a trip made by someone who is visiting the commercial land use to partake in the services offered by the Site. The commercial-work trip represents a trip made by someone who is employed by the commercial land use sector. The commercial-nonwork trip represents a trip associated with the commercial land use other than by customers or workers. An example of C-NW trips includes trips made by delivery vehicles of goods associated with the land use. The trip type breakdown from the number or workers and or truck trips from ITE and an analysis of information provided for the SCAB was used as default to assign the trip type breakdowns for all land uses. If an exact match to a land use was not available, data from a similar land use was used as a surrogate.

[85] Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

Primary Trip Length

In CalEEMod, each trip type has a primary trip length associated with it. These trip lengths are based on the location and urbanization selected on the project characteristic screen. These values were supplied by the districts or use a default average for the state. Each district (or county) also assigns trip lengths for urban and rural settings.

Pass-by and Diverted Trips

Trip link types further describe the characteristics of the trip attracted to each land use, whether it's a primary trip, a diverted link trip, or a pass-by trip. For example, a commercial customer pass-by trip could be a person going from home to shop on his/her way to work. In addition, a commercial customer diverted-link trip could be a person going from home to work, and on its way making a diversion to shop. Pass-by trips generate virtually no additional running emissions but could generate additional resting and startup emissions. Diverted trips generate less running emissions compared to primary trips, and can also generate additional resting and startup emissions.

Mobile Source Emission Factors

CARB's most recent on-road emissions factor model, EMFAC2014, was used to generate emissions factors for operational mobile sources. The model was run in the emissions mode (also referred to as the "Burden" mode) and used to generate South Coast Air Basin-specific vehicle fleet emission factors in units of grams or metric tons per mile, which is the same methodology that was used by CalEEMod to generate emission factors using the prior EMFAC2011 model. These emission factors are then applied to the daily VMT to obtain daily mobile source emissions.

Modeling for the Project was conducted using the vehicle fleet mix for the South Coast Air Basin as provided in EMFAC2014. Mobile source emissions are generally calculated as follows:

Mobile:

$$\text{Emissions} = \left(\sum_i (\text{Units} \times \text{ADT} \times D_{TRIP} \times \text{EF})_i \right)$$

Where:	Units	=	Number of vehicles (same vehicle model year and class)
	ADT	=	Average daily trip rate [trips/day]
	D_{TRIP}	=	Trip distance [miles/trip]
	EF	=	Emission factor [pounds per mile]
	i	=	Summation index

Emissions from motor vehicles are dependent on model years and the specific types of vehicles that are used to travel to and from the Project Site. The emissions were calculated using a representative motor vehicle fleet mix for the South Coast Air Basin for the opening year of the Project. As discussed above, all vehicle types would visit the Project Site; therefore, the use of the motor vehicle fleet mix for the South Coast Air Basin is an appropriate modeling parameter.

4.3.4 Stationary Source Emissions

Stationary-source emissions are estimated separately outside of the CalEEMod software. Stationary sources may include charbroiling of meat that may occur on-site during food preparation activities in a restaurant kitchen. Stationary source emissions are calculated based on emissions factors available from the SCAQMD for charbroiling.[86] In order to provide a conservative analysis, it was assumed that the restaurant would charbroil meat with relatively high emission factors (i.e., hamburger and chicken meat). The quantity of meat charbroiled in the restaurant is based on survey data from the SCAQMD.[87] The estimated emissions account for reductions from compliance with emissions control requirements consistent with SCAQMD Rule 1138. In general, stationary-source charbroiling emissions are calculated as follows:

Stationary Source Charbroiling:

$$\text{Emissions} = \left(\sum_i (Q_{MEAT} \times EF \times (1 - C)_i \right)$$

Where: Q_{MEAT} = Quantity of meat product charbroiled in a day[pounds/day]
EF = Emission factor [pounds pollutant per pounds meat]
C = Emissions control factor [percent]
i = Summation index

Emissions associated with Stationary sources would also include four on-site cooling towers to assist in dissipating heat from commercial processes of the project, and would utilize a flow rate of approximately 17,820 gallons per day (refer to Section IV.R*, Water Supply*, of the Project's Draft EIR). Emissions from the cooling tower occur as a result of air containing chemical impurities passing through the cooling water in the tower where some of the liquid water is entrained into the air stream and carried out of the tower as "drift" droplets where the particulate matter constituent of the drift droplets may be classified as an emission. Large drift droplets often settle out of the tower exhaust air stream and deposit near the tower, while other drift droplets may evaporate before being deposited in the area surrounding the tower, and they also can produce PM emissions. To estimate daily emissions, particulate matter emission factors for wet cooling towers calculated by the USEPA were used, conservatively assuming it would operate 24 hours a day, every day of the year using the above mentioned daily flow rate.[88]

Stationary Cooling Tower:

$$\text{Emissions} = \left(Q_{WATER} \times EF \times 60 \text{ min} \times 1/1000 \text{ gallons} \times 24 \text{ hrs/day} \right) \times R_{PM2.5}$$

Where: Q_{WATER} = Quantity of Water used by All Cooling Towers [gallons/minute]
EF = Emission factor [pounds PM10 per 1000 gallons of water]
$R_{PM2.5}$ = Ratio of PM2.5 to PM10 (0.857)

86 South Coast Air Quality Management District, Emission Factors for Commercial Cooking Operations, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1138/par1138pdsr_appendixi.pdf?sfvrsn=2. Accessed December 2018.

87 South Coast Air Quality Management District, Emission Factors for Commercial Cooking Operations.

88 United States Environmental Protection Agency, Air Pollutant Factors (AP-42), Fifth Edition, Volume I - Chapter 13.4: Wet Cooling Towers, https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s04.pdf. Accessed December 2018.

Emissions associated with periodic maintenance and testing of the emergency generators (approximately rated at 414 kilowatts (555 horsepower) for the North Tower emergency generator and 623 kilowatts (835 horsepower) for the South Tower emergency generator) are estimated separately outside of the CalEEMod software. The emergency generator emissions are calculated based on compliance with the Tier 4 emissions standards and compliance with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) mandated emission limits and operating hour constraints. As discussed previously, Rule 1470 applies to stationary compression ignition engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing. In general, stationary-source emergency generator emissions are calculated as follows:

Stationary Source Emergency Generator:

$$Emissions_{Diesel}\,[g] = \sum_i (EF \times Pop \times HP \times Load \times Activity)_i$$

Where:	EF	=	Emission factor [g/bhp-hr]
	Pop	=	Population [quantity of same equipment type]
	HP	=	Maximum rated horsepower [hp]
	Load	=	Load Factor [dimensionless]
	Activity	=	Hours of operation [hours per day, hours per year]
	i	=	Summation index

4.4 Localized Emissions

The localized effects from the on-site portion of the emissions are evaluated at nearby sensitive receptor locations potentially impacted by the Project according to the SCAQMD *Final Localized Significance Threshold Methodology* (June 2003, revised July 2008).[89] The localized significance thresholds are only applicable to NO_X, CO, PM10 and PM2.5. The SCAQMD has established conservative screening criteria that can be used to determine the maximum allowable daily emissions that would satisfy the localized significance thresholds and therefore not cause or contribute to an exceedance of the applicable ambient air quality standards without project-specific dispersion modeling. The localized analysis is based on this SCAQMD screening criteria. The screening criteria depend on: (1) the area in which the Project is located, (2) the size of the Project Site, and (3) the distance between the Project Site and the nearest sensitive receptor. The Project Site is located in the SCAQMD's Central Los Angeles Source Receptor Area 1 and is approximately 3.6 acres in size, with renovations of existing buildings taking place on approximately 1.85 acres of the site and construction of new residential towers on approximately 1.84 acres of the site. In order to provide a conservative assessment of localized construction and operational, the screening criteria used in the analysis were those applicable to a 1.84-acre site for residential tower construction, and a 3.6-acre site for total Project construction activities

[89] South Coast Air Quality Management District, Final Localized Significance Threshold Methodology.

(residential tower construction and renovation activities) and Project operations, in the Central Los Angeles area with sensitive receptors located 25 meters away.

The nearest off-site air quality sensitive receptors are the one-acre park just south of the LAPD Headquarters Building located approximately 25 meters southeast of the Project Site and the Higgins Building Lofts apartment complex located at the corner of S. Main Street and West 2nd Street approximately 75 meters southeast of the Project Site.

Based on available information, the future mixed-use residential development planned for future construction over the future Metro station at the corner of 2nd Street and Broadway approximately 50 feet southwest of the Project Site is not reasonably expected to be in operation and occupied during construction of the Project. The Initial Study[90] for that project states that its construction will not begin until construction of the Metro Regional Connector portal and station within the site is complete. Therefore, construction of this related project would not be anticipated to begin until 2022 and would not be anticipated to be complete until 2025, which would be two years after completion the Project. Therefore, there is no evidence to assume that this future mixed-use residential development would be occupied by residents during construction of the Project, and as such, there would no exposure to these future residents from construction-related localized emissions from the Project.

Operational CO, NO_X, PM10 and PM2.5 localized emissions, which generally consists of both fugitive dust and non-fugitive dust exhaust emissions, such as diesel fuel and natural gas combustion, were analyzed in accordance with the SCAQMD *Final Localized Significance Threshold Methodology* (June 2003, revised July 2008). Therefore, with respect to localized operational CO, NO_X, PM10 and PM2.5, the SCAQMD recommends evaluating impacts at the closest sensitive receptor as sensitive receptors further away in distance would experience lesser impacts. As a conservative assessment, the operational LSTs for CO, NO_X, PM10 and PM2.5 are based on the distance of 25-meters for the most conservative analysis that corresponds to existing sensitive receptors, such as the one-acre park just south of the LAPD Headquarters Building located southeast of the Project Site, as well as the nearest future sensitive receptor that would be located at the corner of 2nd Street and Broadway southwest of the Project Site.

According to the SCAQMD *Final Localized Significance Threshold Methodology*, "projects whose calculated emission budgets for the proposed construction or operational activities are above the LST emission levels found in the LST mass rate look-up tables should not assume that the project would necessarily generate adverse impacts. Detailed air dispersion modeling may demonstrate that pollutant concentrations are below localized significant levels."[91] Thus, if the screening criteria would be exceeded, a project could implement mitigation measures to reduce localized emissions to below the screening criteria or conduct dispersion modeling using the USEPA AMS/EPA Regulatory Model (AERMOD) dispersion model with meteorological data from the closest SCAQMD monitoring station to refine the localized impact analysis.

90 City of Los Angeles Department of City Planning, Initial Study, 222 West 2nd Project, Case No. ENV 2016-3809-EIR, dated January 2017, https://planning.lacity.org/eir/nops/222West2nd/Is.pdf. Accessed December 2018.

91 South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, page 1-2.

4.5 CO Hotspots

Localized areas where ambient CO concentrations exceed state and/or federal standards are termed CO hotspots. The potential for the Project to cause or contribute to the formation of off-site CO hotspots are evaluated based on prior dispersion modeling of the four busiest intersections in the Air Basin that has been conducted by the SCAQMD for its CO Attainment Demonstration Plan in the AQMP.[92] The analysis compares the intersections with the greatest peak-hour traffic volumes that would be impacted by the Project to the intersections modeled by the SCAQMD. Project-impacted intersections with peak-hour traffic volumes that are lower than the intersections modeled by the SCAQMD, in conjunction with lower background CO levels, would result in lower overall CO concentrations compared to the SCAQMD modeled values in its AQMP.

4.6 Toxic Air Contaminant Impacts (Construction and Operations)

The greatest potential for construction TAC emissions would be associated with DPM emissions associated from heavy-duty equipment during excavation and grading activities. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer based on the use of standard risk-assessment methodology. Additionally, the SCAQMD CEQA guidance does not require a HRA for short-term construction emissions. Construction activities associated with the Project would be sporadic, transitory, and short-term in nature (approximately 48 months). Thus, construction of the Project would not result in a substantial, long-term (i.e., 70-year) source of TAC emissions. Nonetheless, a qualitative assessment of TAC emissions associated with short-term construction TAC emissions is provided in the analysis section below.

During long-term operations, TACs could be emitted as part of periodic maintenance operations, period testing and maintenance of the emergency generator, restaurant charbroiling, cleaning, painting, etc., and from periodic visits from delivery trucks and service vehicles. However, these uses are expected to be occasional and result in minimal exposure to off-site sensitive receptors. As the Project consists of residential, and commercial/restaurant uses, the Project would not include sources of substantial TAC emissions identified by the SCAQMD or CARB siting recommendations.[93, 94] Thus, a qualitative analysis is appropriate for operational emissions.

4.7 Project Design Features

The following Project Design Features (PDFs) are applicable to the Project.

92 South Coast Air Quality Management District, 2012 Air Quality Management Plan.

93 South Coast Air Quality Management District, Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning, 2005, Table 2-3, http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf?sfvrsn=4. Accessed December 2018.

94 California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective, 2005, Table 1-1.

PDF-AQ-1: Green Building Features: The Project will be designed to achieve the equivalent of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification level for new buildings. The Project will demonstrate compliance with the LEED Silver Certification or equivalent by providing architectural and engineering documentation, building energy modeling simulations, and other supporting evidence consistent with USGBC accepted documentation standards. Pre-construction documentation that indicates the Project is designed to achieve the number of points required for LEED Silver Certification will be provided to the City prior to building permit issuance. Post-construction documentation that indicates the Project operates within the expected parameters to achieve the number of points required for LEED Silver Certification will be provided to the City after completion of LEED Silver Certification commissioning activities.

PDF-AQ-2: Electric Vehicle Parking Features: The Project will designate a minimum of ten (10) percent of the Code-required on-site nonresidential parking for carpool and/or alternative-fueled vehicles. The Project will ensure that at least twenty (20) percent of the total code-required parking spaces provided for all types of parking facilities are capable of supporting future electric vehicle supply equipment (EVSE), with 5 percent of the Code-required spaces further improved with electric vehicle charging stations. Plans will indicate the proposed type and location(s) of EVSE and also include raceway method(s), wiring schematics and electrical calculations to verify that the electrical system has sufficient capacity to simultaneously charge all electric vehicles at all designated EV charging locations at their full rated amperage. Plan design will be based upon Level 2 or greater EVSE at its maximum operating capacity. Only raceways and related components are required to be installed at the time of construction. When the application of the 20 percent results in a fractional space, the Applicant will round up to the next whole number. A label stating “EV CAPABLE” will be posted in a conspicuous place at the service panel or subpanel and next to the raceway termination point.

SECTION 5
Environmental Impacts

5.1 Consistency with Air Quality Plan

Threshold a): Would the Project conflict with or obstruct the implementation of the applicable air quality plan?

5.1.1 Consistency with the Air Quality Plan

The AQMP was adopted by the SCAQMD as a program to lead the Air Basin into compliance with several criteria pollutant standards and other federal requirements and relies on emissions forecasts based on demographic and economic growth projections provided by SCAG's Regional Transportation Plan/Sustainable Communities Strategy.[95] SCAG is charged by California law to prepare and approve "the portions of each AQMP relating to demographic projections and integrated regional land use, housing, employment, and transportation programs, measures and strategies."[96] Projects whose growth is included in the projections used in the formulation of the AQMP are considered to be consistent with the plan and not to interfere with its attainment.

The SCAQMD recommends that, when determining whether a project is consistent with the current AQMP, a lead agency must assess whether the project would directly obstruct implementation of the plan and whether it is consistent with the demographic and economic assumptions (typically land use related, such as resultant employment or residential units) upon which the plan is based.[97] Projects would also be considered to be consistent with the AQMP, in that the Project would be consistent with appropriate control strategies set forth in the AQMP for achieving its emission reduction goals and the Project is consistent with the demographic and economic assumptions upon which the plan is based. The analysis below is organized by discussing the Project's construction and operational consistency with control strategies and growth projections.

Construction

(a) Control Strategies

During its construction phase, the Project would ensure compliance with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment, and with SCAQMD's regulations such as Rule 403 for controlling fugitive dust and other construction

95 South Coast Air Quality Management District, 2012 Air Quality Management Plan, page 4-14.
96 South Coast Air Quality Management District, 2012 Air Quality Management Plan, page 4-14.
97 South Coast Air Quality Management District, Air Quality Analysis Handbook.

emissions. Furthermore, as described further below, the Project would result in a short-term and temporary significant impact with respect to regional NO_X emissions during construction, even after implementation of feasible mitigation measures. However, the Project would comply with fleet rules to reduce on-road truck emissions (i.e., 13 CCR, Section 2025 (CARB Truck and Bus regulation)) and the impact would be limited to approximately two days each during the two continuous concrete pouring foundation phases. As discussed under Methodology, projects, uses, and activities that are consistent with the applicable growth projections and control strategies used in the development of the Air Quality Management Plan would not jeopardize attainment of the air quality levels identified in the Air Quality Management Plan, even if they exceed the SCAQMD's numeric indicators. The short-term and temporary impact would not conflict with the SCAQMD's long-term plans to achieve the ambient air quality standards. Compliance with these measures and requirements described earlier in the paragraph is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities.

(b) Growth Projections

The Project would generate short-term construction jobs, resulting in an increase in short-term employment compared to existing conditions. Construction workers typically travel amongst construction sites as individual projects are completed within a particular area and are not typically brought from other areas to work on developments such as the Project. Moreover, being relatively small in number and temporary in nature, construction jobs under the Project would not conflict with the long-term employment projections upon which the AQMP is based.

Operations

(a) Control Strategies

The Project's location, design, and proposed land uses would be consistent with the AQMP. The AQMP includes transportation control measures that are intended to reduce regional mobile source emissions.[98] While the majority of the measures are implemented by cities, counties, and other regional agencies such as SCAG and SCAQMD, the Project's location, design, and land uses would support measures related to reducing vehicle trips for residents, patrons, and employees by increasing residential and commercial density near public transit, as further discussed below.

The California Air Pollution Control Officers Association (CAPCOA) has provided guidance for mitigating or reducing emissions from land use development projects within its guidance document titled *Quantifying Greenhouse Gas Mitigation Measures*.[99] The land use characteristics listed below are consistent with the CAPCOA guidance document, and would reduce vehicle trips

98 Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts as appropriate, installation of energy-efficient streetlights, and synchronization of traffic signals.

99 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010, http://capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed December 2018.

to and from the Project Site and vehicle trip distances and would achieve a reduction in transportation-related air pollutant and GHG emissions.

- **Increased Density:** Increased density, measured in terms of persons, jobs, and/or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services. This characteristic corresponds to CAPCOA guidance strategy LUT-1.[100] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill[101] location and is mixed-use; therefore, this characteristic applies to the Project. The Project would increase the Project Site density to approximately 305 dwelling units per acre and would provide approximately 425 jobs per acre (refer to Section IV.J, *Population and Housing*, of the Project's Draft EIR, which provides employment data used to estimate the number of jobs per acre).[102]

- **Location Efficiency:** Location efficiency describes the location of a project relative to the type of urban landscape such as an urban area, compact infill, or suburban center. This measure is not intended as a separate strategy but rather serves as a "cap" for all land use/location strategies. This characteristic corresponds to CAPCOA guidance strategy LUT-2.[103] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the geographic location of the Project within the region. The Project Site represents an urban infill location within Downtown Los Angeles. The Project Site is served by existing public transportation located within a quarter-mile. The Project Site is within an active urban center with many existing off-site commercial, entertainment, hotel, and residential buildings. The location efficiency of the Project Site would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average and would result in corresponding reductions in transportation-related emissions.[104]

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100 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, page 155-158, 2010.

101 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 59-60. The project area meets the characteristics for an urban setting with respect to typical building heights of 6 stories or much higher, grid street pattern, minimal setbacks, constrained parking, high parking prices, high quality rail service (i.e., Metro Red and Purple Lines at the Grand Park/Civic Center Station), location relative to regional cores (5 miles or less) and jobs/housing balance (the Central City Community Plan Area has an existing jobs/housing ratio of approximately 7.3 for year 2017; refer to Section IV.J, *Population and Housing*, of the Project's Draft EIR).

102 Based on employment density factors in the Los Angeles Unified School District, 2016 Developer Fee Justification Study, March 2017.

103 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 159-161.

104 CalEEMod, by default, assumes that trip distances in the South Coast Air Basin are slightly longer than the statewide average. This is due to the fact that commute patterns in the South Coast Air Basin involve a substantial portion of the population commuting relatively far distances, which is documented in the Southern California Association of Governments 2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). The RTP/SCS shows that, even under future Plan conditions, upwards of 50 percent of all work trips would be 10 miles or longer (SCAG, Performance Measures Appendix, page 13, 2016). The RTP/SCS does not specify the current percentage of work trips greater than 10 miles in the region, but it can be assumed that the percentage is currently greater than 50 percent since the goal of the RTP/SCS is to reduce overall VMT in the region. It is thus

- **Increased Land Use Diversity and Mixed-Uses:** Locating different types of land uses near one another can decrease VMT since trips between land use types are shorter and could be accommodated by alternative modes of transportation, such as public transit, bicycles, and walking. This characteristic corresponds to CAPCOA guidance strategy LUT-3.[105] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings (also potentially for rural master-planned communities) for mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the percentage of each land use type in the Project. The Project would co-locate multi-family residences, offices, retail, and restaurant land uses in close proximity to existing off-site commercial and residential uses, as well as major transit facilities. The increases in land use diversity and mix of uses on the Project Site, as well as proximity to transit, would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation.

- **Increased Destination Accessibility:** This characteristic corresponds to CAPCOA guidance strategy LUT-4.[106] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use, including residential, commercial, retail, and restaurant land uses; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the distance to Downtown Los Angeles and Hollywood, which are major job centers. The Project would be located in an area that offers access to multiple other nearby destinations including restaurant, bar, office, retail, entertainment, and residential uses. The Project Site is also located near other job centers in the region and within Downtown Los Angeles. The access to multiple destinations in close proximity to the Project Site would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Increased Transit Accessibility:** Locating a project with high density near transit facilitates encourages the use of transit by people traveling to or from a project site. This characteristic corresponds to CAPCOA guidance strategy LUT-5.[107] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings (also potentially for rural settings adjacent to a commuter rail station with convenient access to a major employment center) for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the distance to transit stations near the Project.

reasonable to assume that the trip distances in South Coast Air Basin are analogous to the statewide average given that the default model trip distances in the South Coast Air Basin are slightly longer but still generally similar to the statewide average. Therefore, projects could achieve similar levels of VMT reduction (65 percent in an urban area, 30 percent in a compact infill area, or 10 percent for a suburban center) compared to the South Coast Air Basin average.

105 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 162-166.

106 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 167-170.

107 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 171-175.

The Project would be located within a quarter-mile of public transportation, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector Project. The Red Line connects the Civic Center to Union Station, Hollywood, and North Hollywood. The Red and Purple Lines provide further connection to three light rail transit lines serving downtown Los Angeles: the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station. In addition, as part of the Metro Regional Connector Project, the future Historic Broadway Station would allow passengers to transfer to Blue, Expo, Red and Purple Lines, bypassing Union Station. The Project is also within a quarter mile of many Metro bus routes (e.g., local 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Hill and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street), LADOT's Dash Downtown "D" line, and Metro's Rapid Lines 728, 733, 745, and 770. The Project would provide access to on-site uses from existing pedestrian pathways. The Project would also provide parking for bicycles on-site to encourage utilization of alternative modes of transportation. The increased transit accessibility would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Improve Design of Development:** Improved street network characteristics within a neighborhood enhances walkability and connectivity. Characteristics include street accessibility usually measured in terms of number of intersections (e.g., 4-way intersections) per square mile. This characteristic corresponds to CAPCOA guidance strategy LUT-9.[108] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. The Project would provide an open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street that would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. The Project would also provide new street trees along W. 1st Street, S. Broadway, S. Spring Street, and W. 2nd Street. The Project would be located in a highly street-accessible area with over 100 four-way intersections within a 1-mile radius of the Project Site (see Appendix C-3 for additional details), which exceeds the standard intersection density assumed in baseline VMT modeling. The Project's addition of the Paseo and new street trees, along with the high intersection density would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Provide Pedestrian Network Improvements:** Providing pedestrian access that minimizes barriers and links a project site with existing or planned external streets encourages people to walk instead of drive. This characteristic corresponds to CAPCOA guidance strategy SDT-1.[109] According to CAPCOA, the reduction in VMT from this characteristic applies to urban, suburban, and rural settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this

[108] California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 182-185. This measure is incorrectly labeled as LUT-8 in the document; however, it is the 9th measure in the land use transportation category and thus should be labeled as LUT-9.

[109] California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 186-189.

characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include pedestrian access connectivity within the Project and to/from off-site destinations. The walkability of existing facilities is based in part on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and recreational and entertainment facilities adjacent to the Project Site and proximity to public transit, the walkability of rating of the Project Site area is approximately 91 points;[110] this compares to the Citywide score of 67 points. As discussed in Chapter 2, *Project Description*, the Project would provide a full retail and service base at street level along all four edges of the Podium, including 1st Street, Broadway, 2nd Street, and the Paseo providing an interconnected streetscape environment connecting 1st Street and 2nd Street with landscaping that buffers the scale and height of the new buildings and enhances the pedestrian experience. The Project would strengthen existing and new pedestrian connections and streetscapes through the use of landscaping and the addition of new trees along the street and Paseo, street furniture, lighting and signage. The Project would provide an internal pedestrian network for Project visitors and employees that links to the existing off-site pedestrian network including existing off-site sidewalks, and would therefore result in some reduction in VMT and associated transportation-related emissions.

The Project Transportation Impact Analysis already accounts for trip reductions from Increased Land Use Diversity and Mixed-Uses (LUT-3) and Increased Transit Accessibility (LUT-5). Therefore, VMT reductions for these characteristics were not included separate from the Transportation Impact Analysis to avoid double counting. Reductions in VMT were calculated for characteristics not included in the Transportation Impact Analysis, which include Increased Density (LUT-1), Location Efficiency (LUT-2), and Increased Destination Accessibility (LUT-4), Improved Design of Development (LUT-9), and Provide Pedestrian Network Improvements (SDT-1). The Project's VMT is reduced by approximately 29.1 percent in addition to the Transportation Impact Analysis trip reductions as a result of those characteristics that are not already reflected in the Transportation Impact Analysis, following the calculation protocol from the CAPCOA guidance.

The Project is proposed on an infill site. The Project would locate residential and retail uses in a Transit Oriented Development (TOD) that would be located within a quarter-mile of multiple public transportation options, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line, and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector, therefore the Project meets the criteria of the State as a Transportation Priority Area (TPA). The Red Line connects the Civic Center to Union Station, Hollywood, and North Hollywood. The Red and Purple Lines provide further connection to three light rail transit lines serving downtown Los Angeles: the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station. As discussed above, the Project is also within a quarter mile of many Metro bus routes (e.g., local 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Hill and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street), LADOT's Dash Downtown "D" line, and Metro's Rapid Lines 728, 733, 745, and 770. As discussed above, the Project has also been designed to

[110] WalkScore.com (www.walkscore.com) rates the Project Site area (202 W. 1st Street, Los Angeles, CA 90012) with a score of 91 of 100 possible points (scores accessed on November 8, 2017). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

incorporate features to attract pedestrians and to promote non-motorized transportation modes such as walking and biking. Further, its land use characteristics (including increased density, location efficiency, increased land use diversity and mixed-uses, etc.), discussed above, many of which overlap the strategies in the AQMP, have also been shown by CAPCOA to reduce vehicle trips and VMT, and corresponding vehicle emissions; the Project's incorporation of these features further demonstrates its consistency with the AQMP by reducing vehicle trips, VMT and other associated emissions.

(b) Growth Projections

The Project is anticipated to be operational in 2023. As discussed in Section IV.J, *Population, Housing, and Employment*, of the Project's Draft EIR, the Project would result in population growth that would be consistent with the Central City Community Plan and 2016 RTP/SCS, one of the 35 community plans of the Land Use Element of the City's General Plan, and forms the basis of SCAG's growth projections, and incorporated in the SCAQMD AQMP. The Project's growth is consistent with SCAG RTP/SCS goals and objectives under SB 375 to implement "smart growth" and state efforts to meet goals in the reduction of GHG. The SCAG RTP/SCS seeks improved "mobility and accessibility… to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices."[111] The SCAG 2016 RTP/SCS, of which the growth projections are incorporated into the 2016 AQMP, seeks to implement "strategies focused on compact infill development, superior placemaking (the process of creating public spaces that are appealing), and expanded housing and transportation choices."[112] The Project's design and proximity to public transit, including the Metro Civic Center/Grand Park Station, and the future 2nd and Broadway Station as part of the Metro Regional Connector Project would allow the Project's projected growth to be accommodated by the existing and under-construction transportation resources and decreases the time and cost of traveling as well as vehicular demand and associated pollutants. The Project would locate residential uses in close proximity to job centers in Los Angeles where people can live and work and have access to convenient modes of transportation in a manner that provides options for reducing reliance on automobiles. The Project's increase in population, housing, and employment are therefore consistent with SCAG's RTP/SCS goals and would be consistent with the growth projections for the period between 2023 and 2040 for the City as a whole (refer to Section IV.J, *Population and Housing*, of the Project's Draft EIR). The Project would be consistent with the growth projections as contained in SCAG's RTP/SCS, which form the basis of the growth projections in the 2016 AQMP.

5.1.2 General Plan Air Quality Element

The City's General Plan includes Citywide policies regarding a range of City resources and services, some of which are relevant to air quality. **Table 6,** *Comparison of the Project to Applicable Air Quality Policies of the General Plan*, evaluates the consistency of the Project with the applicable air quality goals, objectives, and policies in the Air Quality Element of the General

[111] Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2016, page 160.

[112] Southern California Association of Governments, 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 14.

Plan. As discussed below, the Project would not conflict with or be inconsistent with applicable air quality policies of the General Plan.

TABLE 6
COMPARISON OF THE PROJECT TO APPLICABLE AIR QUALITY POLICIES OF THE GENERAL PLAN

Recommendation	Analysis of Project Consistency
Air Quality Element	
Goal 1: Good air quality and mobility in an environment of continued population growth and healthy economic structure.	**Consistent.** The Project would be consistent with SCAG RTP/SCS goals and objectives under SB 375 to implement "smart growth." The Project would provide residential uses and employment opportunities in close proximity to existing job centers in downtown Los Angeles where people can live and work and have access to modes of transportation that reduce reliance on automobiles and minimize associated air pollutant emissions. The Project would meet the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code. In addition, the Project would incorporate PDFs that would go beyond California Green Building Standards Code and the City of Los Angeles Green Building Code (refer to Subsection 4.7, *Project Design Features*, above) The Project would also reduce VMT as a result of its urban infill location, with access to public transportation within a quarter-mile of the Project Site, and its proximity to job centers, retail, recreational amenities and entertainment. As a result, the Project would support objectives to achieve good air quality, mobility and a healthy economic structure.
Objective 1.1: It is the objective of the City of Los Angeles to reduce air pollutants consistent with the Regional Air Quality Management Plan, increase traffic mobility, and sustain economic growth citywide.	**Consistent.** The Project's land use characteristics and Project Design Features would reduce emissions associated with energy and transportation. As discussed under Threshold a), the Project would be consistent with the SCAG growth projections that are used in preparing the AQMP. The Project would occupy a location that is highly accessible by regional and local bus lines and Metro rail. As such, the Project would be supportive of the Transportation Control Measures in the AQMP related to reducing vehicle trips for employees, visitors and residents. The Project would provide infill residential uses, which would allow people to live near work and recreational amenities.
Objective 1.3: It is the objective of the City of Los Angeles to reduce particulate air pollutants emanating from unpaved areas, parking lots, and construction sites.	**Consistent.** The Project would incorporate measures that would reduce particulate air pollutants from unpaved areas, parking lots, and construction sites. The Project would implement required control measures for construction-related fugitive dust pursuant to SCAQMD Rule 403. The Project would also comply with the applicable provisions of the CARB Air Toxics Control Measure regarding idling limitations for diesel trucks reducing exhaust DPM emissions. Project construction would comply with the applicable provisions of the CARB In-Use Off-Road Diesel Vehicle Regulation, which aims to reduce emissions through the installation of DPM filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. Project construction would also hat comply with the applicable provisions of the CARB Truck and Bus regulation to reduce PM and NO_X emissions from existing diesel trucks. The Project would also implement a Mitigation Measure requiring the use of off-road construction equipment that meets the stringent Tier 4 emissions standards. The Project incorporates landscaped open spaces and trees.
Policy 1.3.1: Minimize particulate emissions from construction sites.	**Consistent.** The Project would incorporate measures that would reduce particulate air pollutants from construction activity as described above under Objective 1.3.
Policy 1.3.2: Minimize particulate emissions from unpaved roads and parking lots associated with vehicular traffic.	**Consistent.** The Project would implement required control measures for construction-related fugitive dust pursuant to SCAQMD Rule 403, which would minimize particulate emissions from unpaved roads and parking lots associated with construction-related vehicular traffic.

Recommendation	Analysis of Project Consistency
Goal 2: Less reliance on single-occupant vehicles with fewer commute and non-work trips.	**Consistent.** The Project's land use characteristics (refer to subsection 5.1.1.Construction.(b), *Control Strategies and Policy Consistency* above) would reduce trips and VMT due to its urban infill location, with nearby access to public transportation within a quarter-mile of the Project site and location in an area with access to multiple other destinations, including job centers, and retail uses.
Objective 2.1: It is the objective of the City of Los Angeles to reduce work trips as a step towards attaining trip reduction objectives necessary to achieve regional air quality goals.	**Consistent.** The Project would be located within a quarter-mile of existing and proposed public transportation, including existing regional and local Metro bus lines and Metro rail. The Project would locate infill residential, office, retail, and restaurant land uses in an area with access to multiple other destinations, including job centers, and retail uses. These features would reduce trips and encourage residents to utilize alternative modes of transportation.
Policy 2.1.1: Utilize compressed work weeks and flextime, telecommuting, carpooling, vanpooling, public transit, and improve walking/bicycling related facilities in order to reduce vehicle trips and/or VMT as an employer and encourage the private sector to do the same to reduce work trips and traffic congestion.	**Consistent.** The Project would be located within a quarter-mile of existing and future public transportation, provide access and pedestrian links to on-site uses from existing pedestrian pathways. The Project would include a pedestrian paseo leading from W. 1st Street to W. 2nd Street that would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. The Project would provide 1,274 bicycle parking spaces. These features would reduce work trips and encourage employees to utilize alternative modes of transportation including public transportation, walking, and bicycling. The Project would exceed California Green Building Standards Code and the City of Los Angeles Green Building Code standards by designating a minimum of 10 percent of on-site non-residential parking for carpool. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations
Objective 2.2: It is the objective of the City of Los Angeles to increase vehicle occupancy for non-work trips by creating disincentives for single passenger vehicles, and incentives for high occupancy vehicles.	**Consistent.** The Project would exceed California Green Building Standards Code and the City of Los Angeles Green Building Code standards by designating a minimum of 10 percent of on-site non-residential parking for carpool. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations. In addition, the Project's location would encourage non-automotive transportation to and from the Project Site. As discussed previously, the Project would be located within a quarter-mile of existing and proposed public transportation, including existing regional and local Metro bus lines and Metro rail, and would provide bicycle parking and pedestrian pathways for building residents, employees, and visitors.
Policy 2.2.1: Discourage single-occupant vehicle use through a variety of measures such as market incentive strategies, mode-shift incentives, trip reduction plans and ridesharing subsidies.	**Consistent.** The Project's location would encourage non-automotive transportation to and from the Project Site. As discussed previously, the Project would be located within a quarter-mile of existing and proposed public transportation, including existing regional and local Metro bus lines and Metro rail, and would provide bicycle parking and pedestrian pathways for building residents, employees, and visitors.

Recommendation	Analysis of Project Consistency
Policy 2.2.2: Encourage multi-occupant vehicle travel and discourage single-occupant vehicle travel by instituting parking management practices.	**Consistent.** In accordance with mitigation measure MM-TRAF-1, the Applicant would implement a comprehensive Travel Demand Management (TDM) Program to promote non-automobile travel and reduce the use of single-occupant vehicle trips during commute hours (refer to Section IV.P, *Transportation and Traffic*, of the Project's Draft EIR). The program could include such strategies as promoting Commute Trip Reduction (CTR) through information sharing and marketing for new employee orientations of trip reductions; providing unbundled parking for residential units; providing a program for discount transit passes for residents/employees; facilitating an on-site car- share program; providing priority locations for carpools and vanpools; accommodating flexible/alternative work schedules and telecommuting programs; including Project design elements to ensure a bicycle, transit and pedestrian friendly environment, providing bicycle parking in conformance with Section 12.21 A.16 of the LAMC and associated bicycle facilities; providing a Covenant and Agreement to ensure that the TDM program will be maintained; making a one-time financial contribution of $100,000 to the City of Los Angeles Department of Transportation to be used in in the implementation of the Mobility Hub in the general area of the Project; making a one-time financial contribution of $100,000 to the City's Bicycle Plan Trust Fund to implement bicycle improvements within the area of the proposed Project and contributing a one-time fixed fee to the City's Bicycle Plan Trust Fund to implement bicycle improvements within the area of the proposed Project.
Goal 4: Minimal impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.	**Consistent.** The Project's characteristics would reduce trips and VMT due to its infill location, access to public transportation within a quarter-mile of the Project site, close proximity to multiple other destinations including job centers and retail uses, its mix of residential, retail, restaurant and office uses, and is pedestrian and bicycle-friendly.
Objective 4.1: It is the objective of the City of Los Angeles to include the regional attainment of ambient air quality standards as a primary consideration in land use planning.	**Consistent.** The Project analysis of potential air quality impacts relies upon the numeric indicators of significance adopted by the SCAQMD, which considers attainment of the ambient air quality standards. The Project also incorporates land use characteristics that would reduce air pollutant emissions (refer to Subsection 5.1.1. Operations (a), *Control Strategies and Policy Consistency,* above). The Project impacts would be less than significant and would not cause or contribute to an exceedance of the ambient air quality standards, with the exception of NO_X emissions during the two foundation concrete pouring activities lasting up to approximately two days each during construction, which would require mitigation and be significant and unavoidable on a temporary basis.
Policy 4.1.2: Ensure that project level review and approval of land use development remain at the local level.	**Consistent.** The Project environmental review would occur at the local level.
Objective 4.2: It is the objective of the City of Los Angeles to reduce vehicle trips and VMT associated with land use patterns.	**Consistent.** The Project's location and land use characteristics would reduce trips and VMT due to its urban infill location, access to public transportation within a quarter-mile of the Project site, and proximity to existing employment and commercial destinations, as would its mix of residential, office, retail, and restaurant uses on-site, and pedestrian- and bicycle-friendly features.
Policy 4.2.2: Improve accessibility for the City's residents to places of employment, shopping centers and other establishments.	**Consistent.** The Project would provide 1,127 new residential units in an infill location with access to public transportation within a quarter-mile of the Project site. The Project would also be located within a quarter-mile of off-site commercial, retail, restaurant, entertainment and other residential uses.

Recommendation	Analysis of Project Consistency
Policy 4.2.3: Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.	**Consistent.** Consistent. The Project is proposed on an infill location and would incorporate pedestrian pathways that would connect to the existing sidewalk network through the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street that would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a pedestrian connection towards First and Broadway Civic Center Park and would be within a quarter-mile of existing and future public transportation. The Project would also designate a code-required minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles, and the Project design will go beyond the City code and provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations for up to 20 percent of the code-required parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.. The Project would provide 1,274 bicycle parking spaces. In accordance with mitigation measure MM-TRAF-1, the Applicant would implement a comprehensive Travel Demand Management (TDM) Program to promote non-automobile travel and reduce the use of single-occupant vehicle trips through such strategies as promoting Commute Trip Reduction (CTR) through information sharing and marketing for new employee orientations of trip reductions; providing unbundled parking for residential units; providing a program for discount transit passes for residents/employees; facilitating an on-site car- share program; providing priority locations for carpools and vanpools; accommodating flexible/alternative work schedules and telecommuting programs; including Project design elements to ensure a bicycle, transit and pedestrian friendly environment, providing bicycle parking in conformance with Section 12.21 A.16 of the LAMC and associated bicycle facilities; providing a Covenant and Agreement to ensure that the TDM program will be maintained; making a one-time financial contribution of $100,000 to the City of Los Angeles Department of Transportation to be used in in the implementation of the Mobility Hub in the general area of the Project; making a one-time financial contribution of $100,000 to the City's Bicycle Plan Trust Fund to implement bicycle improvements within the area of the proposed Project and contributing a one-time fixed fee to the City's Bicycle Plan Trust Fund to implement bicycle improvements within the area of the proposed Project.
Policy 4.2.4: Require that air quality impacts be a consideration in the review and approval of all discretionary projects.	**Consistent.** The Project environmental review includes an analysis of air quality impacts.
Policy 4.2.5: Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.	**Consistent.** The Project is proposed on an infill site that would be located within a quarter-mile of existing and proposed public transportation, including existing regional and local Metro bus lines and Metro rail. The Project would provide 1,274 bicycle parking spaces. The Project would implement mitigation measure MM-TRAF-1, which requires the Applicant to implement a comprehensive Travel Demand Management (TDM) Program to promote non-auto travel and reduce the use of single-occupant vehicle trips (refer to Section IV.P, *Transportation and Traffic*, of the Project's Draft EIR, for additional information).
Goal 5: Energy efficiency through land use and transportation planning, the use of renewable resources and less polluting fuels, and the implementation of conservation measures, including passive methods such as site orientation and tree planting.	**Consistent.** The Project would be designed and operated to meet the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver equivalence. The Project would incorporate sustainability measures and performance standards including implementing a construction waste management plan to divert all mixed construction and demolition debris to City certified construction and demolition waste processors, consistent with the Los Angeles City Council approved Council File 09-3029. The Project Site would include 3,550 square feet of ground-level paseo/plaza landscaped area including pedestrian scale trees.

Recommendation	Analysis of Project Consistency
Objective 5.1: It is the objective of the City of Los Angeles to increase energy efficiency of City facilities and private developments.	**Consistent.** As noted above, the Project would be designed and operated to meet the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver equivalence.
Policy 5.1.2: Effect a reduction in energy consumption and shift to non-polluting sources of energy in its buildings and operations.	**Consistent.** As noted above, the Project would be designed and operated to meet the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver equivalence. The Project would designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles, and the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations for up to 20 percent of the code-required parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.
Policy 5.1.4: Reduce energy consumption and associated air emissions by encouraging waste reduction and recycling.	**Consistent.** The Project would implement a construction waste management plan to divert all mixed construction and demolition debris to City certified construction and demolition waste processors, consistent with the Los Angeles City Council approved Council File 09-3029. Municipal solid waste would be collected by haulers that comply with City and state waste diversion (specifically AB 1327 and AB 341) requirements, which may include mixed waste processing that yields diversion results comparable to source separation.
Objective 5.3: It is the objective of the City of Los Angeles to reduce the use of polluting fuels in stationary sources.	**Consistent.** As noted above, the Project would be designed and operated to meet the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and LEED silver equivalence.
Policy 5.3.1: Support the development and use of equipment powered by electric or low-emitting fuels.	**Consistent.** As noted above, the Project would be designed and operated to meet the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver equivalence. The Project would also designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles, and the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the code-required parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.

SOURCE: ESA, 2018.

5.2 Air Quality Standards

Threshold b): Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

5.2.1 Construction Emissions

Construction of the Project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project Site. In addition, fugitive dust emissions would result from demolition and construction activities. During the finishing phase of a building, paving operations and the application of architectural coatings and other building materials would potentially release VOCs. The assessment of construction air quality impacts considers each of

these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and for dust, prevailing weather conditions. Construction emissions were compared to SCAQMD prescribed daily regional numerical indicators of significance, as discussed above. If construction emissions were to exceed any of the applicable numerical indicators in the SCAQMD CEQA Air Quality Handbook, the Project would potentially cause or substantially contribute to an exceedance of an ambient air quality standard, thus resulting in an existing or projected air quality violation.

The maximum daily construction emissions for the Project were estimated for each construction phase. Some individual construction phases potentially overlap and the maximum daily emissions include these overlaps by combining the relevant construction phase emissions. The maximum daily emissions are predicted values for a representative worst-case day and do not represent the emissions that would occur for every day of construction. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report.

The results of the criteria pollutant emissions calculations for VOC, NO_X, CO, SO_X, PM10 and PM2.5 are presented in **Table 7,** *Estimated Maximum Unmitigated Regional Construction Emissions (Pounds Per Day)*. These calculations assume compliance with applicable dust control measures required to be implemented during each phase of construction, as required by SCAQMD Rule 403 (Control of Fugitive Dust). As shown in **Table 7**, construction-related daily emissions would potentially exceed the SCAQMD numeric indicators of significance for NO_X only. All other emissions levels would be below the applicable numeric indicators. The NO_X exceedance results primarily from on-site construction equipment, and on-road hauling and concrete truck emissions generated during truck travel and idling activities during various phases of construction. **Therefore, with respect to regional emissions from construction activities, NO_X impacts would be potentially significant. Therefore, mitigation measures would be required and are further discussed below in Section 7, *Mitigation Measures*. As discussed therein, with the implementation of mitigation measures, regional NO_X emissions would be reduced substantially, but still above the daily emission threshold and be considered significant during the two continuous concrete pouring foundations phases, which are expected to last up to approximately two days each.**

TABLE 7
ESTIMATED MAXIMUM UNMITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY) [a]

Source	VOC	NO_X	CO	SO_2	PM10 [b]	PM2.5 [b]
Individual Phases						
Demolition	11	112	78	<1	11	6
Site Preparation	8	78	63	<1	4	4
Grading	9	157	70	<1	9	5
Foundation (North Tower)	21	560	142	1.4	36	13
Foundation (South Tower)	19	477	124	1.2	31	12
Subterranean Parking Structure Construction	21	164	144	<1	22	10
Podium Construction	19	149	135	<1	21	9
Building Construction	16	121	121	<1	20	9
Building Construction/Architectural Coating	30	109	124	<1	22	9
Building Construction/Paving/Architectural Coating	31	124	153	<1	23	9
Existing Building Renovations [c]	3	24	21	<1	3	2
Maximum Daily Emissions	34	**584**	174	1.5	39	15
SCAQMD Numeric Indicators	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	**Yes**	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report.

[b] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

[c] Renovations of existing buildings could occur concurrently during any phase of construction of the new residential mixed-use towers, therefore the maximum daily emissions of the existing renovations were added to the maximum daily emissions of residential mixed-use tower maximum daily emissions to serve as a conservative maximum daily emission estimate.

SOURCE: ESA, 2018.

5.2.2 Operational Emissions

Operational criteria air pollutant emissions were assessed for mobile, area, energy (natural gas), and stationary sources. Operational criteria pollutant emissions were calculated for the Project for the full buildout year. The analysis used the daily trip generation rates for the Project provided in the Transportation Impact Analysis.[113] Operational emission estimates include compliance with the Title 24 (2016) building energy efficiency standards, CALGreen Code, and City of Los Angeles Green Building Code.[114] Physical and operational Project characteristics for which sufficient data is available to quantify the Project's building energy and resource consumption have been included in the quantitative analysis, and include the installation of energy efficient appliances, applicable SCAQMD rules regarding Project operations such as Rule 1138 – Control

[113] Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

[114] Operational emissions calculations were made based on available client information available about achieving LEED Silver for the Project including requirements fulfilled by meeting Title 24 (2016) building energy efficiency standards, CALGreen Code, and City of Los Angeles Green Building Code. Not all compliance measures to achieve points necessary for LEED Silver certification/ meeting Title 24 (2016) building energy efficiency standards, CALGreen Code, and City of Los Angeles Green Building Code result in quantifiable emissions reductions. Those that led to emissions reductions were included in the Operational Emissions calculations, for additional details see Appendix C-3 of this air quality technical report.

of Emissions from Restaurant Operations and Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines (see subsection 2.3), and building energy demand factors consistent with the Title 24 (2016) building energy efficiency standards, CALGreen Code, and City of Los Angeles Green Building Code. Detailed emissions calculations are provided in **Appendix C-3** of this Technical Report.

The results of the criteria pollutant emission calculations for VOC, NO_X, CO, SO_X, PM10 and PM2.5 are presented in **Table 8,** *Maximum Unmitigated Regional Operational Emissions*. The Project's operational-related daily emissions would potentially exceed the SCAQMD numeric indicators of significance for NO_X. All other emissions levels would be below the applicable numeric indicators. Therefore, with respect to regional emissions from operational activities, NO_X impacts would be potentially significant. Mitigation measures would be required and are further discussed below in Section 7, *Mitigation Measures*, of this Technical Report. Implementation of MM AQ-3, MM AQ-4 and MM AQ-5 would reduce regional NO_X emissions from operations by scheduling routine maintenance of emergency generators so that only one emergency generator is maintained on any given day. **With implementation of MM AQ-3, MM AQ-4 and MM AQ-5, the regional NO_X emissions from operations would be reduced to below the regional numeric indicator and impacts related to regional NO_X operational emissions would be mitigated to less than significant.**

TABLE 8
ESTIMATED MAXIMUM UNMITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY) [a]

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Existing						
Area (Coating, Consumer Products, Landscaping)	8	<1	<1	0	1	1
Energy (Natural Gas)	<1	2	1	<1	<1	<1
Mobile	8	35	97	<1	18	5
Total	16	37	98	<1	18	5
Proposed Project						
Area (Coating, Consumer Products, Landscaping)	36	1	93	<1	1	1
Stationary (Charbroilers)	<1	-	-	-	2	1
Stationary (Cooling Towers)	-	-	-	-	<1	<1
Stationary (Emergency Generators)	1	13	12	<1	<1	<1
Energy	1	9	6	<1	1	1
Mobile	17	70	193	1	62	17
Total	55	93	305	1	64	19

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Net Increase						
Area (Coating, Consumer Products, Landscaping)	29	1	93	<1	1	1
Stationary (Charbroilers)	<1	-	-	-	2	1
Stationary (Cooling Towers)	-	-	-	-	<1	<1
Stationary (Emergency Generators)	1	13	12	<1	<1	<1
Energy	1	7	5	<1	<1	<1
Mobile	8	35	97	<1	44	12
Net Total Regional Emissions	**39**	**56**	**207**	**1**	**47**	**14**
SCAQMD Numeric Indicators	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	**Yes**	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-3** of this Technical Report.

SOURCE: ESA, 2018.

5.3 Cumulatively Considerable Net Increase of Non-attainment Pollutants

Threshold c): Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The Project would result in the emission of criteria pollutants for which the Project area is in non-attainment during both construction and operation. The Air Basin is currently in non-attainment for ozone (NAAQS and CAAQS), PM10 (CAAQS), and PM2.5 (NAAQS and CAAQS).

5.3.1 Construction Emissions

According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants. As shown in **Table 7**, maximum daily emissions from construction of the Project would exceed the applicable SCAQMD regional numerical indicator of significance for NO_X. The Project would therefore have the potential to result in a cumulatively considerable net increase of a criteria pollutant for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard, and impacts would be considered potentially significant. Therefore, mitigation measures would be required and are further discussed below in Section 7, *Mitigation Measures*, of this Technical Report. **With implementation of mitigation measures, regional NOx emissions would be reduced substantially, but still exceed the daily emissions threshold during the two continuous concrete pouring foundations phases, which are**

expected to last up to approximately two days each. Impacts related to regional NO_X construction emissions therefore would be considered significant and unavoidable.

In addition, according to the SCAQMD, individual project-level construction emissions are considered to determine cumulative impacts as well and will be further discussed below in Section 6, *Cumulative Impacts*, of this Technical Report.

5.3.2 Operational Emissions

According to the SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed the SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants. As shown in **Table 8**, maximum daily regional emissions from operation of the Project would exceed the applicable numeric indicators for NOx. Therefore, operational impacts would be considered potentially significant. Mitigation measures would be required and are further discussed below in Section 7, *Mitigation Measures*, of this Technical Report. **With implementation of mitigation measures, regional NO_X emissions from operations would be reduced to below the regional numeric indicators and impacts related to regional NO_X operational emissions would be mitigated to less than significant.**

In addition, according to the SCAQMD, individual project-level operational emissions are considered to determine cumulative impacts as well and will be further discussed below in Section 6, *Cumulative Impacts*, of this Technical Report.

5.4 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Threshold d): Would the project expose sensitive receptors to substantial pollutant concentrations?

5.4.1 Localized Construction Impacts

The localized construction air quality analysis was conducted using the methodology prescribed in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The screening criteria provided in the SCAQMD Final Localized Significance Threshold Methodology were used to determine localized construction emissions thresholds for the Project. The maximum daily localized emissions for each of the construction phases and localized significance thresholds are presented in **Table 9,** *Maximum Unmitigated Localized Construction Emissions for Residential Towers* and **Table 10,** *Maximum Unmitigated Localized Construction Emissions for Residential Towers and Existing Building Renovations*.[115] The same phasing and equipment assumptions, and compliance with SCAQMD Rule 403, were used as for the regional emissions calculations discussed above. As shown below, maximum localized construction emissions for sensitive receptors within 25 meters of the Project Site would exceed the localized

[115] Based on the methodology and assumptions described in Subsection 4.4, *Localized Emissions*, of this Technical Report.

screening indicators for NO_X, PM10, and PM2.5 based on the assumptions described in subsection 4.4 *Localized Emissions*. Therefore, with respect to localized construction emissions, impacts to existing and future receptors would be considered potentially significant. Mitigation measures would be required and are further discussed below in subsection 7, *Mitigation Measures*. **With implementation of mitigation measures, localized NO_X, PM10 and PM2.5 emissions from construction would be reduced to below the localized numeric indicators and impacts related to localized NO_X, PM10 and PM2.5 construction emissions would be mitigated to less than significant**

TABLE 9
ESTIMATED MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS FOR RESIDENTIAL TOWERS (POUNDS PER DAY) [a]

Source	NO_X	CO	PM10 [b]	PM2.5 [b]
On-site Construction Activities				
Demolition	106	74	9.3	5.5
Site Preparation	78	60	3.8	3.5
Grading	66	48	3.0	2.6
Foundation (North Tower)	62	34	3.2	3.0
Foundation (South Tower)	62	34	3.2	3.0
Subterranean Parking Structure Construction	124	82	6.2	5.8
Podium Construction	107	77	5.3	4.9
Building Construction	88	66	4.6	4.3
Building Construction/Architectural Coating	79	64	4.0	3.7
Building Construction/Paving/Architectural Coating	95	96	4.6	4.4
Maximum Localized (On-Site) Emissions	**124**	**96**	**9.3**	**5.8**
SCAQMD Screening Numeric Indicator [c]	**103**	**993**	**7.6**	**4.7**
Exceed Screening Numeric Indicator?	**Yes**	No	**Yes**	**Yes**

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report. The derivations of the localized significance thresholds are provided in **Appendix C-4** of this Technical Report.
b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.
c The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 1.84-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the construction area.

SOURCE: ESA, 2018.

TABLE 10
ESTIMATED MAXIMUM UNMITIGATED LOCALIZED CONSTRUCTION EMISSIONS FOR RESIDENTIAL TOWERS AND EXISTING BUILDING RENOVATIONS (POUNDS PER DAY) [a]

Source	NO_X	CO	PM10 [b]	PM2.5 [b]
On-site Construction Activities				
Demolition	106	74	9.3	5.5
Site Preparation	78	60	3.8	3.5
Grading	66	48	3.0	2.6
Foundations (North Tower)	62	34	3.2	3.0
Foundations (South Tower)	62	34	3.2	3.0
Subterranean Parking Structure Construction	124	82	6.2	5.8
Podium Construction	107	77	5.3	4.9
Building Construction - 2022	88	66	4.6	4.3
Building Construction/Architectural Coating - 2021	79	64	4.0	3.7
Building Construction/Paving/Architectural Coating - 2022	95	96	4.6	4.4
Existing Buildings Renovations [d]	16	13	1.3	1.2
Maximum Localized (On-Site) Emissions	141	109	10.6	7.0
SCAQMD Screening Numeric Indicator [c]	**138**	**1,506**	**12.5**	**6.7**
Exceed Screening Numeric Indicator?	**Yes**	No	No	**Yes**

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report. The derivations of the localized significance thresholds are provided in **Appendix C-4** of this Technical Report.
b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.
c The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 3.6-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the construction area.
d Renovations of existing buildings could occur concurrently during any phase of construction of the new residential mixed-use towers, therefore the maximum daily emissions of the existing renovations were added to the maximum daily emissions of residential mixed-use tower maximum daily emissions to serve as a conservative maximum daily emission estimate

SOURCE: ESA, 2018.

As shown in Table 7 above, regional NO_X emissions associated with construction activities would result in a potentially significant impact without the incorporation of mitigation. The localized effects of on-site Project emissions on nearby receptors were evaluated according to the SCAQMD's LST methodology. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. These ambient air quality standards were established at levels that provide public health protection and allow adequate margin of safety, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. As shown in Table 9 and 10, Project-related construction emissions would potentially exceed the LSTs, including for NO_X, PM10 and PM2.5 emissions. As a result, localized exceedances of the NO_2, PM10 and PM2.5 ambient air quality standards could potentially occur due to the NO_X, PM10 and PM2.5 emissions generated during

construction.[116] Therefore, off-site receptors could be exposed to NO_2, PM10 and PM2.5 levels in excess of the health-based ambient air quality standards. Therefore, mitigation measures would be required and are further discussed below in subsection 7, *Mitigation Measures*.

Given that ozone formation occurs through a complex photo-chemical reaction between NO_X and VOCs in the atmosphere with the presence of sunlight, the impacts of ozone are typically considered on a basin-wide or regional basis instead of a localized basis. The SCAQMD has not established an LST for ozone. The health-based ambient air quality standards for ozone are as concentrations of ozone and not as tonnages of their precursor pollutants (i.e., NO_X and VOCs). It is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or particulate matter. Because of the complexity of ozone formation and the non-linear relationship of ozone concentration with its precursor gases, and given the state of environmental science modeling in use at this time, it is infeasible to convert specific emissions levels of NO_X or VOCs emitted in a particular area to a particular concentration of ozone in that area. Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone.[117,118] Nonetheless, since Project construction would potentially exceed the numeric indicator for NO_X emissions, it is possible that Project construction NO_X emissions could result in an increase in ground-level ozone concentrations in proximity to the Project Site or elsewhere in the air basin and impacts would be potentially significant. Therefore, mitigation measures would be required and are further discussed below in subsection 7, *Mitigation Measures*. As discussed below, even with implementation of mitigation measures, regional emissions from construction would still be above the regional numeric indicators. Impacts related to regional NO_X construction emissions would be significant and unavoidable for NO_X emissions during the two continuous concrete pouring foundations phases, which are expected to last up to approximately two days each, and the Project would exceed the NO_X regional air quality threshold for these four days.

As expressed in the *amicus curiae* brief submitted for the *Sierra Club v. County of Fresno* case (*Friant Ranch Case*),[119,120] the CEQA criteria pollutants significance thresholds from the air district were set at emission levels tied to the region's attainment status, they are emission levels

116 Although there is no ambient air quality standard for NO_X, an exceedance of NO_X mass emissions thresholds can contribute to exceedance of local ambient air quality standards for NO_2, as discussed in subsection 1.5.1, *Regional Air Quality*.

117 SCAQMD, 2014, Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

118 SJVAPCD, 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

119 SCAQMD, 2014, Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

120 SJVAPCD, 2014. Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno.

at which stationary pollution sources permitted by the air district must offset their emissions and CEQA project must use feasible mitigations, and they are not intended to be indicative of any localized human health impact that a project may have. Therefore, the project's exceedance of the mass regional emissions threshold (i.e., pounds per day NOx thresholds) from project-related activities does not necessarily indicate that the project will cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO_X or VOCs emissions from project level. Therefore, it is infeasible to connect the Project level NO_X emissions to ozone-related health impact at this time.

The primary health concern with exposure to NO_X emissions is the secondary formation of ozone. Based on discussions with air quality management district staff,[121] and as the *amicus curiae* briefs submitted for the Friant Ranch Case suggested, because of the complexity of ozone formation and given the state of environmental science modeling in use at this time, it is infeasible to determine whether, or the extent to which, a single project's precursor (i.e., NO_X and VOCs) emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions. Meteorology, the presence of sunlight, seasonal impacts, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone. Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by NO_X or VOCs emissions from local level (project level). Notwithstanding these scientific constraints, the disconnect between Project level NO_X emissions and ozone-related health impact cannot be bridged at this time.

Based on available information, the future mixed-use residential development planned for future construction over the future Metro station at the corner of 2nd Street and Broadway approximately 50 feet southwest of the Project Site is not reasonably expected to be in operation and occupied during construction of the Project. The Initial Study[122] for that project states that its construction will not begin until construction of the Metro Regional Connector portal and station within the site is complete. Therefore, construction of this related project would not begin until 2022 and would not be complete until 2025, which would be two years after completion the Project. Therefore, there is no evidence to assume that this future mixed-use residential development would be occupied by residents during construction of the Project, and as such, there would no exposure to these future residents from construction-related localized emissions from the Project.

121 SCAQMD, 2016. Communication with SCAQMD Staff, Jillian Wong (Planning and Rules Manager) and Michael Krause (Planning and Rules Manager), DTSC, and ESA PCR, August 26, 2016.

122 City of Los Angeles Department of City Planning, Initial Study, 222 West 2nd Project.

5.4.2 Localized Operations Impacts

Existing and Future Sensitive Receptors

The localized operational air quality analysis was conducted using the methodology prescribed in the SCAQMD Localized Significance Threshold Methodology (June 2003, revised July 2008). The screening criteria provided in the Localized Significance Threshold Methodology were used to determine the localized operational emissions numerical indicators of significance for the Project. The same assumptions, including compliance with the Title 24 (2016) building energy efficiency standards, CALGreen Code, and City of Los Angeles Green Building Code, were used in the analysis. The analysis was done to account for existing sensitive receptors and future sensitive receptors that are in the planning stages. As discussed in Section 1.5.2, *Sensitive Receptors and Locations*, the nearest future sensitive receptor is the mixed-use residential developments planned for construction over the future Metro Station at the corner of 2nd Street and Broadway.

The maximum daily localized emissions and localized significance thresholds are presented in **Table 11,** *Maximum Unmitigated Localized Operational Emissions*. As shown therein, the Project's maximum localized operational emissions would not exceed the localized screening indicators for NO_X and CO, but would exceed localized screening criteria for PM10 and PM2.5. Therefore, with respect to localized operational emissions from operational activities, PM10 and PM2.5 impacts would be potentially significant. Mitigation measures would be required and are further discussed in Section 7, *Mitigation Measures*. **With implementation of mitigation measures, localized PM10 and PM2.5 emissions from operations would be reduced to below the localized numeric indicators and impacts related to localized PM10 and PM2.5 operational emissions would be mitigated to less than significant.**

TABLE 11
ESTIMATED MAXIMUM UNMITIGATED LOCALIZED OPERATIONAL EMISSIONS (POUNDS PER DAY) [a]

Source	NO_X	CO	PM10	PM2.5
Area (Coating, Consumer Products, Landscaping)	1	93	0.52	0.52
Energy	7	5	0.52	0.58
Stationary (Charbroilers)	–	–	1.76	1.06
Stationary (Cooling Towers)	–	–	0.34	0.29
Stationary (Emergency Generators)	13	12	0.04	0.04
Total Localized (On-Site) Emissions	**21**	**110**	**3.23**	**2.48**
SCAQMD Screening Numeric Indicator [b]	**138**	**1,506**	**3.13**	**2.00**
Exceeds Screening Numeric Indicator?	No	No	**Yes**	**Yes**

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-3** of this Technical Report.

[b] The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County Costal) for a 3.6-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the Project Site.

SOURCE: ESA, 2018.

5.4.3 Toxic Air Contaminants

Construction Impacts

Temporary TAC emissions associated with DPM emissions from heavy construction equipment would occur during the construction phase of the Project. According to the Office of Environmental Health Hazard Assessment (OEHHA)and the SCAQMD *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (August 2003),[123] health effects from TACs are described in terms of individual cancer risk based on a lifetime (i.e., 70-year) resident exposure duration. Given the temporary and short-term construction schedule (approximately 48 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of Project construction.

As shown in **Table 8** above, the Project would be consistent with applicable AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The Project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. The Project would also comply with the requirements of SCAQMD Rule 1403 if asbestos is found during the renovation and construction activities. **Therefore, impacts from TACs during construction would be less than significant.**

Operational Impacts

The SCAQMD recommends that operational health risk assessments be conducted for substantial sources of operational DPM (e.g., truck stops and warehouse distribution facilities that generate more than 100 trucks per day or more than 40 trucks with operating transport refrigeration units) and has provided guidance for analyzing mobile source diesel emissions.[124] Project operations would generate only minor amounts of diesel emissions from mobile sources, such as delivery trucks and occasional maintenance activities that would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units. Furthermore, Project trucks are required to comply with the applicable provisions of the CARB 13 CCR, Section 2025 (Truck and Bus regulation) to minimize and reduce PM and NO_X emissions from existing diesel trucks. Therefore, the Project operations would not be considered a substantial source of diesel particulates.

In addition, Project operations would only result in minimal emissions of air toxics from maintenance or other ongoing activities, such as from the use of architectural coatings and other products. Area sources that would generate TAC emissions include charbroiling activities associated with the restaurant uses and consumer products associated with re-applying

[123] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003, http://www.aqmd.gov/docs/default-source/ceqa/handbook/mobile-source-toxics-analysis.doc?sfvrsn=2. Accessed December 2018.

[124] South Coast Air Quality Management District, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis, August 2003.

architectural coatings and cleaning building surfaces. Charbroiling has the potential to generate small amounts of chemicals that are known or suspected by the State of California to cause human health impacts. However, restaurants incorporating charbroiling in the Air Basin would be required to comply with SCAQMD Rule 1138 (Control of Emissions from Restaurant Operations), which requires the installation of emissions controls on charbroilers. The emissions controls would minimize the already small amounts of TAC emissions associated with charbroiling (as seen in **Table 8**) by approximately 83 percent,[125] such that charbroiling would not cause or contribute to adverse health impacts at nearby sensitive receptors. The emergency generator would be required to comply with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines), the purpose of which is to control and limit emissions of TACs from emergency generators and similar equipment. In accordance with Rule 1470, emissions from maintenance and testing would not occur daily, but rather periodically, up to 50 hours per year. Furthermore, the emergency generator would be certified to the most stringent CARB and SCAQMD Rule 1470 standards and minimize emissions to the lowest technically feasible and regulatory required level for equipment of this size and type. As shown in **Table 11**, PM10 and PM2.5 emissions (i.e., DPM emissions) from the emergency generator would be 0.04 pounds per day for only those periodic days in which maintenance and testing would occur. Compliance with Rule 1470 would ensure the TAC emissions from the emergency generator would not cause or contribute to adverse health impacts at nearby sensitive receptors. In addition, the cooling towers would generate small amounts of emissions at 0.3 pounds per day of particulate matter (entrained water droplets) conservatively assuming continuous operation. Therefore, the emissions would not pose a health risk to off-site receptors.

With respect to the use of consumer products and architectural coatings, the residential and retail uses associated with the Project would be expected to generate minimal emissions from these sources. The Project's land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products. **As a result, toxic or carcinogenic air pollutants are not expected to occur in any substantial amounts in conjunction with operation of the proposed land uses within the Project Site. Based on the uses expected on the Project Site, potential long-term operational impacts associated with the release of TACs would be minimal, regulated, and controlled, and would not be expected to exceed the SCAQMD numerical indicator of significance. Therefore, impacts would be less than significant.**

5.4.4 Carbon Monoxide Hotspots

The potential for the Project to cause or contribute to CO hotspots is evaluated by comparing Project intersections (both intersection geometry and traffic volumes) with prior studies conducted by the SCAQMD in support of their AQMPs and considering existing background CO concentrations. As discussed below, this comparison demonstrates that the Project would not cause or contribute considerably to the formation of CO hotspots, that CO concentrations at

[125] United States Environmental Protection Agency, National Emissions Inventory for Commercial Cooking,

Project impacted intersections would remain well below the ambient air quality standards, and that no further CO analysis is warranted or required.

As shown previously in **Table 3**, CO levels in the Project Area are substantially below the federal and state standards. Maximum CO levels in recent years are 3.2 ppm (one-hour average) and 2.0 ppm (eight-hour average) compared to the thresholds of 20 ppm (one-hour average) and 9.0 ppm (eight-hour average). Carbon monoxide decreased dramatically in the Air Basin with the introduction of the catalytic converter in 1975. No exceedances of CO have been recorded at monitoring stations in the Air Basin for some time and the Air Basin is currently designated as a CO attainment area for both the CAAQS and NAAQS. Thus, it is not reasonable to expect that CO levels at intersections analyzed in the Project Transportation Impact Analysis[126] would rise to the level of an exceedance of these standards.

Additionally, the SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the Air Basin. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; and (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP CO attainment demonstration, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day.[127] Relevant information from the 2003 AQMP CO attainment demonstration relied upon in this assessment is provided in **Appendix C-5** of this Technical Report. This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (one-hour average) and 3.2 (eight-hour average) at Wilshire Boulevard and Veteran Avenue.[128]

Based on the Project's Transportation Impact Analysis,[129] under future plus Project (2023) conditions, the intersection of Hill Street and 1st Street would have a maximum traffic volume of approximately 62,220 ADT, which are assumed to operate at very low or idling speeds at a congested roadway intersection.[130] As a result, CO concentrations are expected to be approximately 6.1 ppm (one-hour average) and 4.0 ppm (eight-hour average), which would not exceed the numerical indicators of significance.[131] Total traffic volumes at the maximum

126 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

127 South Coast Air Quality Management District, 2003 Air Quality Management Plan, Appendix V: Modeling and Attainment Demonstrations, page V-4-24, 2003, https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/2003-aqmp. Accessed December 2018.

128 The eight-hour average is based on a 0.7 persistence factor, as recommended by the SCAQMD.

129 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

130 The traffic volume of approximately 62,220 was estimated based on the peak hour intersection volumes under future with Project conditions and the general assumption that peak hour trips represent approximately 10 percent of daily trip volumes (the Federal Highway Administration considers 10 percent to be a standard assumption; seehttp://www.fhwa.dot.gov/planning/tmip/ publications/other_reports/tod_modeling_procedures/ch02.cfm).

131 The one-hour average and eight-hour average CO concentration values calculated for the intersection of Hill Street and 1st Street add the values of vehicle emissions to the ambient and are lower than the 20 ppm (one-hour average) and 9 ppm (eight-hour) CO standards mentioned above.

impacted intersection would likely have to more than double to cause or contribute to a CO hotspot impact given that vehicles operating today have reduced CO emissions as compared to vehicles operating in year 2003 when the SCAQMD conducted the AQMP attainment demonstration modeling.[132] This comparison demonstrates that the Project would not contribute to the formation of CO hotspots and that no further CO analysis is required. The Project would result in less than significant impacts with respect to CO hotspots.

Therefore, as discussed above relative to LSTs, TACs, and CO hotspots, the Project impacts pursuant to this threshold would be less than significant with mitigation.

5.5 Odors

Threshold e): Create objectionable odors affecting a substantial number of people.

As discussed in the Initial Study, which is contained in Appendix A of the Project's Draft EIR, and in Chapter 6.0, Subsection F, *Effects Found Not to be Significant*, of the Project's Draft EIR, odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes. Odors are also associated with such uses as sewage treatment facilities and landfills. Activities and materials associated with Project construction would be typical of construction projects of similar type and size. Any odors generated during construction of the Project would be localized and would not be sufficient to affect a substantial number of people or result in a nuisance as defined by SCAQMD Rule 402. The Project proposes a mixed-use development that includes residential, office, retail (including grocery store), and restaurants that would not introduce any major odor-producing uses that would have the potential to affect a substantial number of people, such as uses associated with manufacturing, smelting, food packing, and other industrial uses. Waste would also be regularly collected and, because trash receptacles would be located within the Project's interior, any potential odors from on-site waste disposal would not affect surrounding land uses. **Therefore, the Project Site would not create objectionable odors affecting a substantial number of people and a less than significant impact would occur with respect to Threshold e. No further analysis is required.**

132 South Coast Air Quality Management District, 2003 Air Quality Management Plan, Chapter 6 Clean Air Act Requirements.

SECTION 6
Cumulative Impacts

There are a number of cumulative projects in the Project area that have not yet been built or are currently under construction. Since the timing or sequencing of the cumulative projects is unknown, any quantitative analysis to ascertain daily construction emissions that assumes multiple, concurrent construction projects would be speculative. For this reason, the SCAQMD's recommended methodology to assess a project's cumulative impact differs from the cumulative impacts methodology employed elsewhere in this Technical Report. The SCAQMD recommends using two different methodologies: (1) that project-specific air quality impacts be used to determine the potential cumulative impacts to regional air quality;[133] and (2) that a project's consistency with the current AQMP be used to determine its potential cumulative impacts.

6.1 Project-Specific Impacts

The Project would result in the emission of criteria pollutants for which the region is in non-attainment during both construction and operation. Based on the Project-specific level of emissions, the Project's cumulative impacts would be potentially significant for construction due to regional NO_X emissions, and localized NO_X, PM10 and PM2.5 emissions exceeding the numerical indicators of significance as shown in **Table 7** for regional construction emissions and in **Table 9** and **Table 10** for localized construction emissions. Therefore, mitigation measures would be required are further discussed below in Section 7, *Mitigation Measures*, of this Technical Report.

With implementation of mitigation measures, regional emissions from construction would be above the regional numeric indicators. Impacts related to regional NO_X construction emissions would be significant and unavoidable for NO_X emissions during the two continuous concrete pouring foundations phases, which is expected to last up to approximately two days each.

With implementation of mitigation measures, localized emissions from construction would be reduced to below the localized numeric indicators and impacts related to localized NO_X, PM10 and PM2.5 construction emissions would be mitigated to less than significant.

Project-specific operational emissions would result in potentially significant impacts due to regional NOx emissions and localized PM10 and PM2.5 emissions at existing and future sensitive receptor locations exceeding the numerical indicators of significance as shown in **Table 8** for regional operational emissions and in **Table 11** for localized operational emissions. Therefore,

[133] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, 1993, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook. Accessed December 2018.

mitigation measures would be required are further discussed below in Section 7, *Mitigation Measures*, of this Technical Report.

With implementation of mitigation measures, regional and localized emissions from operations would be reduced to below the regional and localized numeric indicators and impacts related to regional NO_X and localized PM10 and PM2.5. operational emissions would be mitigated to less than significant.

The accumulation and dispersion of air pollutant emissions within an air basin is dependent upon the size and distribution of emission sources in the region and meteorological factors such as wind, sunlight, temperature, humidity, rainfall, atmospheric pressure, and topography. The health impacts associated with exposure to criteria pollutants are evaluated by air districts on a regional level based on all sources in the region and the region's attainment of the NAAQS. The mass emissions significance thresholds used in CEQA air quality analysis are not intended to be indicative of any localized human health impact that a project may have; instead, they were tied to the region's attainment status and are emission levels at which stationary pollution sources permitted by the air district must offset their emissions using enhanced control technology and CEQA projects must implement feasible mitigations.[134] Therefore, the Project's exceedance of the mass regional NO_X emissions threshold from temporary construction activities (in this case just for two days during concrete pours)[135] does not necessarily indicate that the Project will cause or contribute to the exposure of sensitive receptors to ground-level concentrations in excess of health-protective levels.

The health concerns associated with NO_X emissions are related to its potential to result in the secondary formation of ground-level ozone. As discussed earlier, the Air Basin is designated as nonattainment for ozone. The formation of ground-level ozone is a complex process due to photochemical reactions of precursor pollutants (i.e., VOC and NO_X emissions) in the atmosphere. It is not necessarily the amount of NO_X and VOCs emitted that cause human health impacts, but the concentration of resulting ozone. Because of the complexity of ozone formation, a specific amount of NO_X or VOC's emitted in a particular area does not equate to a particular concentration of ozone in an area.[136] Environmental science models today cannot determine whether, or the extent to which, a single project's precursor emissions would potentially result in the formation of secondary ground-level ozone and the geographic and temporal distribution of such secondary formed emissions. This is because available models today are designed to determine regional, population-wide health impacts and cannot accurately quantify ozone-related health impacts caused by NO_X or VOCs emissions at a project level.[137] The use of these models

134 April 2015 Amicus Curiae Brief of the South Coast Air Quality Management District in *Sierra Club v. County of Fresno* (CA Supreme Court, S219783).

135 The two concrete pouring phases were described above based on calendar days per concrete pouring phase where each phase will be split over two calendar work days. However, in terms of activity hours, the two concrete pour will require up to 48 hours total, as such the concrete pouring activities will only require only two days in terms of activity hours.

136 April 2015 Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in *Sierra Club v. County of Fresno* (CA Supreme Court, S219783),

137 Ibid.

for a small source of emissions such as the Project would not produce reliable or meaningful results.[138] Therefore, it is not reasonably feasible to correlate the Project's exceedance of the NO_X significance threshold during four days of concrete pours to ozone-related health impact at this time.

6.2 Consistency with Air Quality Management Plan

Alternatively, the SCAQMD recommends assessing a project's cumulative impacts based on whether it is consistent with the AQMP. Section 15064(h)(3) of the State CEQA Guidelines provides guidance in determining the significance of cumulative impacts. Specifically, Section 15064(h)(3) states in part that:

> *"A lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program which provides specific requirements that will avoid or substantially lessen the cumulative problem (e.g., water quality control plan, air quality plan, integrated waste management plan) within the geographic area in which the project is located. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency…"*

For purposes of the cumulative air quality analysis with respect to *CEQA Guidelines* Section 15064(h)(3), the Project's cumulative air quality impacts are determined not to be significant based on its consistency with the SCAQMD's adopted 2012 AQMP and the 2016 AQMP, as discussed above.

The Project has incorporated strategies, as applicable, consistent with the AQMP. Construction of the Project would comply with SCAQMD Rule 403 requirements and the ATCM to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time. In addition, the Project would utilize a construction contractor(s) that complies with required and applicable BACT and the In-Use Off-Road Diesel Vehicle Regulation. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on other construction projects in the Air Basin as required, which would include each of the cumulative projects in the Project Area. As such, Project construction would be consistent with the AQMP and impacts with respect to AQMP consistency would be less than significant.

The Project's location, design, and proposed land uses would be consistent with the AQMP (refer to Section 5.1, *Consistency with Air Quality Plan*, of this Technical Report). The AQMP includes

[138] April 2015 Amicus Curiae Brief of the South Coast Air Quality Management District in Sierra Club v. County of Fresno (CA Supreme Court, S219783)

transportation control measures that are intended to reduce regional mobile source emissions.[139] The Project would locate residential and retail uses in a TOD that would be located within a quarter-mile of multiple public transportation options, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector. The Red Line connects the Civic Center to Union Station, Hollywood, and North Hollywood. The Red and Purple Lines provide further connection to three light rail transit lines serving downtown Los Angeles: the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station. The Project is also within a quarter mile of many Metro bus routes (e.g., local 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Hill and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street), LADOT's Dash Downtown "D" line, and Metro's Rapid Lines 728, 733, 745, and 770. The Project would provide access to on-site uses from existing pedestrian pathways. The Project's proximity to public transit, including the Metro Civic Center Station, would allow the Project's projected growth to be accommodated by existing and under-construction transportation resources and decreases the time and cost of traveling as well as vehicular demand and associated pollutants. The Project's increase in population, housing, and employment would therefore be consistent with SCAG's RTP/SCS goals and would be consistent with SCAG's growth projections for the City as a whole (refer to Section IV.J, *Population and Housing*, of the Project's Draft EIR). The Project would therefore also be consistent with the growth projections as contained in the City's General Plan, and consistent with the growth projections in the AQMP. Moreover, as discussed above, the Project's growth would occur on a site well-served by public transportation and in proximity to existing employment and commercial areas, which would minimize potential growth in transportation-related emissions. As such, as the Project would not conflict with or obstruct implementation of the 2016 AQMP and is would be consistent with the AQMP, the Project's cumulative operational impacts with respect to AQMP consistency would be less than significant.

[139] Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts as appropriate, installation of energy-efficient streetlights, and synchronization of traffic signals.

SECTION 7
Mitigation Measures

Construction

The Project would require implementation of mitigation measures that would minimize construction emissions. As detailed in mitigation measures MM AQ-1 and MM AQ-2, construction of the Project would be required to utilize off-road diesel-powered construction equipment that meet or exceed the stringent CARB and USEPA Tier 4 off-road emissions standards for those equipment rated at 50 hp or greater during Project construction. The Project would also be required to implement other emissions control strategies such as ensuring equipment are maintained and operated in accordance with manufacturer specifications. These measures are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment, and would accelerate the replacement of older engines that produce higher air quality emissions with newer engines that produce lower air quality emissions as a result of meeting the stringent Tier 4 emissions standards.

> **MM-AQ-1:** The Applicant shall implement construction equipment features for equipment operating at the Project Site. These features shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. Construction features will include the following:
>
> a. During plan check, the Project representative shall make available to the lead agency and SCAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used during any of the construction phases. The inventory shall include the horsepower rating, engine production year, and certification of the specified Tier standard. A copy of each such unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided on-site at the time of mobilization of each applicable unit of equipment to allow the Construction Monitor to compare the on-site equipment with the inventory and certified Tier specification and operating permit. Off-road diesel-powered equipment that will be used an aggregate of 40 or more hours during any portion of the construction activities associated with grading/ excavation/export phase shall meet the Tier 4 standards. Construction contractors supplying heavy duty diesel equipment greater than 50 horsepower shall be encouraged to apply for SCAQMD SOON funds. Information including the SCAQMD website shall be provided to each contractor which uses heavy duty diesel for on-site construction activities.
>
> b. Equipment such as tower cranes and signal boards shall be electric or alternative fueled (i.e., non-diesel). Pole power shall be made available for use for electric tools, equipment, lighting, etc. Construction equipment such as tower cranes and signal boards shall utilize electricity from power poles or alternative fuels (i.e., non-diesel),

rather than diesel power generators and/or gasoline power generators. If stationary construction equipment, such as diesel- or gasoline-powered generators, must be operated continuously, such equipment shall be located at least 100 feet from sensitive land uses (e.g., residences, schools, childcare centers, hospitals, parks, or similar uses), whenever possible.

c. Alternative-fueled generators shall be used when commercial models that have the power supply requirements to meet the construction needs of the Project are commercially available from local suppliers/vendors. The determination of commercial availability of such equipment will be made by the City prior to issuance of grading or building permits based on applicant-provided evidence of the availability or unavailability of alternative-fueled generators and/or evidence obtained by the City from expert sources such as construction contractors in the region.

MM-AQ-2: The Applicant shall implement the following measures to reduce the emissions of air pollutants generated by heavy-duty diesel-powered equipment operating at the Project Site:

a. Contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues shall have their engines turned off after 5 minutes when not in use, to reduce vehicle emissions.

b. All construction equipment shall be properly tuned and maintained in accordance with the manufacturer's specifications. The contractor shall keep documentation on-site demonstrating that the equipment has been maintained in accordance with the manufacturer's specifications. Tampering with construction equipment to increase horsepower or to defeat emission control devices shall be prohibited.

c. Construction activities shall be discontinued during second-stage smog alerts. A record of any second-stage smog alerts and of discontinued construction activities as applicable shall be maintained by the Contractor on-site.

Implementation of MM AQ-1 and MM AQ-2 would minimize localized NO_X, PM10 and PM2.5 emissions from all construction phases to below the localized numeric indicators. Therefore, impacts related to localized NO_X, PM10 and PM2.5 construction emissions would be mitigated to less than significant. The Project's mitigated regional and localized construction emissions are summarized in **Table 12**, *Estimated Maximum Mitigated Regional Construction Emissions,* **Table 13,** *Estimated Maximum Mitigated Localized Construction Emissions for Residential Towers* and **Table 14,** *Estimated Maximum Mitigated Localized Construction Emissions for Residential Towers and Existing Building Renovations.* Implementation of MM AQ-1 and MM AQ-2 would minimize regional NO_X emissions to below the SCAQMD regional numeric indicators for all phases of Project construction except for regional NO_X emissions during the two continuous concrete pouring foundations phases, which would be expected to last up to approximately two days each. Since concrete trucks from a variety of area concrete suppliers would be required to deliver the volume of concrete necessary for the continuous concrete pouring foundations phases, there are no feasible mitigation measures that would reduce the NO_X emissions from the concrete trucks to below the regional numeric indicator. It is not possible to reduce the number of concrete trucks needed to

complete the continuous concrete pouring phase without compromising the integrity of the building foundations. Therefore, impacts related to regional NO_X construction emissions would be temporarily significant during the two continuous concrete pouring foundations phases, which is expected to last up to approximately two days each. Regional construction impacts would be significant and unavoidable for NO_X. The Project's contribution to cumulatively significant construction impacts to air quality would be potentially significant for regional NO_X during the approximately two continuous concrete pouring construction activities lasting up to two days each. While the Project would result in regionally significant and unavoidable NO_X and ozone precursor impacts during the two continuous concrete pouring activities lasting up to two days each, the short-term duration and limited magnitude of the impact limits the potential for exposure and health impacts to sensitive receptors and would not jeopardize long-term air quality plans to attain the health-based ambient air quality standards in the Air Basin. Ozone formation occurs through a complex photo-chemical reaction between NO_X and VOCs in the atmosphere with the presence of sunlight and the impacts of ozone are typically considered on a basin-wide or regional basis. Because the concrete trucks would come from various facilities in the area and would be distributed along the roadway network, the total NO_X emissions from the concrete trucks would not be concentrated at a single site. Through atmospheric and geographical dispersion, NO_X-related health impacts from the short-term concrete pouring activities would not be expected to occur to a measureable degree.

With implementation of feasible mitigation, regional emissions from construction would be above the regional numeric indicators and impacts related to regional NO_X construction emissions and would be significant and unavoidable for NO_X emissions during the two continuous concrete pouring foundations phases, which is expected to last up to approximately two days each and the Project would violate the NO_X regional air quality standard.

In addition, with implementation of MM AQ-1 and MM AQ-2, the localized NO_X, PM10 and PM2.5 emissions from construction would be reduced to below the localized numeric indicators and impacts related to localized NO_X, NO_X, PM10 and PM2.5 construction emissions would be mitigated to less than significant.

TABLE 12
ESTIMATED MAXIMUM MITIGATED REGIONAL CONSTRUCTION EMISSIONS (POUNDS PER DAY) [a]

Source	VOC	NO_X	CO [b]	SO_2	PM10 [c]	PM2.5 [c]
Individual Phases						
Demolition	2	15	91	<1	5	1
Site Preparation	2	8	75	<1	1	<1
Grading	5	99	89	<1	7	2
Foundation (North Tower)	16	502	125	1.4	33	11
Foundation (South Tower)	13	420	107	1.2	28	9
Subterranean Parking Structure Construction	10	52	148	<1	16	5
Podium Construction	9	54	137	<1	16	5
Building Construction	9	43	117	<1	16	5
Building Construction/Architectural Coating	23	40	122	<1	18	5
Building Construction/Paving/Architectural Coating	23	42	159	<1	19	5
Existing Building Renovations [d]	1	9	21	<1	2	1
Maximum Daily Emissions	**25**	**512**	**180**	**1.5**	**35**	**11**
SCAQMD Numeric Indicators	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	**Yes**	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report.

[b] CO emissions for multiple phases may be higher after mitigation due to Tier 4 CO emission factors from CalEEMod being higher than the unmitigated vehicle CO emissions factors.

[c] Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

[d] Renovations of existing buildings could occur concurrently during any phase of construction of the new residential mixed-use towers, therefore the maximum daily emissions of the existing renovations were added to the maximum daily emissions of residential mixed-use tower maximum daily emissions to serve as a conservative maximum daily emission estimate.

SOURCE: ESA, 2018.

TABLE 13
ESTIMATED MAXIMUM MITIGATED LOCALIZED CONSTRUCTION EMISSIONS FOR RESIDENTIAL TOWERS (POUNDS PER DAY) [a]

Source	NO_X	CO [b]	PM10 [c]	PM2.5 [c]
On-site Construction Activities				
Demolition	9	87	1.8	0.5
Site Preparation	8	73	0.2	0.2
Grading	9	67	0.3	0.3
Foundation (North Tower)	5	17	0.2	0.2
Foundation (South Tower)	5	17	0.2	0.2
Subterranean Parking Structure Construction	13	86	0.4	0.4
Podium Construction	12	80	0.4	0.4
Building Construction - 2022	10	62	0.3	0.3
Building Construction/Architectural Coating - 2021	10	62	0.3	0.3

Source	NO_X	CO [b]	PM10 [c]	PM2.5 [c]
Building Construction/Paving/Architectural Coating - 2022	14	103	0.4	0.4
Maximum Localized (On-Site) Emissions	**14**	**103**	**1.8**	**0.5**
SCAQMD Screening Numeric Indicator [d]	**103**	**993**	**7.6**	**4.7**
Exceed Screening Numeric Indicator?	No	No	No	No

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report. The derivations of the localized significance thresholds are provided in **Appendix C-4** of this Technical Report

b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

c The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 1.84-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the construction area.

d CO emissions for multiple phases may be higher after mitigation due to Tier 4 CO emission factors from CalEEMod being higher than the unmitigated vehicle CO emissions factors.

SOURCE: ESA, 2018.

TABLE 14
ESTIMATED MAXIMUM MITIGATED LOCALIZED CONSTRUCTION EMISSIONS FOR RESIDENTIAL TOWERS AND EXISTING BUILDING RENOVATIONS (POUNDS PER DAY) [a]

Source	NO_X	CO [b]	PM10 [c]	PM2.5 [c]
On-site Construction Activities				
Demolition	9	87	1.8	0.5
Site Preparation	8	73	0.2	0.2
Grading	9	67	0.3	0.3
Foundations (North Tower)	5	17	0.2	0.2
Foundations (South Tower)	5	17	0.2	0.2
Subterranean Parking Structure Construction	13	86	0.2	0.4
Podium Construction	12	80	0.4	0.4
Building Construction - 2022	10	62	0.4	0.3
Building Construction/Architectural Coating - 2021	10	62	0.3	0.3
Building Construction/Paving/Architectural Coating - 2022	14	103	0.4	0.4
Existing Buildings Renovations [d]	1	13	0.04	0.04
Maximum Localized (On-Site) Emissions	**15**	**115**	**1.9**	**0.5**
SCAQMD Screening Numeric Indicator [e]	**138**	**1,506**	**12.5**	**6.7**
Exceed Screening Numeric Indicator?	No	No	No	No

a Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-2** of this Technical Report. The derivations of the localized significance thresholds are provided in **Appendix C-4** of this Technical Report.

b Emissions include fugitive dust control measures consistent with SCAQMD Rule 403.

c The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 3.6-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the construction area.

d Renovations of existing buildings could occur concurrently during any phase of construction of the new residential mixed-use towers, therefore the maximum daily emissions of the existing renovations were added to the maximum daily emissions of residential mixed-use tower maximum daily emissions to serve as a conservative maximum daily emission estimate

e CO emissions for multiple phases may be higher after mitigation due to Tier 4 CO emission factors from CalEEMod being higher than the unmitigated vehicle CO emissions factors.

SOURCE: ESA, 2018.

Operation

The Project would result in potentially significant regional operational impacts associated with NO_X and localized operational impacts associated with PM2.5 and PM10. Therefore, the mitigation measures listed below would be required.

> **MM-AQ-3: Landscaping Equipment:** The Project representative will require that landscaping equipment used on the Project Site be electric- or battery-powered, rather than liquid fossil-fueled or use equipment that do not require a power or fuel source. Prior to occupancy of the residential towers, the Project representative shall provide documentation to the City of the use of landscaping contractors, service providers, or maintenance crews that will use equipment that meet the specified requirements. Documentation shall be maintained for the duration of landscaping services and made available to the City upon request.
>
> **MM-AQ-4: Restaurant Charbroiling:** The Project representative will limit the number of restaurants permitted to utilize under-fired charbroiling equipment to two restaurants or less. Restaurants with under-fired charbroiling equipment will meet applicable SCAQMD emission control requirements. Prior to occupancy of the designated commercial spaces by restaurant tenants, the Project representative shall provide documentation to the City of the number of Project Site restaurants with under-fired charbroiling equipment. Documentation shall be maintained and made available to the City upon request.
>
> **MM-AQ-5: Emergency Generators:** The Project representative will schedule routine maintenance and testing of the emergency generators installed on the Project Site on different days. Prior to the installation of emergency generators, the Project representative shall supply documentation to the City that emergency generator testing by contractors, service providers, or maintenance crews will be conducted in accordance with the specified requirements. The Project representative shall maintain records of emergency generator testing, including testing dates, which shall be made available to the City upon request.

The Project would result in potentially significant operational impacts due to regional emissions of NO_X above the regional numeric indicator. In addition, the Project would result in potentially significant operational impacts due to localized emissions of PM10 and PM2.5 above the localized numeric indicators. Therefore, mitigation measures MM AQ-3, MM AQ-4 and MM AQ-5 would be required to reduce operations-related emissions. The Project's mitigated regional and localized operational emissions are summarized below in **Table 15**, *Estimated Maximum Mitigated Regional Operational Emissions* and **Table 16**, *Estimated Maximum Mitigated Localized Operational Emissions*.

Implementation of MM AQ-3, MM AQ-4 and MM AQ-5 would minimize regional NO_X emissions from operations by scheduling routine maintenance of emergency generators so that only one emergency generator is maintained on any given day. With implementation of MM AQ-3, MM AQ-4 and MM AQ-5, the regional NO_X emissions from operations would be reduced to below the regional numeric indicator and impacts related to regional NO_X operational emissions would be mitigated to less than significant

Implementation of MM AQ-3, MM AQ-4 and MM AQ-5 would also minimize localized PM10 and PM2.5 emissions from operations of the Project by limiting the number of restaurants permitted to utilize under-fired charbroiling equipment to two restaurants or less. With implementation of MM AQ-3, MM AQ-4 and MM AQ-5, the localized PM10 and PM2.5 emissions from operations would be reduced to below the localized numeric indicators and impacts related to localized PM10 and PM2.5 operational emissions would be mitigated to less than significant.

TABLE 15
ESTIMATED MAXIMUM MITIGATED REGIONAL OPERATIONAL EMISSIONS (POUNDS PER DAY) [a]

Source	VOC	NO_X	CO	SO_2	PM10	PM2.5
Existing						
Area (Coating, Consumer Products, Landscaping)	8	<1	<1	0	1	1
Energy	<1	2	1	<1	<1	<1
Mobile	8	35	96	<1	18	5
Total	16	37	98	<1	18	5
Proposed Project						
Area (Coating, Consumer Products, Landscaping)	36	1	93	<1	1	1
Stationary (Charbroilers)	<1	-	-	-	2	1
Stationary (Cooling Towers)	-	-	-	-	<1	<1
Stationary (Emergency Generators)	1	13	12	<1	<1	<1
Energy	1	9	6	<1	1	1
Mobile	17	70	193	1	62	17
Total	55	93	305	1	64	19
Net Increase						
Area (Coating, Consumer Products, Landscaping)	29	1	93	<1	1	1
Stationary (Charbroilers)	<1	-	-	-	1	1
Stationary (Cooling Towers)	-	-	-	-	<1	<1
Stationary (Emergency Generators)	1	8	7	<1	<1	<1
Energy	1	7	5	<1	<1	<1
Mobile	8	35	97	<1	44	12
Net Total Regional Emissions	**38**	**51**	**202**	**1**	**46**	**14**
SCAQMD Numeric Indicators	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Thresholds?	No	No	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-3** of this Technical Report.

SOURCE: ESA, 2018.

TABLE 16
ESTIMATED MAXIMUM MITIGATED LOCALIZED OPERATIONAL EMISSIONS (POUNDS PER DAY) [A]

Source	NO_X	CO	PM10	PM2.5
Area (Coating, Consumer Products, Landscaping)	1	93	0.52	0.52
Energy	7	5	0.58	0.58
Stationary (Charbroilers)	–	–	0.88	0.53
Stationary (Cooling Towers)	–	–	0.34	0.29
Stationary (Emergency Generators)	8	7	0.03	0.03
Total Localized (On-Site) Emissions	**16**	**105**	**2.34**	**1.94**
SCAQMD Screening Numeric Indicator [b]	**138**	**1,506**	**3.1**	**2.0**
Exceeds Screening Numeric Indicator?	No	No	No	No

[a] Totals may not add up exactly due to rounding in the modeling calculations. Detailed emissions calculations are provided in **Appendix C-3** of this Technical Report.

[b] The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County Costal) for a 3.6-acre site with sensitive receptors conservatively assumed to be located within 25 meters of the Project Site.

SOURCE: ESA, 2018.

SECTION 8
Summary of Results

8.1 Construction

Construction of the Project would not exceed the daily regional emission numeric indicators of significance set forth by the South Coast Air Quality Management District (SCAQMD) for volatile organic compounds (VOC), carbon monoxide (CO), sulfur dioxide (SO_2), respirable particulate matter (PM10), and fine particulate matter (PM2.5) emissions. However, construction of the Project would exceed the daily regional emission numeric indicators of significance for nitrogen oxide (NO_X) on a temporary basis from Project construction. As shown in **Table 12**, **Table 13**, and **Table 14**, implementation of MM AQ-1 and MM AQ-2 would minimize regional NO_X emissions to below the SCAQMD regional numeric indicators for all phases of Project construction except for regional NO_X emissions during the two continuous concrete pouring foundations phases, which would be expected to last up to a total of approximately two days each. Since concrete trucks from a variety of area concrete suppliers would be required to deliver the volume of concrete necessary for the continuous concrete pouring foundations phases, there are no feasible mitigation measures that would reduce the NO_X emissions from the concrete trucks to below the regional numeric indicator. It is not possible to reduce the number of concrete trucks needed to complete the continuous concrete pouring phase without compromising the integrity of the building foundations. Therefore, impacts related to regional NO_X construction emissions would be temporarily significant during the two continuous concrete pouring foundations phases, which is expected to last up to approximately two days each. Regional construction impacts would be significant and unavoidable for NO_X. The Project's contribution to cumulatively significant construction impacts to air quality would be potentially significant for regional NO_X during the two continuous concrete pouring construction activities last up to two days each. While the Project would result in regionally significant and unavoidable NO_X and ozone precursor impacts during the two continuous concrete pouring activities lasting up to two days each, the short-term duration and limited magnitude of the impact limits the potential for exposure and health impacts to sensitive receptors and would not jeopardize long-term air quality plans to attain the health-based ambient air quality standards in the Air Basin. Ozone formation occurs through a complex photo-chemical reaction between NO_X and VOCs in the atmosphere with the presence of sunlight and the impacts of ozone are typically considered on a basin-wide or regional basis. Because the concrete trucks would come from various facilities in the area and would be distributed along the roadway network, the total NO_X emissions from the concrete trucks would not be concentrated at a single. Through atmospheric and geographical dispersion, NO_X-related health impacts from the short-term concrete pouring activities would not be expected to occur to a measureable degree.

Implementation of MM AQ-1 and MM AQ-2 would also minimize localized NO_X, PM10 and PM2.5 emissions from all construction phases to below the localized numeric indicators. Therefore, impacts related to localized NO_X construction emissions would be mitigated to less than significant.

8.2 Operation

The Project would result in potentially significant operational impacts due to regional emissions of NO_X above the regional numeric indicator. In addition, the Project would result in potentially significant operational impacts due to localized emissions of PM10 and PM2.5 above the localized numeric indicators. Therefore, mitigation measures MM AQ-3, MM AQ-4 and MM AQ-5 would be required to reduce operations-related emissions. As shown in **Table 15** and **Table 16,** implementation of mitigation measures MM AQ-3, MM AQ-4, and MM AQ-5 would reduce NO_X, PM10 and PM2.5 emissions to less than significant during Project operation. Thus, with incorporation of mitigation measures, operation of the Project would not result in a regional violation of applicable air quality standards or jeopardize the timely attainment of such standards in the South Coast Air Basin. Operation of the Project, with mitigation measures, would also not result in a cumulatively considerable net increase of non-attainment pollutants

8.3 Toxic Air Contaminants

Given the temporary and short-term construction schedule (approximately 48 months), the Project would not result in a long-term (i.e., lifetime or 70-year) exposure as a result of Project construction. The Project would comply with applicable AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. The Project would comply with the CARB Air Toxics Control Measure that limits diesel powered equipment and vehicle idling to no more than 5 minutes at a location, and the CARB In-Use Off-Road Diesel Vehicle Regulation; compliance with these would minimize emissions of TACs during construction. Therefore, impacts from TACs during construction would be less than significant.

Project operations would generate only minor amounts of diesel emissions from mobile sources, such as delivery trucks and occasional maintenance activities that would not exceed 100 trucks per day or more than 40 trucks with operating transport refrigeration units. Furthermore, Project trucks are required to comply with the applicable provisions of the CARB 13 CCR, Section 2025 (Truck and Bus regulation) to minimize and reduce PM and NO_X emissions from existing diesel trucks. Therefore, the Project operations would not be considered a substantial source of diesel particulates. Project compliance with SCAQMD Rules 1138 and 1470 would ensure the TAC emissions from charbroiling and the emergency generator would not cause or contribute to adverse health impacts at nearby sensitive receptors. In addition, the cooling towers would generate small amounts of emissions at 0.3 pounds per day of particulate matter (entrained water droplets) conservatively assuming continuous operation. Therefore, the emissions would not pose a health risk to off-site receptors. With respect to the use of consumer products and architectural coatings, the residential and retail uses associated with the Project would be expected to generate minimal emissions from these sources. The Project's land uses would not include installation of industrial-sized paint booths or require extensive use of commercial or household cleaning products. As a result, toxic or carcinogenic air pollutants are not expected to occur in any

substantial amounts in conjunction with operation of the proposed land uses within the Project Site. Therefore, impacts would be less than significant.

Appendix C

Air Quality Technical Report Appendix

ESA

C-1 Existing Site Operational Emissions

LA Times - Existing

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	7.50	1000sqft	0.20	7,500.00	0
General Office Building	317.17	1000sqft	3.09	317,168.00	0
Unenclosed Parking with Elevator	44.31	1000sqft	0.20	44,306.00	0
High Turnover (Sit Down Restaurant)	11.25	1000sqft	0.20	11,250.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2017
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see operational assumptions

Vehicle Trips - see operational assumptions

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.85	3.10
tblEnergyUse	LightingElect	4.63	3.77

tblEnergyUse	LightingElect	9.64	7.87
tblEnergyUse	LightingElect	2.63	1.75
tblEnergyUse	T24E	2.94	2.25
tblEnergyUse	T24E	5.99	4.60
tblEnergyUse	T24E	10.52	8.11
tblEnergyUse	T24NG	15.35	13.65
tblEnergyUse	T24NG	12.05	10.02
tblEnergyUse	T24NG	46.57	42.98
tblLandUse	LandUseSquareFeet	317,170.00	317,168.00
tblLandUse	LandUseSquareFeet	44,310.00	44,306.00
tblLandUse	LotAcreage	0.17	0.20
tblLandUse	LotAcreage	7.28	3.09
tblLandUse	LotAcreage	1.02	0.20
tblLandUse	LotAcreage	0.26	0.20
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	26.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	47.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00

tblVehicleTrips	PR_TP	27.00	100.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	86.32	90.37
tblVehicleTrips	ST_TR	2.46	9.38
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	SU_TR	31.90	90.37
tblVehicleTrips	SU_TR	1.05	9.38
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	148.15	90.37
tblVehicleTrips	WD_TR	11.03	9.38
tblVehicleTrips	WD_TR	127.15	0.00
tblWater	IndoorWaterUseRate	297,171.89	144,980.40
tblWater	IndoorWaterUseRate	56,371,812.85	6,131,086.90
tblWater	IndoorWaterUseRate	3,414,754.26	217,470.60
tblWater	OutdoorWaterUseRate	182,137.61	0.00
tblWater	OutdoorWaterUseRate	34,550,465.94	0.00
tblWater	OutdoorWaterUseRate	217,963.04	0.00
tblWater	OutdoorWaterUseRate	0.00	856,467.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Energy	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
Mobile	8.3633	34.3233	96.4966	0.2496	17.8595	0.3277	18.1873	4.7797	0.3093	5.0889		25,274.7978	25,274.7978	1.5398		25,313.2917
Total	**16.0688**	**35.9443**	**97.8975**	**0.2593**	**17.8595**	**0.4511**	**18.3106**	**4.7797**	**0.4326**	**5.2122**		**27,219.6091**	**27,219.6091**	**1.5773**	**0.0357**	**27,269.6653**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Energy	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
Mobile	8.3633	34.3233	96.4966	0.2496	17.8595	0.3277	18.1873	4.7797	0.3093	5.0889		25,274.7978	25,274.7978	1.5398		25,313.2917
Total	**16.0688**	**35.9443**	**97.8975**	**0.2593**	**17.8595**	**0.4511**	**18.3106**	**4.7797**	**0.4326**	**5.2122**		**27,219.6091**	**27,219.6091**	**1.5773**	**0.0357**	**27,269.6653**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.3633	34.3233	96.4966	0.2496	17.8595	0.3277	18.1873	4.7797	0.3093	5.0889		25,274.7978	25,274.7978	1.5398		25,313.2917
Unmitigated	8.3633	34.3233	96.4966	0.2496	17.8595	0.3277	18.1873	4.7797	0.3093	5.0889		25,274.7978	25,274.7978	1.5398		25,313.2917

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	677.78	677.78	677.78	1,529,455	1,529,455
General Office Building	2,975.05	2,975.05	2975.05	6,871,503	6,871,503
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	3,652.83	3,652.83	3,652.83	8,400,958	8,400,958

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	11.90	6.00	5.00	6.60	74.40	19.00	100	0	0
General Office Building	11.90	6.00	5.00	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Bank (with Drive-Through)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
General Office Building	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
High Turnover (Sit Down Restaurant)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
Unenclosed Parking with Elevator	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
NaturalGas Unmitigated	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Bank (with Drive-Through)	371.918	4.0100e-003	0.0365	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003		43.7550	43.7550	8.4000e-004	8.0000e-004	44.0151
General Office Building	9045.81	0.0976	0.8868	0.7450	5.3200e-003		0.0674	0.0674		0.0674	0.0674		1,064.2124	1,064.2124	0.0204	0.0195	1,070.5365
High Turnover (Sit Down Restaurant)	7112.47	0.0767	0.6973	0.5857	4.1800e-003		0.0530	0.0530		0.0530	0.0530		836.7607	836.7607	0.0160	0.0153	841.7331
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1783**	**1.6206**	**1.3613**	**9.7200e-003**		**0.1232**	**0.1232**		**0.1232**	**0.1232**		**1,944.7281**	**1,944.7281**	**0.0373**	**0.0357**	**1,956.2846**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Bank (with Drive-Through)	0.371918	4.0100e-003	0.0365	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003		43.7550	43.7550	8.4000e-004	8.0000e-004	44.0151
General Office Building	9.04581	0.0976	0.8868	0.7450	5.3200e-003		0.0674	0.0674		0.0674	0.0674		1,064.2124	1,064.2124	0.0204	0.0195	1,070.5365
High Turnover (Sit Down Restaurant)	7.11247	0.0767	0.6973	0.5857	4.1800e-003		0.0530	0.0530		0.0530	0.0530		836.7607	836.7607	0.0160	0.0153	841.7331
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1783**	**1.6206**	**1.3613**	**9.7200e-003**		**0.1232**	**0.1232**		**0.1232**	**0.1232**		**1,944.7281**	**1,944.7281**	**0.0373**	**0.0357**	**1,956.2846**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Unmitigated	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.6669					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8200e-003	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Total	**7.5272**	**3.7000e-004**	**0.0396**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0832**	**0.0832**	**2.3000e-004**		**0.0890**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.6669					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8200e-003	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Total	**7.5272**	**3.7000e-004**	**0.0396**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0832**	**0.0832**	**2.3000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA Times - Existing

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	7.50	1000sqft	0.20	7,500.00	0
General Office Building	317.17	1000sqft	3.09	317,168.00	0
Unenclosed Parking with Elevator	44.31	1000sqft	0.20	44,306.00	0
High Turnover (Sit Down Restaurant)	11.25	1000sqft	0.20	11,250.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2017
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see operational assumptions

Vehicle Trips - see operational assumptions

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.85	3.10
tblEnergyUse	LightingElect	4.63	3.77
tblEnergyUse	LightingElect	9.64	7.87

tblEnergyUse	LightingElect	2.63	1.75
tblEnergyUse	T24E	2.94	2.25
tblEnergyUse	T24E	5.99	4.60
tblEnergyUse	T24E	10.52	8.11
tblEnergyUse	T24NG	15.35	13.65
tblEnergyUse	T24NG	12.05	10.02
tblEnergyUse	T24NG	46.57	42.98
tblLandUse	LandUseSquareFeet	317,170.00	317,168.00
tblLandUse	LandUseSquareFeet	44,310.00	44,306.00
tblLandUse	LotAcreage	0.17	0.20
tblLandUse	LotAcreage	7.28	3.09
tblLandUse	LotAcreage	1.02	0.20
tblLandUse	LotAcreage	0.26	0.20
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	26.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	47.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PR_TP	27.00	100.00

tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	86.32	90.37
tblVehicleTrips	ST_TR	2.46	9.38
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	SU_TR	31.90	90.37
tblVehicleTrips	SU_TR	1.05	9.38
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	148.15	90.37
tblVehicleTrips	WD_TR	11.03	9.38
tblVehicleTrips	WD_TR	127.15	0.00
tblWater	IndoorWaterUseRate	297,171.89	144,980.40
tblWater	IndoorWaterUseRate	56,371,812.85	6,131,086.90
tblWater	IndoorWaterUseRate	3,414,754.26	217,470.60
tblWater	OutdoorWaterUseRate	182,137.61	0.00
tblWater	OutdoorWaterUseRate	34,550,465.94	0.00
tblWater	OutdoorWaterUseRate	217,963.04	0.00
tblWater	OutdoorWaterUseRate	0.00	856,467.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Energy	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
Mobile	8.1164	35.1619	92.8270	0.2364	17.8595	0.3311	18.1906	4.7797	0.3124	5.0921		23,950.3351	23,950.3351	1.5421		23,988.8877
Total	**15.8219**	**36.7829**	**94.2278**	**0.2461**	**17.8595**	**0.4544**	**18.3139**	**4.7797**	**0.4357**	**5.2154**		**25,895.1464**	**25,895.1464**	**1.5796**	**0.0357**	**25,945.2614**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Energy	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
Mobile	8.1164	35.1619	92.8270	0.2364	17.8595	0.3311	18.1906	4.7797	0.3124	5.0921		23,950.3351	23,950.3351	1.5421		23,988.8877
Total	**15.8219**	**36.7829**	**94.2278**	**0.2461**	**17.8595**	**0.4544**	**18.3139**	**4.7797**	**0.4357**	**5.2154**		**25,895.1464**	**25,895.1464**	**1.5796**	**0.0357**	**25,945.2614**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.1164	35.1619	92.8270	0.2364	17.8595	0.3311	18.1906	4.7797	0.3124	5.0921		23,950.3351	23,950.3351	1.5421		23,988.8877
Unmitigated	8.1164	35.1619	92.8270	0.2364	17.8595	0.3311	18.1906	4.7797	0.3124	5.0921		23,950.3351	23,950.3351	1.5421		23,988.8877

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	677.78	677.78	677.78	1,529,455	1,529,455
General Office Building	2,975.05	2,975.05	2975.05	6,871,503	6,871,503
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	3,652.83	3,652.83	3,652.83	8,400,958	8,400,958

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	11.90	6.00	5.00	6.60	74.40	19.00	100	0	0
General Office Building	11.90	6.00	5.00	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Bank (with Drive-Through)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
General Office Building	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
High Turnover (Sit Down Restaurant)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
Unenclosed Parking with Elevator	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846
NaturalGas Unmitigated	0.1783	1.6206	1.3613	9.7200e-003		0.1232	0.1232		0.1232	0.1232		1,944.7281	1,944.7281	0.0373	0.0357	1,956.2846

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Bank (with Drive-Through)	371.918	4.0100e-003	0.0365	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003		43.7550	43.7550	8.4000e-004	8.0000e-004	44.0151
General Office Building	9045.81	0.0976	0.8868	0.7450	5.3200e-003		0.0674	0.0674		0.0674	0.0674		1,064.2124	1,064.2124	0.0204	0.0195	1,070.5365
High Turnover (Sit Down Restaurant)	7112.47	0.0767	0.6973	0.5857	4.1800e-003		0.0530	0.0530		0.0530	0.0530		836.7607	836.7607	0.0160	0.0153	841.7331
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1783**	**1.6206**	**1.3613**	**9.7200e-003**		**0.1232**	**0.1232**		**0.1232**	**0.1232**		**1,944.7281**	**1,944.7281**	**0.0373**	**0.0357**	**1,956.2846**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Bank (with Drive-Through)	0.371918	4.0100e-003	0.0365	0.0306	2.2000e-004		2.7700e-003	2.7700e-003		2.7700e-003	2.7700e-003		43.7550	43.7550	8.4000e-004	8.0000e-004	44.0151
General Office Building	9.04581	0.0976	0.8868	0.7450	5.3200e-003		0.0674	0.0674		0.0674	0.0674		1,064.2124	1,064.2124	0.0204	0.0195	1,070.5365
High Turnover (Sit Down Restaurant)	7.11247	0.0767	0.6973	0.5857	4.1800e-003		0.0530	0.0530		0.0530	0.0530		836.7607	836.7607	0.0160	0.0153	841.7331
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1783**	**1.6206**	**1.3613**	**9.7200e-003**		**0.1232**	**0.1232**		**0.1232**	**0.1232**		**1,944.7281**	**1,944.7281**	**0.0373**	**0.0357**	**1,956.2846**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Unmitigated	7.5272	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.6669					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8200e-003	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Total	**7.5272**	**3.7000e-004**	**0.0396**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0832**	**0.0832**	**2.3000e-004**		**0.0890**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.8565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.6669					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.8200e-003	3.7000e-004	0.0396	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0832	0.0832	2.3000e-004		0.0890
Total	**7.5272**	**3.7000e-004**	**0.0396**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**		**0.0832**	**0.0832**	**2.3000e-004**		**0.0890**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Existing: Omni Times Square
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

Existing

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	

Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction =	**28.08%**	Cap: 75%
(Includes double counting correction.)		
Total LUT/SDT/PDT/TST VMT Reduction =	**28.08%**	Cap: 70%

Land Use/Location Transportation Measures (65% Reduction Cap)

Total LUT % VMT Reduction = **27.36%** Cap: 65%

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction =	0.35%	Cap: 30%
Number of DU/acre:	-	A = 0%
Number of Jobs/acre:	646.6	A = 500%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap:	65%
Compact Infill LUT % VMT Reduction Cap:	30%
Suburban Center LUT % VMT Reduction Cap:	10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction =	0.00%	Cap: 30%
Single family sqft:	-	a_1 = -
Multi-family sqft:	-	a_2 = -
Commercial sqft:	-	a_3 = -
Industrial sqft:	-	a_4 = -
Institutional sqft:	-	a_5 = -
Park sqft:	-	a_6 = -
Total sqft:	-	

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction =	7.33%	Cap: 20%
Miles to downtown or job center:	7.6	

(Average distance to: Hollywood and Downtown L.A.
These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5	Increase Transit Accessibility	% VMT Reduction = Transit × B [not to exceed 30%] Transit = % project transit - % typical ITE transit % project transit = -50x + 38 [where x = 0 - 0.5 miles to transit] -4.4x + 15.2 [where x = 0.5 - 3 miles to transit] % typical ITE transit = 1.3% B = 0.67	% VMT Reduction = 0.00% Miles to transit: (Note: Only effective for 3 miles or less)	Cap: 30%
(ACOUNTED FOR IN TRAFFIC STUDY)				
LUT-6	Integrated Affordable and Below Market Rate Housing	% VMT Reduction = 4% × % units BMR	% VMT Reduction = 0.00% % of units below market rate: 0.0% (Note: Only effective up to 30%)	
LUT-7	Orient Project Toward Non-Auto Corridor	Not quantified separately; Assumed to be included in LUT-3 (If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)		
LUT-8	Locate Project near Bike Path/Bike Lanes	Not quantified separately; Assumed to be included in LUT-4 (If included in LUT-4, VMT reduction should be at least 0.625%)		
LUT-9	Improve Design of Development	% VMT Reduction = Intersections × B Intersections = % increase vs. typical ITE suburban = (Intersections per square mile of project - 36) / 36 B = 0.12	% VMT Reduction = 21.33% Intersections per square mile: 100 (Estimated based on count of 4-way intersections within 1 mile radius of project site.) (Note: Only effective up to 100)	
Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)			**Total SDT % VMT Reduction = 1.00%**	Cap: 5% without NEV Cap: 15% With NEV
SDT-1	Provide Pedestrian Network Improvements	VMT reduction based on urban/rural context and pedestrian accomodations	% VMT Reduction = 1.00% Pedestrian network on-site and connecting off-site (urban/suburban): 2% Pedestrian network on-site (urban/suburban): X 1% (Mark an "X" in one of the above)	
SDT-2	Provide Traffic Calming Measures	Marked crosswalks, count-down signal timers, curb extensions, speed tables, rasied crosswalks, raised intersections, median islands, tight corner radii, roundabouts, on-street parking, planter strips with trees, chicanes/chokers, and others.	% VMT Reduction = 0.00% 25% of streets with improvements: A 50% of streets with improvements: B 75% of streets with improvements: C 100% of streets with improvements: D 25% of intersctions with improvements: W 50% of intersctions with improvements: X 75% of intersctions with improvements: Y 100% of intersctions with improvements: Z (Mark an "X" in one of the above for each group)	

% of intersections with improvements

	% of streets with improvements: A	B	C	D
W	0.25%	0.25%	0.50%	0.50%
X	0.25%	0.50%	0.50%	0.75%
Y	0.50%	0.50%	0.75%	0.75%
Z	0.50%	0.75%	0.75%	1.00%

SDT-3	Neighborhood Electric Vehicle Network	% VMT Reduction = Pop × Number × NEV Pop × Number = NEVs per household [0.04 to 1.0] NEV = VMT reduction rate per household [12.7%]	% VMT Reduction =	0.00%	
			Low NEVs per Household:	0.04	
			High NEVs per Household:	1.0	
			(Mark an "X" in one of the above)		
SDT-4	Create Urban Non-Motorized Zones	Not quantified separately; Assumed to be included in SDT-1 (If included in SDT-1, VMT reduction should be at least 0.01% to 0.2%)			
SDT-5	Incorporate Bike Lane Street Design	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 1% of worker commute per additional mile of bike lanes per square mile)			
SDT-6	Provide Bike Parking in Non-Residential Projects	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 0.625%)			
SDT-7	Provide Bike Parking in Multi-Unit Residential Projects	Not quantified separately; Assumed to be included in LUT-9			
SDT-8	Provide Electric Vehicle Parking	Not quantified separately; Assumed to be included in SDT-3			
SDT-9	Dedicated Land for Bike Trails	Not quantified separately; Assumed to be included in LUT-9			
Parking Policy/Pricing (20% Reduction Cap)			**Total PDT % VMT Reduction =**	**0.00%**	Cap: 20%
PDT-1	Limit Parking Supply	% VMT Reduction = = (Actual Parking - ITE Parking) / ITE Parking × 0.5	% VMT Reduction =	0.00%	Cap: 12.50%
			Actual Parking Spaces:	-	
			ITE Parking Spaces:	-	
PDT-2	Unbunble Parking Costs from Property	% VMT Reduction = Change in vehicle cost × elasticity × A Change in vehicle cost = Monthly parking cost × (12/$4000) Elasticity = 0.4 A = 85%	% VMT Reduction =	0.00%	Cap: 13%
			Monthly parking cost:	$ -	
PDT-3	Implement Market Price Public Parking (On-Street)	% VMT Reduction = Park$ × B Park$ = Percent increase in on-street parking prices [minimum of 25%] B = 0.11	% VMT Reduction =	0.00%	Cap: 5.5%
			Actual On-Street Parking Price:	$ -	
			Baseline On-Street Parking Price:	$ -	
PDT-4	Require Residential Area Parking Permits	Not quantified separately; Assumed to be included in PDT-1, -2-, and -3 (If included in LUT-9, VMT reduction should be at least 0.09% to 0.36% depending on land use)			

Transit System Improvements (10% Reduction Cap)

Total TST % VMT Reduction = **0.00%** Cap: 10%

TST-1	Provide a Bus Rapid Transit System	% VMT Reduction = Riders × Mode × Lines × D Riders = 28% Mode = 17% Urban Center 4% Urban 1.30% Suburban Lines = Percent of lines serving project converting to BRT D = 0.67	% VMT Reduction = 0.00% Cap: 3.2% Urban Center: 17% Urban: 4% Suburban: 1.30% (Mark an "X" in one of the above) Lines Converting to BRT: 0% Total Baseline Lines:			
TST-2	Implement Transit Access Improvements	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-3	Expand Transit Network	% VMT Reduction = Coverage × B × Mode × D Coverage = % increase in transit network coverage B = 0.65 Urban Center 0.72 Urban 1.01 Suburban Mode = 17% Urban Center 4% Urban 1.30% Suburban D = 0.67	% VMT Reduction = 0.00% Cap: 8.2% Urban Center: 17% 0.65 Urban: 4% 0.72 Suburban: 1.30% 1.01 (Mark an "X" in one of the above) Coverage:			
TST-4	Increase Transit Service Frequency/Speed	% VMT Reduction = Headway × B × C × Mode × E Headway = % reduction in headways [15% - 80%] B = 0.32 Urban 0.36 Suburban C = 50% < 50% lines improved 85% >= 50% lines improved Mode = 17% Urban Center 4% Urban 1.30% Suburban E = 0.67	% VMT Reduction = 0.00% Cap: 2.5% Urban Center: 17% 0.32 Urban: 4% 0.32 Suburban: 1.30% 0.36 (Mark an "X" in one of the above) Headway: Percent of Lines Improved:			
TST-5	Provide Bike Parking Near Transit	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-6	Provide Local Shuttles	Not quantified separately; Assumed to be included in TST-3 and -4				

Commute Trip Reduction (25% Reduction Cap - WORK VMT ONLY)

Total TRT % Work VMT Reduction = **0.00%** Cap: 25%
% Work VMT of Total VMT: **2.5%**
Total TRT % Overall VMT Reduction = **0.00%** Cap: 15%

TRT-1	Implement Voluntary Commute Trip Reduction Program	% Work VMT Reduction = A × B A = 6.2% Urban 5.4% Suburban Center 5.2% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 6.2% Urban: 6.2% Suburban Center: 5.4% Suburban: 5.2% (Mark an "X" in one of the above) % Employees Eligible:			

TRT-2 — Implement Required Commute Trip Reduction Program

% Work VMT Reduction = A × B
A = 21%
B = % employees eligible

% Work VMT Reduction = 0.00% Cap: 21.0%

% Employees Eligible:

TRT-3 — Provide Ride-Sharing Programs

% Work VMT Reduction = Commute × Employee
Commute = 15% Urban; 10% Suburban Center; 5% Suburban
Employee = % employees eligible

% Work VMT Reduction = 0.00% Cap: 15.0%

Urban:		15%
Suburban Center:		10%
Suburban:		5%

(Mark an "X" in one of the above)

% Employees Eligible:

TRT-4 — Implement Subsidized or Discounted Transit Program

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 20.0%

Urban:		A
Suburban Center:		B
Suburban:		C
Transit Subsidy: $0.75		W
Transit Subsidy: $1.49		X
Transit Subsidy: $2.98		Y
Transit Subsidy: $5.96		Z

(Mark an "X" in one of the above for each group)

% Employees Eligible:

Daily Transit Subsidy

Setting	W	X	Y	Z
A	6.2%	12.9%	20%	20%
B	3.4%	7.3%	16.4%	20%
C	1.5%	3.3%	7.9%	20%

TRT-5 — Provide End of Trip Facilities

Not quantified separately; Assumed to be included in TRT-1 through -3
(If included, Work VMT reduction should be 2% to 5%, or total VMT reduction should be 0.02% to 0.625%)

TRT-6 — Encourage Telecommuting and Alternate Work Schedules

% Reduction in Commute VMT

% Work VMT Reduction = 0.00% Cap: 5.5%

9-day/80-hour Work Week:		A
4-day/40-hour Work Week:		B
Telecommuting 1.5 Days:		C
Employee Participation: 1%		V
Employee Participation: 3%		W
Employee Participation: 5%		X
Employee Participation: 10%		Y
Employee Participation: 25%		Z

(Mark an "X" in one of the above for each group)

Employee Participation

Schedule	V	W	X	Y	Z
A	0.07%	0.21%	0.35%	0.70%	1.75%
B	0.15%	0.45%	0.75%	1.50%	3.75%
C	0.22%	0.66%	1.10%	2.20%	5.50%

TRT-7 — Implement Commute Trip Reduction Marketing

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips [4%]
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 4.0%

% Employees Eligible:

TRT-8 — Implement Preferential Permit Parking Program

Not quantified separately; Assumed to be included in TRT-1 through -3

TRT-9	Implement Car-Sharing Program	% Work VMT Reduction = A × B / C A = % reduction in car-share member annual VMT [37%] B = number of car share members per shared car [20] C = 1,000 Urban 2,000 Suburban	% Work VMT Reduction = 0.00% Cap: 0.74% Urban: 1,000 Suburban: 2,000 (Mark an "X" in one of the above)
TRT-10	Implement a School Pool Program	Not applicable.	
TRT-11	Provide Employer-Sponsored Vanpool/Shuttle	% Work VMT Reduction = A × B × C A = % shift in vanpool mode share of commute trips = 2% to 20% B = % employees eligible C = 0.67	% Work VMT Reduction = 0.00% Cap: 13.4% A: Shift in Vanpool Mode Share: B: Employees Eligible:
TRT-12	Implement Bike Sharing Program	Not quantified separately; Assumed to be included in LUT-9 and SDT-5 (If included, total VMT reduction should be at least 0.03%)	
TRT-13	Implement School Bus Program	Not applicable.	
TRT-14	Price Workplace Parking	% Work VMT Reduction = A × B A = % reduction in commute VMT B = % employees subject to priced parking	% Work VMT Reduction = 0.00% Cap: 19.7% Urban: A Suburban Center: B Suburban: C Daily Parking Charge: $1 W Daily Parking Charge: $2 X Daily Parking Charge: $3 Y Daily Parking Charge: $6 Z (Mark an "X" in one of the above for each group) % Employees Subject to Priced Parking:
TRT-15	Implement Employee Parking Cash-Out	% Work VMT Reduction = A × B A = 7.7% Urban 4.5% Suburban Center 3.0% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 7.7% Urban: 7.7% Suburban Center: 4.5% Suburban: 3.0% (Mark an "X" in one of the above) % Employees Eligible:

Daily Parking Charge

Setting	W	X	Y	Z
A	6.9%	12.5%	16.8%	19.7%
B	1.8%	3.7%	5.4%	6.8%
C	0.5%	1.2%	1.9%	2.8%

Existing: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

Existing Trips and Vehicle Miles Traveled

Land Use (CalEEMod Land U	Unit Amount	Daily Existing Trips	
Land Uses			
Office	328,418 sf	11.03	Baseline trip rate per Room
		-15.0%	Deductions (Traffic Study)
		9.38	**Trip rate per 1000 sf less Adjustments**
		-28.1%	VMT Reduction (CAPCOA)
		8.4	C-C Trip Length (Baseline)
		16.6	C-W Trip Length (Baseline)
		6.9	C-NW Trip Length (Baseline)
		6.0	**C-C Trip Length (Existing)**
		11.9	**C-W Trip Length (Existing)**
		5.0	**C-NW Trip Length (Existing)**
Bank	7,500 sf	148.15	Baseline trip rate per 1000 sf
		-39.0%	Deductions (Traffic Study)
		90.37	**Trip rate per 1000 sf less Adjustments**
		-28.1%	VMT Reduction (CAPCOA)
		8.4	C-C Trip Length (Baseline)
		16.6	C-W Trip Length (Baseline)
		6.9	C-NW Trip Length (Baseline)
		6.0	**C-C Trip Length (Existing)**
		11.9	**C-W Trip Length (Existing)**
		5.0	**C-NW Trip Length (Existing)**

Source: Fehr and Peers, 2018; ESA, 2018.

C-2 Project Construction Emissions

Onni Times Square last update: 2/12/2018
Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Table 1: CalEEMod Land Use Inputs

Land Use	CalEEMod Land Use Type	Units [a]				Res. Pop.
Existing Uses to be Demolished/Removed						
Executive Building	General Office	176.26	gross ksf	176,258	gross sf	
Executive Building Bank	Bank (With Drive Through)	7.50	gross ksf	7,500	gross sf	
Corporate Garage	Parking Structure	44.31	gross ksf	44,306	gross sf	
Total Existing Uses to be Demolished/Removed		***228.06***	***gross ksf***	***228,064***	***gross sf***	
Existing Uses to Remain						
Times Building	General Office	116.11	gross ksf	116,113	gross sf	
Plant Building	General Office	79.34	gross ksf	79,340	gross sf	
Cafeteria	High-turnover (Sit-down) Restaurant	11.25	gross ksf	11,250	gross sf	
Mirror Building	General Office	169.40	gross ksf	169,402	gross sf	
Total Existing Uses to Remain		376.11	gross ksf	376,105	gross sf	
Total Existing Uses		***604.17***	***gross ksf***	***604,169***	***gross sf***	
Renovation of Existing Buildings						
Times (Times North) rooftop restoration of old design						
Plants Building (Rooftop:Mechanical Equipment to Office Terrace)						
Times (Times North), Plant and Mirror (Times South) Buildings Renovation - Commercial (grocery store, retail with office space on 2nd-4th floor)						
Renovations		1,406.000				
Commerical Office use	General Office	285.088	ksf	285,088	gross sf	
Ground-floor Restaurant	High-Turnover Restaurant	18.817	ksf	18,817	gross sf	
Upper-floor Office (Conservatively Modeled as Restaurant)	Quality Restaurant	22.200	ksf	22,200	gross sf	
Grocery Store	Supermarket	50.000	ksf	50,000	gross sf	
	Total	**376.105**	**ksf**	**376,105**	**gross sf**	
Project						
North Tower (location of Executive Building)	High-Rise Apartment	450	DU			
South Tower (location of former Parking Garage)	High-Rise Apartment	677	DU			
Total Residential		1,127	DU	1,071,692	sf	1,894
Loading	Other Non-Asphalt Surfaces	2.586	ksf	2,586	sf	
Podium Retail/Commercial	High-Turnover Restaurant	34.572	ksf	34,572	sf	
Total Towers Floor Area				***1,108,850***	***sf***	
Project Common Space/Common Space Amenities						
Residential Private Amenities						
Private Balconies (50 sf each)	Other Non-Asphalt Surfaces	56.349	ksf	56,349	sf	
Residential Outdoor Amenities						
Level 6 - Residential Terrace	City Park	28.777	ksf	28,777	sf	
Level 1 - Paseo/Plaza	Other Non-Asphalt Surfaces	15.708	ksf	15,708	sf	
Residential Indoor Amenities						
Level 1 - Lounge (North Tower)	General Office	3.025	ksf	3,025	sf	
Level 6 - Amenity (N Tower) + Level 6 - Amenity (S Tower)	Health Club	25.618	ksf	25,618	sf	
Total Residential Common Space/Common Space Amenities		***129.477***	***ksf***	***129,477***	***sf***	
Subterranean Parking Structure	Enclosed Parking with Elevator	1,410	spaces	**564,000**	**sf**	
Podium Parking Structure	Enclosed Parking with Elevator	334	spaces	**133,600**	**sf**	
Total Parking		***1,744***	***spaces***			
Total Floor Area				***1,935,927***	***sf***	
Residential Bicycle Parking	N/A	1,274	bicycle spaces			
Trees	N/A	194	provided			
Lot Area		3.69	acres	160,578	sf	

22

Notes:
a. Square footage values may be rounded up to provide a conservative analysis.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Table 2: Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Site Prep/ Demo (Tons)[b]	Truck Capacity (Tons)	Truck Total One-Way Trips	Trucks One-Way Distance	Truck Daily One-Way Trips	Soil Export (CY)[b]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Trucks One-Way Distance	Soil Haul Truck Daily One-Way Trips	Concrete Mat Volume (CY)[b]	Concrete Truck Capacity (CY)	Concrete Truck Total One-Way Trips	Concrete Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day[c]	Worker One-Way Trips/Max Day[c]
Project																				
Demolition	7/1/2018	1/31/2019	184	35,000	20	3,500	22.1	20												58
Site Preparation	2/1/2019	2/28/2019	24																	58
Grading and Excavation	3/1/2019	9/30/2019	183						364,000	-	14.25	51,088	22.1	280						60
Foundations/Concrete Pour (North Tower)	10/1/2019	10/2/2019	2												9,366	10	1,874	1,406		38
Foundations/Concrete Pour (South Tower)	10/3/2019	10/4/2019	2												7,817	10	1,564	1,173		38
Subterranean Parking Structure	10/5/2019	6/26/2020	228												45,702	10	9,141	40	262	1,190
Podium Construction	6/29/2020	8/28/2020	53												25,106	10	5,022	95	262	1,186
Building Construction	8/31/2020	10/8/2022	660												28,577	10	5,716	9	262	1,186
Paving	3/1/2022	10/8/2022	191																	33
Architectural Coating	1/1/2021	10/8/2022	554																	237
Renovation [a]	7/1/2018	8/8/2020	660																	124

Notes:
a. Renovation activity could occur at a later time. In order to provide a conservative assessment, renovation activity was modeled at the earliest possible time since emission factors are higher in earlier years compared to later years.
b. Demolition debris quantities, Soil export quantities and concrete quantities provided by the Omni Group.
c. Vendor Trips and Worker trips are based on CalEEMod assumptions.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Onni Times Square last updated: 2/12/2018

Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Off-Road Heavy-Duty Construction Equipment

Construction Phase	Heavy-Duty Equipment	No. of Heavy-Duty Equipment	Project Hours of Operation/Day Per Equipment	Hours of Operation/Week Per Equipment	Emissions Tier Rating (After Mitigation)	Notes/Comments
Site Preparation/Demo	Dumpers/Tenders	1	6	36	-	Under 50 hp
	Excavators	2	12	72	Tier 4	
	Generator Sets	2	12	72	Tier 4	
	Jackhammers	5	3	18	Tier 4	Assumed to be powered by generators
	Off-Highway Trucks	2	12	72	Tier 4	
(not in site prep)	Other Construction Equipment (Demo Hydraulic Hammers)	2	12	72	Tier 4	
	Rollers	2	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Rubber Tired Loaders	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
	Tractors/Loaders/Backhoes	2	12	72	Tier 4	
Renovation	Air Compressors	1	12	72	Tier 4	
	Dumpers/Tenders	1	6	36	Tier 4	
	Forklifts	5	12	72	Tier 4	
Mass Grading/Excavation	Bore/Drill Rig	4	12	72	Tier 4	
	Compactor	5	6	36	-	Under 50 hp
	Dumpers/Tenders	2	6	36	-	Under 50 hp
	Excavators	2	12	72	Tier 4	
	Forklifts	2	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Rubber Tired Loaders	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
	Tractors/Loaders/Backhoes	2	12	72	Tier 4	
Foundation (Continuous Concrete Pour)	Cement/Mortar Mixers	5	18	108	-	Under 50 hp
	Cranes (Electric)	3	18	108	-	Electric
	Forklifts	5	18	108	Tier 4	
	Signal Boards	2	18	108	-	Electric
Building Construction	Air Compressors	4	12	72	Tier 4	
(Also for Subterranean Parking Structure	Cement/Mortar Mixers	5	12	72	-	Under 50 hp
and Podium Construction Phases)	Cranes (Electric)	3	12	72	-	Electric
	Dumpers/Tenders	4	6	36	-	Under 50 hp
	Forklifts	10	12	72	Tier 4	
	Off-Highway Trucks	4	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
(Only for Subterranean Parking Structure)	Bore/Drill Rig (Vibratory Pile Driver)	1	12	72	Tier 4	Bore/Drill Rig serves as conservative estimate due to similar power requirement as Vibratory Pile Driver
Architectural Coating	*Off-Road Equipment accounted for in Building Construction Phase.*					
Paving	Concrete/Industrial Saws	2	6	36	Tier 4	
	Compactor	3	6	36	-	Under 50 hp
	Generator Sets	1	12	72	Tier 4	
	Jackhammers	2	3	18	-	Assumed to be powered by generators
	Pavers	2	12	72	Tier 4	
	Paving Equipment	2	12	72	Tier 4	
	Surfacing Equipment	2	6	36	Tier 4	
	Tractors/Loaders/Backhoes	1	12	72	Tier 4	

Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Omni LA Times
Resource Loaded Construction Schedule

last updated:
1/10/2018

On-Site/Off-Road Equipment	2018												2019												2020												2021												2022											
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Phase:																																																												
Demolition																																																												
Dumpers/Tenders							1	1	1	1	1	1	1																																																	
Excavators							2	2	2	2	2	2	2																																																	
Generator Sets							2	2	2	2	2	2	2																																																
Jackhammers							5	5	5	5	5	5	5																																																
Off-Highway Trucks							2	2	2	2	2	2	2																																															
Other Construction Equipment (Demo Hydraulic Hammers)							2	2	2	2	2	2	2																																															
Rollers							2	2	2	2	2	2	2																																															
Rough Terrain Forklifts							2	2	2	2	2	2	2																																														
Rubber Tired Loaders							2	2	2	2	2	2	2																																														
Signal Boards							2	2	2	2	2	2	2																																														
Sweeper/Scrubbers							1	1	1	1	1	1	1																																													
Tractors/Loaders/Backhoes							2	2	2	2	2	2	2																																													
Renovation																																																												
Air Compressors							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1												
Dumpers/Tenders							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1												
Forklifts							5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5												
Site Preparation																																																												
Dumpers/Tenders													1																																															
Excavators													2																																															
Generator Sets													2																																															
Jackhammers													5																																															
Off-Highway Trucks													2																																														
Rollers													2																																															
Rough Terrain Forklifts													2																																													
Rubber Tired Loaders													2																																													
Signal Boards													2																																														
Sweeper/Scrubbers													1																																													
Tractors/Loaders/Backhoes													2																																												
Grading and Excavation																																																												
Bore/Drill Rig													4	4	4	4	4	4	4																																								
Compactor													5	5	5	5	5	5	5																																								
Dumpers/Tenders													2	2	2	2	2	2	2																																							
Excavators													2	2	2	2	2	2	2																																							
Forklifts													2	2	2	2	2	2	2																																							
Rough Terrain Forklifts													2	2	2	2	2	2	2																																							
Rubber Tired Loaders													2	2	2	2	2	2	2																																							
Signal Boards													2	2	2	2	2	2	2																																							
Sweeper/Scrubbers													1	1	1	1	1	1	1																																							
Tractors/Loaders/Backhoes													2	2	2	2	2	2	2																																							
Foundations/Concrete Pour (North Tower)																																																												
Cement/Mortar Mixers																																																												
Cranes (Electric)																																																												
Forklifts																																																											
Signal Boards																																																											
Foundations/Concrete Pour (South Tower)																																																											
Cement/Mortar Mixers																																																											
Cranes (Electric)																																																											
Forklifts																																																										
Signal Boards																																																										

| | | |

LA Times Square - Towers

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	37.60	1000sqft	0.86	37,597.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.09	74,643.00	0
City Park	0.92	Acre	0.09	28,777.00	0
Health Club	25.62	1000sqft	0.59	25,618.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Trips and VMT - see construction assumptions

Demolition -

Grading - see construction assumptions

Architectural Coating -

Area Coating -

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
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tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
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tblOffRoadEquipment	PhaseName		Podium Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving

tblOffRoadEquipment	PhaseName		Subterranean Parking Structure
tblOffRoadEquipment	PhaseName		Podium Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	UsageHours	7.00	18.00
tblOffRoadEquipment	UsageHours	7.00	18.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	7.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	18.00
tblOffRoadEquipment	UsageHours	8.00	18.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	6.00	12.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblOffRoadEquipment	UsageHours	8.00	12.00
tblSolidWaste	SolidWasteGenerationRate	34.97	37.75

tblSolidWaste	SolidWasteGenerationRate	146.03	282.55
tblTripsAndVMT	HaulingTripLength	20.00	22.10
tblTripsAndVMT	HaulingTripLength	20.00	22.10
tblTripsAndVMT	HaulingTripNumber	3,461.00	3,500.00
tblTripsAndVMT	HaulingTripNumber	45,500.00	51,088.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripNumber	262.00	1,406.00
tblTripsAndVMT	VendorTripNumber	262.00	1,173.00
tblTripsAndVMT	VendorTripNumber	262.00	302.00
tblTripsAndVMT	VendorTripNumber	262.00	357.00
tblTripsAndVMT	VendorTripNumber	262.00	271.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripNumber	50.00	58.00
tblTripsAndVMT	WorkerTripNumber	45.00	58.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	38.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	38.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	234.00	237.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	10.6612	112.2022	77.8498	0.1679	5.1336	5.2606	10.3942	0.9006	4.9080	5.8086	0.0000	16,818.3483	16,818.3483	4.1221	0.0000	16,921.4016
2019	20.7890	551.0399	140.9788	1.4155	31.1146	6.3396	36.2400	8.5215	5.9397	13.3259	0.0000	152,393.4396	152,393.4396	11.9054	0.0000	152,691.0741
2020	18.0576	148.4976	134.5701	0.4011	15.5411	5.5667	21.1077	4.1734	5.2155	9.3888	0.0000	39,858.1886	39,858.1886	5.6590	0.0000	39,999.6634
2021	29.0578	108.9643	123.8389	0.3608	17.6399	4.1466	21.7865	4.7175	3.8933	8.6108	0.0000	35,805.8325	35,805.8325	4.2625	0.0000	35,912.3941
2022	30.7489	123.6629	152.7532	0.4195	18.0087	4.8075	22.8162	4.8153	4.5304	9.3458	0.0000	41,415.7624	41,415.7624	5.5969	0.0000	41,555.6840
Maximum	**30.7489**	**551.0399**	**152.7532**	**1.4155**	**31.1146**	**6.3396**	**36.2400**	**8.5215**	**5.9397**	**13.3259**	**0.0000**	**152,393.4396**	**152,393.4396**	**11.9054**	**0.0000**	**152,691.0741**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.2706	15.2917	90.9482	0.1679	2.6507	0.2702	2.9209	0.5246	0.2687	0.7933	0.0000	16,670.4076	16,670.4076	4.1068	0.0000	16,773.0770
2019	15.5412	493.7251	141.6569	1.4155	31.1146	2.1273	33.2418	8.5215	2.0433	10.5648	0.0000	148,315.8572	148,315.8572	10.6625	0.0000	148,582.4184
2020	8.8299	53.4273	137.4692	0.4011	15.5411	0.6664	16.2075	4.1734	0.6504	4.8237	0.0000	37,195.6946	37,195.6946	4.8304	0.0000	37,316.4540
2021	22.1568	39.9659	121.9325	0.3608	17.6399	0.4846	18.1244	4.7175	0.4729	5.1904	0.0000	33,143.5674	33,143.5674	3.4339	0.0000	33,229.4155
2022	22.6600	41.9641	159.1671	0.4195	18.0087	0.5918	18.6005	4.8153	0.5805	5.3959	0.0000	38,753.0849	38,753.0849	4.7682	0.0000	38,872.2897
Maximum	**22.6600**	**493.7251**	**159.1671**	**1.4155**	**31.1146**	**2.1273**	**33.2418**	**8.5215**	**2.0433**	**10.5648**	**0.0000**	**148,315.8572**	**148,315.8572**	**10.6625**	**0.0000**	**148,582.4184**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**34.63**	**38.30**	**-3.36**	**0.00**	**2.84**	**84.15**	**20.69**	**1.63**	**83.60**	**42.41**	**0.00**	**4.27**	**4.27**	**11.87**	**0.00**	**4.29**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2018	1/31/2019	6	184	
2	Site Preparation	Site Preparation	2/1/2019	2/28/2019	6	24	
3	Grading	Grading	3/1/2019	9/30/2019	6	183	
4	Foundation (North Tower)	Building Construction	10/1/2019	10/2/2019	6	2	
5	Foundation (South Tower)	Building Construction	10/3/2019	10/4/2019	6	2	
6	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	
7	Podium Construction	Building Construction	6/27/2020	8/27/2020	6	53	
8	Building Construction	Building Construction	8/28/2020	10/6/2022	6	660	
9	Architectural Coating	Architectural Coating	1/1/2021	10/6/2022	6	552	
10	Paving	Paving	3/1/2022	10/6/2022	6	189	

Acres of Grading (Site Preparation Phase): 1.84

Acres of Grading (Grading Phase): 1.84

Acres of Paving: 0.77

Residential Indoor: 2,170,176; Residential Outdoor: 723,392; Non-Residential Indoor: 94,823; Non-Residential Outdoor: 31,608; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Dumpers/Tenders	1	6.00	16	0.38
Demolition	Excavators	2	12.00	158	0.38
Demolition	Generator Sets	2	12.00	84	0.74
Demolition	Off-Highway Trucks	2	12.00	402	0.38
Demolition	Other Construction Equipment	2	12.00	172	0.42
Demolition	Rollers	2	12.00	80	0.38
Demolition	Rough Terrain Forklifts	2	12.00	100	0.40

Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	12.00	203	0.36
Demolition	Signal Boards	2	12.00	6	0.82
Demolition	Sweepers/Scrubbers	1	6.00	64	0.46
Demolition	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Site Preparation	Dumpers/Tenders	1	6.00	16	0.38
Site Preparation	Excavators	2	12.00	158	0.38
Site Preparation	Generator Sets	2	12.00	84	0.74
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Off-Highway Trucks	2	12.00	402	0.38
Site Preparation	Rollers	2	12.00	80	0.38
Site Preparation	Rough Terrain Forklifts	2	12.00	100	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	2	12.00	203	0.36
Site Preparation	Signal Boards	2	12.00	6	0.82
Site Preparation	Sweepers/Scrubbers	1	6.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Grading	Bore/Drill Rigs	4	12.00	221	0.50
Grading	Dumpers/Tenders	2	6.00	16	0.38
Grading	Excavators	2	12.00	158	0.38
Grading	Forklifts	2	12.00	89	0.20
Grading	Graders	0	6.00	187	0.41
Grading	Plate Compactors	5	6.00	8	0.43
Grading	Rough Terrain Forklifts	2	12.00	100	0.40
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Grading	Rubber Tired Loaders	2	12.00	203	0.36
Grading	Signal Boards	2	12.00	6	0.82
Grading	Sweepers/Scrubbers	1	6.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Foundation (North Tower)	Cement and Mortar Mixers	5	18.00	9	0.56

Foundation (North Tower)	Cranes	3	18.00	231	0.29
Foundation (North Tower)	Forklifts	5	18.00	89	0.20
Foundation (North Tower)	Generator Sets	0	8.00	84	0.74
Foundation (North Tower)	Signal Boards	2	18.00	6	0.82
Foundation (North Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (North Tower)	Welders	0	8.00	46	0.45
Foundation (South Tower)	Cement and Mortar Mixers	5	18.00	9	0.56
Foundation (South Tower)	Cranes	3	18.00	231	0.29
Foundation (South Tower)	Forklifts	5	18.00	89	0.20
Foundation (South Tower)	Generator Sets	0	8.00	84	0.74
Foundation (South Tower)	Signal Boards	2	18.00	6	0.82
Foundation (South Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (South Tower)	Welders	0	8.00	46	0.45
Subterranean Parking Structure	Air Compressors	4	12.00	78	0.48
Subterranean Parking Structure	Cement and Mortar Mixers	5	12.00	9	0.56
Subterranean Parking Structure	Cranes	3	12.00	231	0.29
Subterranean Parking Structure	Dumpers/Tenders	4	6.00	16	0.38
Subterranean Parking Structure	Forklifts	10	12.00	89	0.20
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Off-Highway Trucks	4	12.00	402	0.38
Subterranean Parking Structure	Rough Terrain Forklifts	2	12.00	100	0.40
Subterranean Parking Structure	Signal Boards	2	12.00	6	0.82
Subterranean Parking Structure	Sweepers/Scrubbers	1	6.00	64	0.46
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45
Podium Construction	Air Compressors	4	12.00	78	0.48
Podium Construction	Cement and Mortar Mixers	5	12.00	9	0.56
Podium Construction	Cranes	3	12.00	231	0.29
Podium Construction	Dumpers/Tenders	4	6.00	16	0.38
Podium Construction	Forklifts	10	12.00	89	0.20

Podium Construction	Generator Sets	0	8.00	84	0.74
Podium Construction	Off-Highway Trucks	4	12.00	402	0.38
Podium Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Podium Construction	Signal Boards	2	12.00	6	0.82
Podium Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Podium Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Podium Construction	Welders	0	8.00	46	0.45
Building Construction	Air Compressors	4	12.00	78	0.48
Building Construction	Cement and Mortar Mixers	5	12.00	9	0.56
Building Construction	Cranes	3	12.00	231	0.29
Building Construction	Dumpers/Tenders	4	6.00	16	0.38
Building Construction	Forklifts	10	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Off-Highway Trucks	2	12.00	402	0.38
Building Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Building Construction	Signal Boards	2	12.00	6	0.82
Building Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Generator Sets	1	12.00	84	0.74
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Plate Compactors	3	6.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Surfacing Equipment	2	6.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	20	58.00	0.00	3,500.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Site Preparation	18	58.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	24	60.00	0.00	51,088.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Foundation (North Tower)	15	38.00	1,406.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Foundation (South Tower)	15	38.00	1,173.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Subterranean Parking Structure	35	1,186.00	302.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Podium Construction	35	1,186.00	357.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	1,186.00	271.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	237.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0705	0.0000	4.0705	0.6163	0.0000	0.6163			0.0000			0.0000
Off-Road	10.1642	105.5713	73.6933	0.1442		5.2300	5.2300		4.8789	4.8789		14,323.6385	14,323.6385	3.9721		14,422.9409
Total	**10.1642**	**105.5713**	**73.6933**	**0.1442**	**4.0705**	**5.2300**	**9.3004**	**0.6163**	**4.8789**	**5.4952**		**14,323.6385**	**14,323.6385**	**3.9721**		**14,422.9409**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1871	6.4075	1.2547	0.0165	0.4149	0.0254	0.4403	0.1123	0.0243	0.1367		1,787.8521	1,787.8521	0.1259		1,790.9991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3099	0.2234	2.9018	7.1000e-003	0.6483	5.2000e-003	0.6535	0.1719	4.7900e-003	0.1767		706.8577	706.8577	0.0242		707.4616
Total	**0.4970**	**6.6309**	**4.1565**	**0.0236**	**1.0632**	**0.0306**	**1.0938**	**0.2843**	**0.0291**	**0.3134**		**2,494.7097**	**2,494.7097**	**0.1500**		**2,498.4607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5875	0.0000	1.5875	0.2404	0.0000	0.2404			0.0000			0.0000
Off-Road	1.7736	8.6608	86.7917	0.1442		0.2396	0.2396		0.2396	0.2396	0.0000	14,175.6979	14,175.6979	3.9567		14,274.6163
Total	**1.7736**	**8.6608**	**86.7917**	**0.1442**	**1.5875**	**0.2396**	**1.8271**	**0.2404**	**0.2396**	**0.4800**	**0.0000**	**14,175.6979**	**14,175.6979**	**3.9567**		**14,274.6163**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1871	6.4075	1.2547	0.0165	0.4149	0.0254	0.4403	0.1123	0.0243	0.1367		1,787.8521	1,787.8521	0.1259		1,790.9991
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3099	0.2234	2.9018	7.1000e-003	0.6483	5.2000e-003	0.6535	0.1719	4.7900e-003	0.1767		706.8577	706.8577	0.0242		707.4616
Total	**0.4970**	**6.6309**	**4.1565**	**0.0236**	**1.0632**	**0.0306**	**1.0938**	**0.2843**	**0.0291**	**0.3134**		**2,494.7097**	**2,494.7097**	**0.1500**		**2,498.4607**

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0705	0.0000	4.0705	0.6163	0.0000	0.6163			0.0000			0.0000
Off-Road	9.2618	94.9421	72.5471	0.1442		4.5912	4.5912		4.2825	4.2825		14,125.4704	14,125.4704	3.9552		14,224.3500
Total	**9.2618**	**94.9421**	**72.5471**	**0.1442**	**4.0705**	**4.5912**	**8.6616**	**0.6163**	**4.2825**	**4.8988**		**14,125.4704**	**14,125.4704**	**3.9552**		**14,224.3500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1773	6.0609	1.2277	0.0163	1.9830	0.0233	2.0063	0.4972	0.0223	0.5195		1,766.0693	1,766.0693	0.1244		1,769.1802
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2816	0.1971	2.5980	6.8800e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		684.6097	684.6097	0.0215		685.1461
Total	**0.4589**	**6.2579**	**3.8257**	**0.0232**	**2.6313**	**0.0283**	**2.6596**	**0.6691**	**0.0269**	**0.6961**		**2,450.6789**	**2,450.6789**	**0.1459**		**2,454.3263**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5875	0.0000	1.5875	0.2404	0.0000	0.2404			0.0000			0.0000
Off-Road	1.7736	8.6601	86.7917	0.1442		0.2394	0.2394		0.2394	0.2394	0.0000	13,977.5298	13,977.5298	3.9398		14,076.0254
Total	**1.7736**	**8.6601**	**86.7917**	**0.1442**	**1.5875**	**0.2394**	**1.8269**	**0.2404**	**0.2394**	**0.4798**	**0.0000**	**13,977.5298**	**13,977.5298**	**3.9398**		**14,076.0254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1773	6.0609	1.2277	0.0163	1.9830	0.0233	2.0063	0.4972	0.0223	0.5195		1,766.0693	1,766.0693	0.1244		1,769.1802
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2816	0.1971	2.5980	6.8800e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		684.6097	684.6097	0.0215		685.1461
Total	**0.4589**	**6.2579**	**3.8257**	**0.0232**	**2.6313**	**0.0283**	**2.6596**	**0.6691**	**0.0269**	**0.6961**		**2,450.6789**	**2,450.6789**	**0.1459**		**2,454.3263**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0813	0.0000	0.0813	8.7800e-003	0.0000	8.7800e-003			0.0000			0.0000
Off-Road	7.6869	77.9975	60.1010	0.1257		3.6988	3.6988		3.4616	3.4616		12,289.0462	12,289.0462	3.3742		12,373.4001
Total	**7.6869**	**77.9975**	**60.1010**	**0.1257**	**0.0813**	**3.6988**	**3.7801**	**8.7800e-003**	**3.4616**	**3.4703**		**12,289.0462**	**12,289.0462**	**3.3742**		**12,373.4001**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2816	0.1971	2.5980	6.8800e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		684.6097	684.6097	0.0215		685.1461
Total	**0.2816**	**0.1971**	**2.5980**	**6.8800e-003**	**0.6483**	**5.0700e-003**	**0.6534**	**0.1719**	**4.6800e-003**	**0.1766**		**684.6097**	**684.6097**	**0.0215**		**685.1461**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0317	0.0000	0.0317	3.4200e-003	0.0000	3.4200e-003			0.0000			0.0000
Off-Road	1.5442	7.6663	72.6493	0.1257		0.2089	0.2089		0.2089	0.2089	0.0000	12,141.1055	12,141.1055	3.3588		12,225.0755
Total	**1.5442**	**7.6663**	**72.6493**	**0.1257**	**0.0317**	**0.2089**	**0.2406**	**3.4200e-003**	**0.2089**	**0.2123**	**0.0000**	**12,141.1055**	**12,141.1055**	**3.3588**		**12,225.0755**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2816	0.1971	2.5980	6.8800e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		684.6097	684.6097	0.0215		685.1461
Total	**0.2816**	**0.1971**	**2.5980**	**6.8800e-003**	**0.6483**	**5.0700e-003**	**0.6534**	**0.1719**	**4.6800e-003**	**0.1766**		**684.6097**	**684.6097**	**0.0215**		**685.1461**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2356	0.0000	0.2356	0.0352	0.0000	0.0352			0.0000			0.0000
Off-Road	5.9073	66.0996	48.1812	0.1217		2.8052	2.8052		2.5892	2.5892		11,910.2204	11,910.2204	3.6902		12,002.4761
Total	**5.9073**	**66.0996**	**48.1812**	**0.1217**	**0.2356**	**2.8052**	**3.0408**	**0.0352**	**2.5892**	**2.6244**		**11,910.2204**	**11,910.2204**	**3.6902**		**12,002.4761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6020	88.9510	18.0180	0.2392	5.3875	0.3415	5.7289	1.4762	0.3267	1.8029		25,919.4224	25,919.4224	1.8263		25,965.0798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2913	0.2039	2.6876	7.1100e-003	0.6707	5.2500e-003	0.6759	0.1779	4.8400e-003	0.1827		708.2169	708.2169	0.0222		708.7718
Total	**2.8933**	**89.1549**	**20.7056**	**0.2463**	**6.0581**	**0.3467**	**6.4048**	**1.6541**	**0.3315**	**1.9856**		**26,627.6393**	**26,627.6393**	**1.8485**		**26,673.8516**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0919	0.0000	0.0919	0.0137	0.0000	0.0137			0.0000			0.0000
Off-Road	1.7291	8.8681	66.9343	0.1217		0.2562	0.2562		0.2562	0.2562	0.0000	11,762.2798	11,762.2798	3.6749		11,854.1514
Total	**1.7291**	**8.8681**	**66.9343**	**0.1217**	**0.0919**	**0.2562**	**0.3481**	**0.0137**	**0.2562**	**0.2699**	**0.0000**	**11,762.2798**	**11,762.2798**	**3.6749**		**11,854.1514**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6020	88.9510	18.0180	0.2392	5.3875	0.3415	5.7289	1.4762	0.3267	1.8029		25,919.4224	25,919.4224	1.8263		25,965.0798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2913	0.2039	2.6876	7.1100e-003	0.6707	5.2500e-003	0.6759	0.1779	4.8400e-003	0.1827		708.2169	708.2169	0.0222		708.7718
Total	**2.8933**	**89.1549**	**20.7056**	**0.2463**	**6.0581**	**0.3467**	**6.4048**	**1.6541**	**0.3315**	**1.9856**		**26,627.6393**	**26,627.6393**	**1.8485**		**26,673.8516**

3.5 Foundation (North Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1207	62.3751	33.7367	0.0672		3.1884	3.1884		2.9514	2.9514		6,348.2455	6,348.2455	1.8405		6,394.2590
Total	**6.1207**	**62.3751**	**33.7367**	**0.0672**		**3.1884**	**3.1884**		**2.9514**	**2.9514**		**6,348.2455**	**6,348.2455**	**1.8405**		**6,394.2590**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	14.4838	488.5357	100.4119	1.3438	30.6898	1.9337	32.6235	8.4088	1.8500	10.2588		145,596.6567	145,596.6567	10.0508		145,847.9263
Worker	0.1845	0.1291	1.7021	4.5000e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		448.5374	448.5374	0.0141		448.8888
Total	**14.6683**	**488.6648**	**102.1141**	**1.3483**	**31.1146**	**1.9370**	**33.0516**	**8.5215**	**1.8531**	**10.3745**		**146,045.1941**	**146,045.1941**	**10.0648**		**146,296.8151**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8729	5.0603	16.5367	0.0672		0.1903	0.1903		0.1903	0.1903	0.0000	2,270.6631	2,270.6631	0.5976		2,285.6033
Total	**0.8729**	**5.0603**	**16.5367**	**0.0672**		**0.1903**	**0.1903**		**0.1903**	**0.1903**	**0.0000**	**2,270.6631**	**2,270.6631**	**0.5976**		**2,285.6033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	14.4838	488.5357	100.4119	1.3438	30.6898	1.9337	32.6235	8.4088	1.8500	10.2588		145,596.6567	145,596.6567	10.0508		145,847.9263
Worker	0.1845	0.1291	1.7021	4.5000e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		448.5374	448.5374	0.0141		448.8888
Total	**14.6683**	**488.6648**	**102.1141**	**1.3483**	**31.1146**	**1.9370**	**33.0516**	**8.5215**	**1.8531**	**10.3745**		**146,045.1941**	**146,045.1941**	**10.0648**		**146,296.8151**

3.6 Foundation (South Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1207	62.3751	33.7367	0.0672		3.1884	3.1884		2.9514	2.9514		6,348.2455	6,348.2455	1.8405		6,394.2590
Total	**6.1207**	**62.3751**	**33.7367**	**0.0672**		**3.1884**	**3.1884**		**2.9514**	**2.9514**		**6,348.2455**	**6,348.2455**	**1.8405**		**6,394.2590**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	12.0836	407.5764	83.7718	1.1211	25.6039	1.6132	27.2172	7.0153	1.5434	8.5587		121,468.6190	121,468.6190	8.3852		121,678.2486
Worker	0.1845	0.1291	1.7021	4.5000e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		448.5374	448.5374	0.0141		448.8888
Total	**12.2681**	**407.7055**	**85.4740**	**1.1256**	**26.0287**	**1.6166**	**27.6453**	**7.1280**	**1.5465**	**8.6744**		**121,917.1563**	**121,917.1563**	**8.3993**		**122,127.1374**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8729	5.0603	16.5367	0.0672		0.1903	0.1903		0.1903	0.1903	0.0000	2,270.6631	2,270.6631	0.5976		2,285.6033
Total	**0.8729**	**5.0603**	**16.5367**	**0.0672**		**0.1903**	**0.1903**		**0.1903**	**0.1903**	**0.0000**	**2,270.6631**	**2,270.6631**	**0.5976**		**2,285.6033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	12.0836	407.5764	83.7718	1.1211	25.6039	1.6132	27.2172	7.0153	1.5434	8.5587		121,468.6190	121,468.6190	8.3852		121,678.2486
Worker	0.1845	0.1291	1.7021	4.5000e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		448.5374	448.5374	0.0141		448.8888
Total	**12.2681**	**407.7055**	**85.4740**	**1.1256**	**26.0287**	**1.6166**	**27.6453**	**7.1280**	**1.5465**	**8.6744**		**121,917.1563**	**121,917.1563**	**8.3993**		**122,127.1374**

3.7 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	12.5331	118.9210	79.3055	0.1738		6.0061	6.0061		5.6243	5.6243		16,859.4930	16,859.4930	4.6618		16,976.0369
Total	**12.5331**	**118.9210**	**79.3055**	**0.1738**		**6.0061**	**6.0061**		**5.6243**	**5.6243**		**16,859.4930**	**16,859.4930**	**4.6618**		**16,976.0369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	34.6672	8.5486	0.0776	1.9325	0.2298	2.1622	0.5563	0.2198	0.7761		8,290.2674	8,290.2674	0.5578		8,304.2123
Worker	5.7580	4.0297	53.1248	0.1406	13.2567	0.1038	13.3605	3.5157	0.0956	3.6113		13,999.0871	13,999.0871	0.4388		14,010.0561
Total	**6.9350**	**38.6969**	**61.6734**	**0.2182**	**15.1891**	**0.3336**	**15.5227**	**4.0721**	**0.3154**	**4.3875**		**22,289.3545**	**22,289.3545**	**0.9966**		**22,314.2684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3253	12.2326	79.9835	0.1738		0.3805	0.3805		0.3805	0.3805	0.0000	14,141.1047	14,141.1047	3.8331		14,236.9331
Total	**2.3253**	**12.2326**	**79.9835**	**0.1738**		**0.3805**	**0.3805**		**0.3805**	**0.3805**	**0.0000**	**14,141.1047**	**14,141.1047**	**3.8331**		**14,236.9331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1770	34.6672	8.5486	0.0776	1.9325	0.2298	2.1622	0.5563	0.2198	0.7761		8,290.2674	8,290.2674	0.5578		8,304.2123
Worker	5.7580	4.0297	53.1248	0.1406	13.2567	0.1038	13.3605	3.5157	0.0956	3.6113		13,999.0871	13,999.0871	0.4388		14,010.0561
Total	**6.9350**	**38.6969**	**61.6734**	**0.2182**	**15.1891**	**0.3336**	**15.5227**	**4.0721**	**0.3154**	**4.3875**		**22,289.3545**	**22,289.3545**	**0.9966**		**22,314.2684**

3.7 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	11.5526	107.3014	77.0851	0.1738		5.2794	5.2794		4.9443	4.9443		16,553.6400	16,553.6400	4.6447		16,669.7577
Total	**11.5526**	**107.3014**	**77.0851**	**0.1738**		**5.2794**	**5.2794**		**4.9443**	**4.9443**		**16,553.6400**	**16,553.6400**	**4.6447**		**16,669.7577**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0026	31.8073	7.7371	0.0771	1.9324	0.1575	2.0899	0.5563	0.1506	0.7069		8,238.2976	8,238.2976	0.5273		8,251.4802
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.3224**	**35.4036**	**56.0760**	**0.2132**	**15.1891**	**0.2586**	**15.4477**	**4.0720**	**0.2438**	**4.3158**		**21,804.1964**	**21,804.1964**	**0.9183**		**21,827.1527**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3249	12.2310	79.9842	0.1738		0.3792	0.3792		0.3792	0.3792	0.0000	13,891.1460	13,891.1460	3.8161		13,986.5483
Total	**2.3249**	**12.2310**	**79.9842**	**0.1738**		**0.3792**	**0.3792**		**0.3792**	**0.3792**	**0.0000**	**13,891.1460**	**13,891.1460**	**3.8161**		**13,986.5483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0026	31.8073	7.7371	0.0771	1.9324	0.1575	2.0899	0.5563	0.1506	0.7069		8,238.2976	8,238.2976	0.5273		8,251.4802
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.3224**	**35.4036**	**56.0760**	**0.2132**	**15.1891**	**0.2586**	**15.4477**	**4.0720**	**0.2438**	**4.3158**		**21,804.1964**	**21,804.1964**	**0.9183**		**21,827.1527**

3.8 Podium Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	11.5526	107.3014	77.0851	0.1738		5.2794	5.2794		4.9443	4.9443		16,553.6400	16,553.6400	4.6447		16,669.7577
Total	**11.5526**	**107.3014**	**77.0851**	**0.1738**		**5.2794**	**5.2794**		**4.9443**	**4.9443**		**16,553.6400**	**16,553.6400**	**4.6447**		**16,669.7577**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1852	37.6000	9.1461	0.0911	2.2844	0.1861	2.4705	0.6576	0.1781	0.8357		9,738.6498	9,738.6498	0.6233		9,754.2332
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.5050**	**41.1963**	**57.4850**	**0.2273**	**15.5411**	**0.2873**	**15.8283**	**4.1734**	**0.2712**	**4.4446**		**23,304.5486**	**23,304.5486**	**1.0143**		**23,329.9057**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3249	12.2310	79.9842	0.1738		0.3792	0.3792		0.3792	0.3792	0.0000	13,891.1460	13,891.1460	3.8161		13,986.5483
Total	**2.3249**	**12.2310**	**79.9842**	**0.1738**		**0.3792**	**0.3792**		**0.3792**	**0.3792**	**0.0000**	**13,891.1460**	**13,891.1460**	**3.8161**		**13,986.5483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.1852	37.6000	9.1461	0.0911	2.2844	0.1861	2.4705	0.6576	0.1781	0.8357		9,738.6498	9,738.6498	0.6233		9,754.2332
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.5050**	**41.1963**	**57.4850**	**0.2273**	**15.5411**	**0.2873**	**15.8283**	**4.1734**	**0.2712**	**4.4446**		**23,304.5486**	**23,304.5486**	**1.0143**		**23,329.9057**

3.9 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.5633	88.3332	65.6548	0.1342		4.5883	4.5883		4.3085	4.3085		12,717.7740	12,717.7740	3.4041		12,802.8768
Total	**9.5633**	**88.3332**	**65.6548**	**0.1342**		**4.5883**	**4.5883**		**4.3085**	**4.3085**		**12,717.7740**	**12,717.7740**	**3.4041**		**12,802.8768**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8997	28.5423	6.9429	0.0691	1.7341	0.1413	1.8754	0.4992	0.1352	0.6344		7,392.6445	7,392.6445	0.4732		7,404.4739
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.2195**	**32.1386**	**55.2818**	**0.2053**	**14.9908**	**0.2424**	**15.2332**	**4.0149**	**0.2283**	**4.2432**		**20,958.5433**	**20,958.5433**	**0.8641**		**20,980.1465**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1295	62.2023	0.1342		0.3145	0.3145		0.3145	0.3145	0.0000	10,055.2800	10,055.2800	2.5755		10,119.6674
Total	**1.8400**	**10.1295**	**62.2023**	**0.1342**		**0.3145**	**0.3145**		**0.3145**	**0.3145**	**0.0000**	**10,055.2800**	**10,055.2800**	**2.5755**		**10,119.6674**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8997	28.5423	6.9429	0.0691	1.7341	0.1413	1.8754	0.4992	0.1352	0.6344		7,392.6445	7,392.6445	0.4732		7,404.4739
Worker	5.3198	3.5963	48.3389	0.1362	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		13,565.8988	13,565.8988	0.3910		13,575.6726
Total	**6.2195**	**32.1386**	**55.2818**	**0.2053**	**14.9908**	**0.2424**	**15.2332**	**4.0149**	**0.2283**	**4.2432**		**20,958.5433**	**20,958.5433**	**0.8641**		**20,980.1465**

3.9 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.7411	79.1270	64.1080	0.1342		3.9759	3.9759		3.7342	3.7342		12,717.5144	12,717.5144	3.3842		12,802.1198
Total	**8.7411**	**79.1270**	**64.1080**	**0.1342**		**3.9759**	**3.9759**		**3.7342**	**3.7342**		**12,717.5144**	**12,717.5144**	**3.3842**		**12,802.1198**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7624	25.9529	6.3017	0.0686	1.7341	0.0530	1.7871	0.4992	0.0507	0.5499		7,337.1556	7,337.1556	0.4537		7,348.4984
Worker	4.9635	3.2374	44.5306	0.1318	13.2567	0.0981	13.3548	3.5157	0.0904	3.6061		13,127.8136	13,127.8136	0.3538		13,136.6593
Total	**5.7260**	**29.1904**	**50.8323**	**0.2003**	**14.9908**	**0.1511**	**15.1418**	**4.0149**	**0.1410**	**4.1560**		**20,464.9692**	**20,464.9692**	**0.8075**		**20,485.1577**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1286	62.2016	0.1342		0.3139	0.3139		0.3139	0.3139	0.0000	10,055.2493	10,055.2493	2.5557		10,119.1412
Total	**1.8400**	**10.1286**	**62.2016**	**0.1342**		**0.3139**	**0.3139**		**0.3139**	**0.3139**	**0.0000**	**10,055.2493**	**10,055.2493**	**2.5557**		**10,119.1412**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7624	25.9529	6.3017	0.0686	1.7341	0.0530	1.7871	0.4992	0.0507	0.5499		7,337.1556	7,337.1556	0.4537		7,348.4984
Worker	4.9635	3.2374	44.5306	0.1318	13.2567	0.0981	13.3548	3.5157	0.0904	3.6061		13,127.8136	13,127.8136	0.3538		13,136.6593
Total	**5.7260**	**29.1904**	**50.8323**	**0.2003**	**14.9908**	**0.1511**	**15.1418**	**4.0149**	**0.1410**	**4.1560**		**20,464.9692**	**20,464.9692**	**0.8075**		**20,485.1577**

3.9 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.9177	68.9880	62.6784	0.1342		3.3682	3.3682		3.1671	3.1671		12,719.2693	12,719.2693	3.3769		12,803.6908
Total	**7.9177**	**68.9880**	**62.6784**	**0.1342**		**3.3682**	**3.3682**		**3.1671**	**3.1671**		**12,719.2693**	**12,719.2693**	**3.3769**		**12,803.6908**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7155	24.6511	5.9666	0.0679	1.7341	0.0461	1.7802	0.4992	0.0441	0.5433		7,272.8332	7,272.8332	0.4381		7,283.7863
Worker	4.6564	2.9247	41.1800	0.1270	13.2567	0.0953	13.3520	3.5157	0.0878	3.6035		12,657.7409	12,657.7409	0.3199		12,665.7376
Total	**5.3719**	**27.5759**	**47.1466**	**0.1949**	**14.9907**	**0.1414**	**15.1322**	**4.0149**	**0.1319**	**4.1468**		**19,930.5741**	**19,930.5741**	**0.7580**		**19,949.5239**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1282	62.2023	0.1342		0.3135	0.3135		0.3135	0.3135	0.0000	10,056.5918	10,056.5918	2.5482		10,120.2964
Total	**1.8400**	**10.1282**	**62.2023**	**0.1342**		**0.3135**	**0.3135**		**0.3135**	**0.3135**	**0.0000**	**10,056.5918**	**10,056.5918**	**2.5482**		**10,120.2964**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7155	24.6511	5.9666	0.0679	1.7341	0.0461	1.7802	0.4992	0.0441	0.5433		7,272.8332	7,272.8332	0.4381		7,283.7863
Worker	4.6564	2.9247	41.1800	0.1270	13.2567	0.0953	13.3520	3.5157	0.0878	3.6035		12,657.7409	12,657.7409	0.3199		12,665.7376
Total	**5.3719**	**27.5759**	**47.1466**	**0.1949**	**14.9907**	**0.1414**	**15.1322**	**4.0149**	**0.1319**	**4.1468**		**19,930.5741**	**19,930.5741**	**0.7580**		**19,949.5239**

3.10 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9919	0.6469	8.8986	0.0263	2.6491	0.0196	2.6687	0.7026	0.0181	0.7206		2,623.3489	2,623.3489	0.0707		2,625.1166
Total	**0.9919**	**0.6469**	**8.8986**	**0.0263**	**2.6491**	**0.0196**	**2.6687**	**0.7026**	**0.0181**	**0.7206**		**2,623.3489**	**2,623.3489**	**0.0707**		**2,625.1166**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9919	0.6469	8.8986	0.0263	2.6491	0.0196	2.6687	0.7026	0.0181	0.7206		2,623.3489	2,623.3489	0.0707		2,625.1166
Total	**0.9919**	**0.6469**	**8.8986**	**0.0263**	**2.6491**	**0.0196**	**2.6687**	**0.7026**	**0.0181**	**0.7206**		**2,623.3489**	**2,623.3489**	**0.0707**		**2,625.1166**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9305	0.5845	8.2291	0.0254	2.6491	0.0191	2.6682	0.7026	0.0175	0.7201		2,529.4137	2,529.4137	0.0639		2,531.0117
Total	**0.9305**	**0.5845**	**8.2291**	**0.0254**	**2.6491**	**0.0191**	**2.6682**	**0.7026**	**0.0175**	**0.7201**		**2,529.4137**	**2,529.4137**	**0.0639**		**2,531.0117**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.9305	0.5845	8.2291	0.0254	2.6491	0.0191	2.6682	0.7026	0.0175	0.7201		2,529.4137	2,529.4137	0.0639		2,531.0117
Total	**0.9305**	**0.5845**	**8.2291**	**0.0254**	**2.6491**	**0.0191**	**2.6682**	**0.7026**	**0.0175**	**0.7201**		**2,529.4137**	**2,529.4137**	**0.0639**		**2,531.0117**

3.11 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8003	26.4333	33.5533	0.0615		1.2761	1.2761		1.2115	1.2115		5,884.3086	5,884.3086	1.3892		5,919.0383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.8003**	**26.4333**	**33.5533**	**0.0615**		**1.2761**	**1.2761**		**1.2115**	**1.2115**		**5,884.3086**	**5,884.3086**	**1.3892**		**5,919.0383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1296	0.0814	1.1458	3.5300e-003	0.3689	2.6500e-003	0.3715	0.0978	2.4400e-003	0.1003		352.1968	352.1968	8.9000e-003		352.4193
Total	**0.1296**	**0.0814**	**1.1458**	**3.5300e-003**	**0.3689**	**2.6500e-003**	**0.3715**	**0.0978**	**2.4400e-003**	**0.1003**		**352.1968**	**352.1968**	**8.9000e-003**		**352.4193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7892	3.5941	40.4434	0.0615		0.1152	0.1152		0.1152	0.1152	0.0000	5,884.3086	5,884.3086	1.3892		5,919.0383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7892**	**3.5941**	**40.4434**	**0.0615**		**0.1152**	**0.1152**		**0.1152**	**0.1152**	**0.0000**	**5,884.3086**	**5,884.3086**	**1.3892**		**5,919.0383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1296	0.0814	1.1458	3.5300e-003	0.3689	2.6500e-003	0.3715	0.0978	2.4400e-003	0.1003		352.1968	352.1968	8.9000e-003		352.4193
Total	**0.1296**	**0.0814**	**1.1458**	**3.5300e-003**	**0.3689**	**2.6500e-003**	**0.3715**	**0.0978**	**2.4400e-003**	**0.1003**		**352.1968**	**352.1968**	**8.9000e-003**		**352.4193**

LA Times Square - Towers

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	37.60	1000sqft	0.86	37,597.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.09	74,643.00	0
City Park	0.92	Acre	0.09	28,777.00	0
Health Club	25.62	1000sqft	0.59	25,618.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Trips and VMT - see construction assumptions

Demolition -

Grading - see construction assumptions

Architectural Coating -

Area Coating -

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
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tblConstEquipMitigation	FuelType	Diesel	Electrical
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tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
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tblLandUse	LandUseSquareFeet	40,075.20	28,777.00
tblLandUse	LandUseSquareFeet	25,620.00	25,618.00
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tblOffRoadEquipment	PhaseName		Paving

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tblTripsAndVMT	HaulingTripLength	20.00	22.10
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tblTripsAndVMT	HaulingTripNumber	45,500.00	51,088.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripNumber	262.00	1,406.00
tblTripsAndVMT	VendorTripNumber	262.00	1,173.00
tblTripsAndVMT	VendorTripNumber	262.00	302.00
tblTripsAndVMT	VendorTripNumber	262.00	357.00
tblTripsAndVMT	VendorTripNumber	262.00	271.00
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	VendorVehicleClass	HDT_Mix	HHDT
tblTripsAndVMT	WorkerTripNumber	50.00	58.00
tblTripsAndVMT	WorkerTripNumber	45.00	58.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	38.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	38.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	234.00	237.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	10.6958	112.3251	77.6794	0.1672	5.1336	5.2610	10.3947	0.9006	4.9084	5.8090	0.0000	16,747.3738	16,747.3738	4.1255	0.0000	16,850.5117
2019	21.1307	559.5488	141.7307	1.3966	31.1146	6.3433	36.2695	8.5215	5.9432	13.3541	0.0000	150,354.1414	150,354.1414	12.2495	0.0000	150,660.3797
2020	18.6441	148.8375	131.0521	0.3902	15.5411	5.5695	21.1105	4.1734	5.2181	9.3915	0.0000	38,751.6291	38,751.6291	5.6771	0.0000	38,893.5577
2021	29.7035	109.2846	119.4760	0.3491	17.6399	4.1483	21.7882	4.7175	3.8949	8.6124	0.0000	34,627.8348	34,627.8348	4.2664	0.0000	34,734.4955
2022	31.3841	123.9388	148.5467	0.4080	18.0087	4.8089	22.8177	4.8153	4.5319	9.3472	0.0000	40,251.5289	40,251.5289	5.6011	0.0000	40,391.5567
Maximum	**31.3841**	**559.5488**	**148.5467**	**1.3966**	**31.1146**	**6.3433**	**36.2695**	**8.5215**	**5.9432**	**13.3541**	**0.0000**	**150,354.1414**	**150,354.1414**	**12.2495**	**0.0000**	**150,660.3797**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.3052	15.4146	90.7778	0.1672	2.6507	0.2707	2.9214	0.5246	0.2692	0.7938	0.0000	16,599.4332	16,599.4332	4.1102	0.0000	16,702.1871
2019	15.8828	502.2340	137.7178	1.3966	31.1146	2.1567	33.2713	8.5215	2.0715	10.5930	0.0000	146,276.5590	146,276.5590	11.0066	0.0000	146,551.7241
2020	9.4164	53.7672	133.9512	0.3902	15.5411	0.6692	16.2103	4.1734	0.6530	4.8264	0.0000	36,089.1351	36,089.1351	4.8485	0.0000	36,210.3483
2021	22.8024	40.2862	117.5696	0.3491	17.6399	0.4862	18.1261	4.7175	0.4745	5.1920	0.0000	31,965.5697	31,965.5697	3.4379	0.0000	32,051.5168
2022	23.2953	42.2400	154.9606	0.4080	18.0087	0.5933	18.6020	4.8153	0.5820	5.3973	0.0000	37,588.8514	37,588.8514	4.7724	0.0000	37,708.1623
Maximum	**23.2953**	**502.2340**	**154.9606**	**1.3966**	**31.1146**	**2.1567**	**33.2713**	**8.5215**	**2.0715**	**10.5930**	**0.0000**	**146,276.5590**	**146,276.5590**	**11.0066**	**0.0000**	**146,551.7241**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**33.93**	**37.95**	**-2.67**	**0.00**	**2.84**	**84.02**	**20.69**	**1.63**	**83.47**	**42.38**	**0.00**	**4.35**	**4.35**	**11.73**	**0.00**	**4.37**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2018	1/31/2019	6	184	
2	Site Preparation	Site Preparation	2/1/2019	2/28/2019	6	24	
3	Grading	Grading	3/1/2019	9/30/2019	6	183	
4	Foundation (North Tower)	Building Construction	10/1/2019	10/2/2019	6	2	
5	Foundation (South Tower)	Building Construction	10/3/2019	10/4/2019	6	2	
6	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	
7	Podium Construction	Building Construction	6/27/2020	8/27/2020	6	53	
8	Building Construction	Building Construction	8/28/2020	10/6/2022	6	660	
9	Architectural Coating	Architectural Coating	1/1/2021	10/6/2022	6	552	
10	Paving	Paving	3/1/2022	10/6/2022	6	189	

Acres of Grading (Site Preparation Phase): 1.84

Acres of Grading (Grading Phase): 1.84

Acres of Paving: 0.77

Residential Indoor: 2,170,176; Residential Outdoor: 723,392; Non-Residential Indoor: 94,823; Non-Residential Outdoor: 31,608; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Dumpers/Tenders	1	6.00	16	0.38
Demolition	Excavators	2	12.00	158	0.38
Demolition	Generator Sets	2	12.00	84	0.74
Demolition	Off-Highway Trucks	2	12.00	402	0.38
Demolition	Other Construction Equipment	2	12.00	172	0.42
Demolition	Rollers	2	12.00	80	0.38
Demolition	Rough Terrain Forklifts	2	12.00	100	0.40

Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	12.00	203	0.36
Demolition	Signal Boards	2	12.00	6	0.82
Demolition	Sweepers/Scrubbers	1	6.00	64	0.46
Demolition	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Site Preparation	Dumpers/Tenders	1	6.00	16	0.38
Site Preparation	Excavators	2	12.00	158	0.38
Site Preparation	Generator Sets	2	12.00	84	0.74
Site Preparation	Graders	0	8.00	187	0.41
Site Preparation	Off-Highway Trucks	2	12.00	402	0.38
Site Preparation	Rollers	2	12.00	80	0.38
Site Preparation	Rough Terrain Forklifts	2	12.00	100	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	2	12.00	203	0.36
Site Preparation	Signal Boards	2	12.00	6	0.82
Site Preparation	Sweepers/Scrubbers	1	6.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Grading	Bore/Drill Rigs	4	12.00	221	0.50
Grading	Dumpers/Tenders	2	6.00	16	0.38
Grading	Excavators	2	12.00	158	0.38
Grading	Forklifts	2	12.00	89	0.20
Grading	Graders	0	6.00	187	0.41
Grading	Plate Compactors	5	6.00	8	0.43
Grading	Rough Terrain Forklifts	2	12.00	100	0.40
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Grading	Rubber Tired Loaders	2	12.00	203	0.36
Grading	Signal Boards	2	12.00	6	0.82
Grading	Sweepers/Scrubbers	1	6.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Foundation (North Tower)	Cement and Mortar Mixers	5	18.00	9	0.56

Foundation (North Tower)	Cranes	3	18.00	231	0.29
Foundation (North Tower)	Forklifts	5	18.00	89	0.20
Foundation (North Tower)	Generator Sets	0	8.00	84	0.74
Foundation (North Tower)	Signal Boards	2	18.00	6	0.82
Foundation (North Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (North Tower)	Welders	0	8.00	46	0.45
Foundation (South Tower)	Cement and Mortar Mixers	5	18.00	9	0.56
Foundation (South Tower)	Cranes	3	18.00	231	0.29
Foundation (South Tower)	Forklifts	5	18.00	89	0.20
Foundation (South Tower)	Generator Sets	0	8.00	84	0.74
Foundation (South Tower)	Signal Boards	2	18.00	6	0.82
Foundation (South Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (South Tower)	Welders	0	8.00	46	0.45
Subterranean Parking Structure	Air Compressors	4	12.00	78	0.48
Subterranean Parking Structure	Cement and Mortar Mixers	5	12.00	9	0.56
Subterranean Parking Structure	Cranes	3	12.00	231	0.29
Subterranean Parking Structure	Dumpers/Tenders	4	6.00	16	0.38
Subterranean Parking Structure	Forklifts	10	12.00	89	0.20
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Off-Highway Trucks	4	12.00	402	0.38
Subterranean Parking Structure	Rough Terrain Forklifts	2	12.00	100	0.40
Subterranean Parking Structure	Signal Boards	2	12.00	6	0.82
Subterranean Parking Structure	Sweepers/Scrubbers	1	6.00	64	0.46
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45
Podium Construction	Air Compressors	4	12.00	78	0.48
Podium Construction	Cement and Mortar Mixers	5	12.00	9	0.56
Podium Construction	Cranes	3	12.00	231	0.29
Podium Construction	Dumpers/Tenders	4	6.00	16	0.38
Podium Construction	Forklifts	10	12.00	89	0.20

Podium Construction	Generator Sets	0	8.00	84	0.74
Podium Construction	Off-Highway Trucks	4	12.00	402	0.38
Podium Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Podium Construction	Signal Boards	2	12.00	6	0.82
Podium Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Podium Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Podium Construction	Welders	0	8.00	46	0.45
Building Construction	Air Compressors	4	12.00	78	0.48
Building Construction	Cement and Mortar Mixers	5	12.00	9	0.56
Building Construction	Cranes	3	12.00	231	0.29
Building Construction	Dumpers/Tenders	4	6.00	16	0.38
Building Construction	Forklifts	10	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Off-Highway Trucks	2	12.00	402	0.38
Building Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Building Construction	Signal Boards	2	12.00	6	0.82
Building Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Generator Sets	1	12.00	84	0.74
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Plate Compactors	3	6.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Surfacing Equipment	2	6.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	20	58.00	0.00	3,500.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Site Preparation	18	58.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	24	60.00	0.00	51,088.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Foundation (North Tower)	15	38.00	1,406.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Foundation (South Tower)	15	38.00	1,173.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Subterranean Parking Structure	35	1,186.00	302.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Podium Construction	35	1,186.00	357.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	1,186.00	271.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	237.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0705	0.0000	4.0705	0.6163	0.0000	0.6163			0.0000			0.0000
Off-Road	10.1642	105.5713	73.6933	0.1442		5.2300	5.2300		4.8789	4.8789		14,323.6385	14,323.6385	3.9721		14,422.9409
Total	**10.1642**	**105.5713**	**73.6933**	**0.1442**	**4.0705**	**5.2300**	**9.3004**	**0.6163**	**4.8789**	**5.4952**		**14,323.6385**	**14,323.6385**	**3.9721**		**14,422.9409**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1918	6.5083	1.3418	0.0163	0.4149	0.0259	0.4408	0.1123	0.0248	0.1371		1,760.6488	1,760.6488	0.1307		1,763.9167
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3398	0.2455	2.6443	6.6600e-003	0.6483	5.2000e-003	0.6535	0.1719	4.7900e-003	0.1767		663.0865	663.0865	0.0227		663.6542
Total	**0.5316**	**6.7538**	**3.9861**	**0.0229**	**1.0632**	**0.0311**	**1.0943**	**0.2843**	**0.0296**	**0.3138**		**2,423.7353**	**2,423.7353**	**0.1534**		**2,427.5709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5875	0.0000	1.5875	0.2404	0.0000	0.2404			0.0000			0.0000
Off-Road	1.7736	8.6608	86.7917	0.1442		0.2396	0.2396		0.2396	0.2396	0.0000	14,175.6979	14,175.6979	3.9567		14,274.6163
Total	**1.7736**	**8.6608**	**86.7917**	**0.1442**	**1.5875**	**0.2396**	**1.8271**	**0.2404**	**0.2396**	**0.4800**	**0.0000**	**14,175.6979**	**14,175.6979**	**3.9567**		**14,274.6163**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1918	6.5083	1.3418	0.0163	0.4149	0.0259	0.4408	0.1123	0.0248	0.1371		1,760.6488	1,760.6488	0.1307		1,763.9167
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3398	0.2455	2.6443	6.6600e-003	0.6483	5.2000e-003	0.6535	0.1719	4.7900e-003	0.1767		663.0865	663.0865	0.0227		663.6542
Total	**0.5316**	**6.7538**	**3.9861**	**0.0229**	**1.0632**	**0.0311**	**1.0943**	**0.2843**	**0.0296**	**0.3138**		**2,423.7353**	**2,423.7353**	**0.1534**		**2,427.5709**

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.0705	0.0000	4.0705	0.6163	0.0000	0.6163			0.0000			0.0000
Off-Road	9.2618	94.9421	72.5471	0.1442		4.5912	4.5912		4.2825	4.2825		14,125.4704	14,125.4704	3.9552		14,224.3500
Total	**9.2618**	**94.9421**	**72.5471**	**0.1442**	**4.0705**	**4.5912**	**8.6616**	**0.6163**	**4.2825**	**4.8988**		**14,125.4704**	**14,125.4704**	**3.9552**		**14,224.3500**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1817	6.1538	1.3102	0.0161	1.9830	0.0237	2.0067	0.4972	0.0226	0.5199		1,738.8559	1,738.8559	0.1291		1,742.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3093	0.2165	2.3604	6.4500e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		642.1571	642.1571	0.0201		642.6604
Total	**0.4909**	**6.3703**	**3.6706**	**0.0225**	**2.6313**	**0.0287**	**2.6600**	**0.6691**	**0.0273**	**0.6965**		**2,381.0130**	**2,381.0130**	**0.1492**		**2,384.7441**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5875	0.0000	1.5875	0.2404	0.0000	0.2404			0.0000			0.0000
Off-Road	1.7736	8.6601	86.7917	0.1442		0.2394	0.2394		0.2394	0.2394	0.0000	13,977.5298	13,977.5298	3.9398		14,076.0254
Total	**1.7736**	**8.6601**	**86.7917**	**0.1442**	**1.5875**	**0.2394**	**1.8269**	**0.2404**	**0.2394**	**0.4798**	**0.0000**	**13,977.5298**	**13,977.5298**	**3.9398**		**14,076.0254**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1817	6.1538	1.3102	0.0161	1.9830	0.0237	2.0067	0.4972	0.0226	0.5199		1,738.8559	1,738.8559	0.1291		1,742.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3093	0.2165	2.3604	6.4500e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		642.1571	642.1571	0.0201		642.6604
Total	**0.4909**	**6.3703**	**3.6706**	**0.0225**	**2.6313**	**0.0287**	**2.6600**	**0.6691**	**0.0273**	**0.6965**		**2,381.0130**	**2,381.0130**	**0.1492**		**2,384.7441**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0813	0.0000	0.0813	8.7800e-003	0.0000	8.7800e-003			0.0000			0.0000
Off-Road	7.6869	77.9975	60.1010	0.1257		3.6988	3.6988		3.4616	3.4616		12,289.0462	12,289.0462	3.3742		12,373.4001
Total	**7.6869**	**77.9975**	**60.1010**	**0.1257**	**0.0813**	**3.6988**	**3.7801**	**8.7800e-003**	**3.4616**	**3.4703**		**12,289.0462**	**12,289.0462**	**3.3742**		**12,373.4001**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3093	0.2165	2.3604	6.4500e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		642.1571	642.1571	0.0201		642.6604
Total	**0.3093**	**0.2165**	**2.3604**	**6.4500e-003**	**0.6483**	**5.0700e-003**	**0.6534**	**0.1719**	**4.6800e-003**	**0.1766**		**642.1571**	**642.1571**	**0.0201**		**642.6604**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0317	0.0000	0.0317	3.4200e-003	0.0000	3.4200e-003			0.0000			0.0000
Off-Road	1.5442	7.6663	72.6493	0.1257		0.2089	0.2089		0.2089	0.2089	0.0000	12,141.1055	12,141.1055	3.3588		12,225.0755
Total	**1.5442**	**7.6663**	**72.6493**	**0.1257**	**0.0317**	**0.2089**	**0.2406**	**3.4200e-003**	**0.2089**	**0.2123**	**0.0000**	**12,141.1055**	**12,141.1055**	**3.3588**		**12,225.0755**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3093	0.2165	2.3604	6.4500e-003	0.6483	5.0700e-003	0.6534	0.1719	4.6800e-003	0.1766		642.1571	642.1571	0.0201		642.6604
Total	**0.3093**	**0.2165**	**2.3604**	**6.4500e-003**	**0.6483**	**5.0700e-003**	**0.6534**	**0.1719**	**4.6800e-003**	**0.1766**		**642.1571**	**642.1571**	**0.0201**		**642.6604**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2356	0.0000	0.2356	0.0352	0.0000	0.0352			0.0000			0.0000
Off-Road	5.9073	66.0996	48.1812	0.1217		2.8052	2.8052		2.5892	2.5892		11,910.2204	11,910.2204	3.6902		12,002.4761
Total	**5.9073**	**66.0996**	**48.1812**	**0.1217**	**0.2356**	**2.8052**	**3.0408**	**0.0352**	**2.5892**	**2.6244**		**11,910.2204**	**11,910.2204**	**3.6902**		**12,002.4761**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6664	90.3153	19.2282	0.2355	5.3875	0.3473	5.7348	1.4762	0.3323	1.8085		25,520.0306	25,520.0306	1.8949		25,567.4026
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3199	0.2240	2.4418	6.6700e-003	0.6707	5.2500e-003	0.6759	0.1779	4.8400e-003	0.1827		664.3004	664.3004	0.0208		664.8211
Total	**2.9863**	**90.5393**	**21.6701**	**0.2422**	**6.0581**	**0.3526**	**6.4107**	**1.6541**	**0.3371**	**1.9912**		**26,184.3310**	**26,184.3310**	**1.9157**		**26,232.2237**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0919	0.0000	0.0919	0.0137	0.0000	0.0137			0.0000			0.0000
Off-Road	1.7291	8.8681	66.9343	0.1217		0.2562	0.2562		0.2562	0.2562	0.0000	11,762.2798	11,762.2798	3.6749		11,854.1514
Total	**1.7291**	**8.8681**	**66.9343**	**0.1217**	**0.0919**	**0.2562**	**0.3481**	**0.0137**	**0.2562**	**0.2699**	**0.0000**	**11,762.2798**	**11,762.2798**	**3.6749**		**11,854.1514**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	2.6664	90.3153	19.2282	0.2355	5.3875	0.3473	5.7348	1.4762	0.3323	1.8085		25,520.0306	25,520.0306	1.8949		25,567.4026
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3199	0.2240	2.4418	6.6700e-003	0.6707	5.2500e-003	0.6759	0.1779	4.8400e-003	0.1827		664.3004	664.3004	0.0208		664.8211
Total	**2.9863**	**90.5393**	**21.6701**	**0.2422**	**6.0581**	**0.3526**	**6.4107**	**1.6541**	**0.3371**	**1.9912**		**26,184.3310**	**26,184.3310**	**1.9157**		**26,232.2237**

3.5 Foundation (North Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1207	62.3751	33.7367	0.0672		3.1884	3.1884		2.9514	2.9514		6,348.2455	6,348.2455	1.8405		6,394.2590
Total	**6.1207**	**62.3751**	**33.7367**	**0.0672**		**3.1884**	**3.1884**		**2.9514**	**2.9514**		**6,348.2455**	**6,348.2455**	**1.8405**		**6,394.2590**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	14.8073	497.0318	106.4475	1.3252	30.6898	1.9631	32.6529	8.4088	1.8782	10.2870		143,585.1723	143,585.1723	10.3958		143,845.0674
Worker	0.2026	0.1419	1.5465	4.2200e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		420.7236	420.7236	0.0132		421.0534
Total	**15.0099**	**497.1737**	**107.9940**	**1.3294**	**31.1146**	**1.9665**	**33.0810**	**8.5215**	**1.8812**	**10.4027**		**144,005.8959**	**144,005.8959**	**10.4090**		**144,266.1207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8729	5.0603	16.5367	0.0672		0.1903	0.1903		0.1903	0.1903	0.0000	2,270.6631	2,270.6631	0.5976		2,285.6033
Total	**0.8729**	**5.0603**	**16.5367**	**0.0672**		**0.1903**	**0.1903**		**0.1903**	**0.1903**	**0.0000**	**2,270.6631**	**2,270.6631**	**0.5976**		**2,285.6033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	14.8073	497.0318	106.4475	1.3252	30.6898	1.9631	32.6529	8.4088	1.8782	10.2870		143,585.1723	143,585.1723	10.3958		143,845.0674
Worker	0.2026	0.1419	1.5465	4.2200e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		420.7236	420.7236	0.0132		421.0534
Total	**15.0099**	**497.1737**	**107.9940**	**1.3294**	**31.1146**	**1.9665**	**33.0810**	**8.5215**	**1.8812**	**10.4027**		**144,005.8959**	**144,005.8959**	**10.4090**		**144,266.1207**

3.6 Foundation (South Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.1207	62.3751	33.7367	0.0672		3.1884	3.1884		2.9514	2.9514		6,348.2455	6,348.2455	1.8405		6,394.2590
Total	**6.1207**	**62.3751**	**33.7367**	**0.0672**		**3.1884**	**3.1884**		**2.9514**	**2.9514**		**6,348.2455**	**6,348.2455**	**1.8405**		**6,394.2590**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	12.3535	414.6645	88.8072	1.1056	25.6039	1.6378	27.2417	7.0153	1.5669	8.5822		119,790.4745	119,790.4745	8.6730		120,007.3002
Worker	0.2026	0.1419	1.5465	4.2200e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		420.7236	420.7236	0.0132		421.0534
Total	**12.5561**	**414.8064**	**90.3537**	**1.1098**	**26.0287**	**1.6411**	**27.6698**	**7.1280**	**1.5700**	**8.6980**		**120,211.1981**	**120,211.1981**	**8.6862**		**120,428.3535**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8729	5.0603	16.5367	0.0672		0.1903	0.1903		0.1903	0.1903	0.0000	2,270.6631	2,270.6631	0.5976		2,285.6033
Total	**0.8729**	**5.0603**	**16.5367**	**0.0672**		**0.1903**	**0.1903**		**0.1903**	**0.1903**	**0.0000**	**2,270.6631**	**2,270.6631**	**0.5976**		**2,285.6033**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	12.3535	414.6645	88.8072	1.1056	25.6039	1.6378	27.2417	7.0153	1.5669	8.5822		119,790.4745	119,790.4745	8.6730		120,007.3002
Worker	0.2026	0.1419	1.5465	4.2200e-003	0.4248	3.3200e-003	0.4281	0.1127	3.0600e-003	0.1157		420.7236	420.7236	0.0132		421.0534
Total	**12.5561**	**414.8064**	**90.3537**	**1.1098**	**26.0287**	**1.6411**	**27.6698**	**7.1280**	**1.5700**	**8.6980**		**120,211.1981**	**120,211.1981**	**8.6862**		**120,428.3535**

3.7 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	12.5331	118.9210	79.3055	0.1738		6.0061	6.0061		5.6243	5.6243		16,859.4930	16,859.4930	4.6618		16,976.0369
Total	**12.5331**	**118.9210**	**79.3055**	**0.1738**		**6.0061**	**6.0061**		**5.6243**	**5.6243**		**16,859.4930**	**16,859.4930**	**4.6618**		**16,976.0369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2278	34.7099	9.4675	0.0756	1.9325	0.2335	2.1659	0.5563	0.2233	0.7797		8,067.5956	8,067.5956	0.5966		8,082.5103
Worker	6.3236	4.4277	48.2668	0.1319	13.2567	0.1038	13.3605	3.5157	0.0956	3.6113		13,131.0048	13,131.0048	0.4117		13,141.2971
Total	**7.5514**	**39.1376**	**57.7343**	**0.2074**	**15.1891**	**0.3372**	**15.5264**	**4.0721**	**0.3189**	**4.3910**		**21,198.6004**	**21,198.6004**	**1.0083**		**21,223.8073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3253	12.2326	79.9835	0.1738		0.3805	0.3805		0.3805	0.3805	0.0000	14,141.1047	14,141.1047	3.8331		14,236.9331
Total	**2.3253**	**12.2326**	**79.9835**	**0.1738**		**0.3805**	**0.3805**		**0.3805**	**0.3805**	**0.0000**	**14,141.1047**	**14,141.1047**	**3.8331**		**14,236.9331**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2278	34.7099	9.4675	0.0756	1.9325	0.2335	2.1659	0.5563	0.2233	0.7797		8,067.5956	8,067.5956	0.5966		8,082.5103
Worker	6.3236	4.4277	48.2668	0.1319	13.2567	0.1038	13.3605	3.5157	0.0956	3.6113		13,131.0048	13,131.0048	0.4117		13,141.2971
Total	**7.5514**	**39.1376**	**57.7343**	**0.2074**	**15.1891**	**0.3372**	**15.5264**	**4.0721**	**0.3189**	**4.3910**		**21,198.6004**	**21,198.6004**	**1.0083**		**21,223.8073**

3.7 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	11.5526	107.3014	77.0851	0.1738		5.2794	5.2794		4.9443	4.9443		16,553.6400	16,553.6400	4.6447		16,669.7577
Total	**11.5526**	**107.3014**	**77.0851**	**0.1738**		**5.2794**	**5.2794**		**4.9443**	**4.9443**		**16,553.6400**	**16,553.6400**	**4.6447**		**16,669.7577**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0484	31.7953	8.5732	0.0750	1.9324	0.1598	2.0923	0.5563	0.1529	0.7092		8,014.3973	8,014.3973	0.5636		8,028.4862
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**6.9005**	**35.7456**	**52.4057**	**0.2027**	**15.1891**	**0.2610**	**15.4501**	**4.0720**	**0.2461**	**4.3181**		**20,738.4135**	**20,738.4135**	**0.9298**		**20,761.6585**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3249	12.2310	79.9842	0.1738		0.3792	0.3792		0.3792	0.3792	0.0000	13,891.1460	13,891.1460	3.8161		13,986.5483
Total	**2.3249**	**12.2310**	**79.9842**	**0.1738**		**0.3792**	**0.3792**		**0.3792**	**0.3792**	**0.0000**	**13,891.1460**	**13,891.1460**	**3.8161**		**13,986.5483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.0484	31.7953	8.5732	0.0750	1.9324	0.1598	2.0923	0.5563	0.1529	0.7092		8,014.3973	8,014.3973	0.5636		8,028.4862
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**6.9005**	**35.7456**	**52.4057**	**0.2027**	**15.1891**	**0.2610**	**15.4501**	**4.0720**	**0.2461**	**4.3181**		**20,738.4135**	**20,738.4135**	**0.9298**		**20,761.6585**

3.8 Podium Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	11.5526	107.3014	77.0851	0.1738		5.2794	5.2794		4.9443	4.9443		16,553.6400	16,553.6400	4.6447		16,669.7577
Total	**11.5526**	**107.3014**	**77.0851**	**0.1738**		**5.2794**	**5.2794**		**4.9443**	**4.9443**		**16,553.6400**	**16,553.6400**	**4.6447**		**16,669.7577**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2393	37.5858	10.1345	0.0886	2.2844	0.1889	2.4733	0.6576	0.1807	0.8384		9,473.9729	9,473.9729	0.6662		9,490.6278
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**7.0915**	**41.5362**	**53.9670**	**0.2164**	**15.5411**	**0.2901**	**15.8311**	**4.1734**	**0.2739**	**4.4472**		**22,197.9892**	**22,197.9892**	**1.0324**		**22,223.8001**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3249	12.2310	79.9842	0.1738		0.3792	0.3792		0.3792	0.3792	0.0000	13,891.1460	13,891.1460	3.8161		13,986.5483
Total	**2.3249**	**12.2310**	**79.9842**	**0.1738**		**0.3792**	**0.3792**		**0.3792**	**0.3792**	**0.0000**	**13,891.1460**	**13,891.1460**	**3.8161**		**13,986.5483**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.2393	37.5858	10.1345	0.0886	2.2844	0.1889	2.4733	0.6576	0.1807	0.8384		9,473.9729	9,473.9729	0.6662		9,490.6278
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**7.0915**	**41.5362**	**53.9670**	**0.2164**	**15.5411**	**0.2901**	**15.8311**	**4.1734**	**0.2739**	**4.4472**		**22,197.9892**	**22,197.9892**	**1.0324**		**22,223.8001**

3.9 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	9.5633	88.3332	65.6548	0.1342		4.5883	4.5883		4.3085	4.3085		12,717.7740	12,717.7740	3.4041		12,802.8768
Total	**9.5633**	**88.3332**	**65.6548**	**0.1342**		**4.5883**	**4.5883**		**4.3085**	**4.3085**		**12,717.7740**	**12,717.7740**	**3.4041**		**12,802.8768**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9408	28.5315	7.6931	0.0673	1.7341	0.1434	1.8775	0.4992	0.1372	0.6364		7,191.7274	7,191.7274	0.5057		7,204.3701
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**6.7929**	**32.4819**	**51.5256**	**0.1950**	**14.9908**	**0.2446**	**15.2353**	**4.0149**	**0.2304**	**4.2453**		**19,915.7436**	**19,915.7436**	**0.8720**		**19,937.5424**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1295	62.2023	0.1342		0.3145	0.3145		0.3145	0.3145	0.0000	10,055.2800	10,055.2800	2.5755		10,119.6674
Total	**1.8400**	**10.1295**	**62.2023**	**0.1342**		**0.3145**	**0.3145**		**0.3145**	**0.3145**	**0.0000**	**10,055.2800**	**10,055.2800**	**2.5755**		**10,119.6674**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.9408	28.5315	7.6931	0.0673	1.7341	0.1434	1.8775	0.4992	0.1372	0.6364		7,191.7274	7,191.7274	0.5057		7,204.3701
Worker	5.8521	3.9504	43.8325	0.1277	13.2567	0.1011	13.3578	3.5157	0.0932	3.6089		12,724.0162	12,724.0162	0.3662		12,733.1723
Total	**6.7929**	**32.4819**	**51.5256**	**0.1950**	**14.9908**	**0.2446**	**15.2353**	**4.0149**	**0.2304**	**4.2453**		**19,915.7436**	**19,915.7436**	**0.8720**		**19,937.5424**

3.9 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.7411	79.1270	64.1080	0.1342		3.9759	3.9759		3.7342	3.7342		12,717.5144	12,717.5144	3.3842		12,802.1198
Total	**8.7411**	**79.1270**	**64.1080**	**0.1342**		**3.9759**	**3.9759**		**3.7342**	**3.7342**		**12,717.5144**	**12,717.5144**	**3.3842**		**12,802.1198**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8010	25.8918	7.0050	0.0667	1.7341	0.0547	1.7887	0.4992	0.0523	0.5515		7,137.4295	7,137.4295	0.4849		7,149.5517
Worker	5.4695	3.5554	40.3082	0.1236	13.2567	0.0981	13.3548	3.5157	0.0904	3.6061		12,312.4727	12,312.4727	0.3312		12,320.7514
Total	**6.2705**	**29.4472**	**47.3132**	**0.1903**	**14.9908**	**0.1528**	**15.1435**	**4.0149**	**0.1426**	**4.1576**		**19,449.9022**	**19,449.9022**	**0.8160**		**19,470.3031**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1286	62.2016	0.1342		0.3139	0.3139		0.3139	0.3139	0.0000	10,055.2493	10,055.2493	2.5557		10,119.1412
Total	**1.8400**	**10.1286**	**62.2016**	**0.1342**		**0.3139**	**0.3139**		**0.3139**	**0.3139**	**0.0000**	**10,055.2493**	**10,055.2493**	**2.5557**		**10,119.1412**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.8010	25.8918	7.0050	0.0667	1.7341	0.0547	1.7887	0.4992	0.0523	0.5515		7,137.4295	7,137.4295	0.4849		7,149.5517
Worker	5.4695	3.5554	40.3082	0.1236	13.2567	0.0981	13.3548	3.5157	0.0904	3.6061		12,312.4727	12,312.4727	0.3312		12,320.7514
Total	**6.2705**	**29.4472**	**47.3132**	**0.1903**	**14.9908**	**0.1528**	**15.1435**	**4.0149**	**0.1426**	**4.1576**		**19,449.9022**	**19,449.9022**	**0.8160**		**19,470.3031**

3.9 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	7.9177	68.9880	62.6784	0.1342		3.3682	3.3682		3.1671	3.1671		12,719.2693	12,719.2693	3.3769		12,803.6908
Total	**7.9177**	**68.9880**	**62.6784**	**0.1342**		**3.3682**	**3.3682**		**3.1671**	**3.1671**		**12,719.2693**	**12,719.2693**	**3.3769**		**12,803.6908**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7519	24.5754	6.6347	0.0661	1.7341	0.0476	1.7817	0.4992	0.0455	0.5447		7,073.6992	7,073.6992	0.4679		7,085.3959
Worker	5.1442	3.2112	37.2094	0.1191	13.2567	0.0953	13.3520	3.5157	0.0878	3.6035		11,871.6090	11,871.6090	0.2991		11,879.0865
Total	**5.8961**	**27.7866**	**43.8440**	**0.1852**	**14.9907**	**0.1429**	**15.1337**	**4.0149**	**0.1333**	**4.1482**		**18,945.3082**	**18,945.3082**	**0.7670**		**18,964.4824**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8400	10.1282	62.2023	0.1342		0.3135	0.3135		0.3135	0.3135	0.0000	10,056.5918	10,056.5918	2.5482		10,120.2964
Total	**1.8400**	**10.1282**	**62.2023**	**0.1342**		**0.3135**	**0.3135**		**0.3135**	**0.3135**	**0.0000**	**10,056.5918**	**10,056.5918**	**2.5482**		**10,120.2964**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.7519	24.5754	6.6347	0.0661	1.7341	0.0476	1.7817	0.4992	0.0455	0.5447		7,073.6992	7,073.6992	0.4679		7,085.3959
Worker	5.1442	3.2112	37.2094	0.1191	13.2567	0.0953	13.3520	3.5157	0.0878	3.6035		11,871.6090	11,871.6090	0.2991		11,879.0865
Total	**5.8961**	**27.7866**	**43.8440**	**0.1852**	**14.9907**	**0.1429**	**15.1337**	**4.0149**	**0.1333**	**4.1482**		**18,945.3082**	**18,945.3082**	**0.7670**		**18,964.4824**

3.10 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0930	0.7105	8.0548	0.0247	2.6491	0.0196	2.6687	0.7026	0.0181	0.7206		2,460.4182	2,460.4182	0.0662		2,462.0726
Total	**1.0930**	**0.7105**	**8.0548**	**0.0247**	**2.6491**	**0.0196**	**2.6687**	**0.7026**	**0.0181**	**0.7206**		**2,460.4182**	**2,460.4182**	**0.0662**		**2,462.0726**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0930	0.7105	8.0548	0.0247	2.6491	0.0196	2.6687	0.7026	0.0181	0.7206		2,460.4182	2,460.4182	0.0662		2,462.0726
Total	**1.0930**	**0.7105**	**8.0548**	**0.0247**	**2.6491**	**0.0196**	**2.6687**	**0.7026**	**0.0181**	**0.7206**		**2,460.4182**	**2,460.4182**	**0.0662**		**2,462.0726**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0280	0.6417	7.4356	0.0238	2.6491	0.0191	2.6682	0.7026	0.0175	0.7201		2,372.3198	2,372.3198	0.0598		2,373.8141
Total	**1.0280**	**0.6417**	**7.4356**	**0.0238**	**2.6491**	**0.0191**	**2.6682**	**0.7026**	**0.0175**	**0.7201**		**2,372.3198**	**2,372.3198**	**0.0598**		**2,373.8141**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	13.5989					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	**13.5989**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.0280	0.6417	7.4356	0.0238	2.6491	0.0191	2.6682	0.7026	0.0175	0.7201		2,372.3198	2,372.3198	0.0598		2,373.8141
Total	**1.0280**	**0.6417**	**7.4356**	**0.0238**	**2.6491**	**0.0191**	**2.6682**	**0.7026**	**0.0175**	**0.7201**		**2,372.3198**	**2,372.3198**	**0.0598**		**2,373.8141**

3.11 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.8003	26.4333	33.5533	0.0615		1.2761	1.2761		1.2115	1.2115		5,884.3086	5,884.3086	1.3892		5,919.0383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.8003**	**26.4333**	**33.5533**	**0.0615**		**1.2761**	**1.2761**		**1.2115**	**1.2115**		**5,884.3086**	**5,884.3086**	**1.3892**		**5,919.0383**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1431	0.0894	1.0353	3.3100e-003	0.3689	2.6500e-003	0.3715	0.0978	2.4400e-003	0.1003		330.3230	330.3230	8.3200e-003		330.5311
Total	**0.1431**	**0.0894**	**1.0353**	**3.3100e-003**	**0.3689**	**2.6500e-003**	**0.3715**	**0.0978**	**2.4400e-003**	**0.1003**		**330.3230**	**330.3230**	**8.3200e-003**		**330.5311**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7892	3.5941	40.4434	0.0615		0.1152	0.1152		0.1152	0.1152	0.0000	5,884.3086	5,884.3086	1.3892		5,919.0383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7892**	**3.5941**	**40.4434**	**0.0615**		**0.1152**	**0.1152**		**0.1152**	**0.1152**	**0.0000**	**5,884.3086**	**5,884.3086**	**1.3892**		**5,919.0383**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1431	0.0894	1.0353	3.3100e-003	0.3689	2.6500e-003	0.3715	0.0978	2.4400e-003	0.1003		330.3230	330.3230	8.3200e-003		330.5311
Total	**0.1431**	**0.0894**	**1.0353**	**3.3100e-003**	**0.3689**	**2.6500e-003**	**0.3715**	**0.0978**	**2.4400e-003**	**0.1003**		**330.3230**	**330.3230**	**8.3200e-003**		**330.5311**

LA Times - Vibratory Pile Driver

South Coast Air Basin, Summer

1.0 Project Characteristics

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Trips and VMT - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	228.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	PhaseEndDate	8/17/2020	6/26/2020
tblConstructionPhase	PhaseStartDate	11/12/2019	10/5/2019
tblLandUse	LandUseSquareFeet	1,935,930.00	1,935,927.00
tblLandUse	LotAcreage	44.44	1.84
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	VendorTripNumber	317.00	0.00
tblTripsAndVMT	WorkerTripNumber	620.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.4406	5.5790	3.2951	0.0146	0.0447	0.1582	0.2029	0.0119	0.1455	0.1574	0.0000	1,445.0588	1,445.0588	0.4437	0.0000	1,456.1524
2020	0.4363	5.3219	3.2998	0.0146	0.0447	0.1533	0.1980	0.0119	0.1411	0.1529	0.0000	1,417.2873	1,417.2873	0.4449	0.0000	1,428.4098
Maximum	**0.4406**	**5.5790**	**3.2998**	**0.0146**	**0.0447**	**0.1582**	**0.2029**	**0.0119**	**0.1455**	**0.1574**	**0.0000**	**1,445.0588**	**1,445.0588**	**0.4449**	**0.0000**	**1,456.1524**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.1957	0.7775	6.6427	0.0146	0.0447	0.0239	0.0686	0.0119	0.0238	0.0357	0.0000	1,445.0588	1,445.0588	0.4437	0.0000	1,456.1524
2020	0.1942	0.7760	6.6265	0.0146	0.0447	0.0238	0.0686	0.0119	0.0238	0.0357	0.0000	1,417.2873	1,417.2873	0.4449	0.0000	1,428.4098
Maximum	**0.1957**	**0.7775**	**6.6427**	**0.0146**	**0.0447**	**0.0239**	**0.0686**	**0.0119**	**0.0238**	**0.0357**	**0.0000**	**1,445.0588**	**1,445.0588**	**0.4449**	**0.0000**	**1,456.1524**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**55.53**	**85.75**	**-101.20**	**0.00**	**0.00**	**84.69**	**65.80**	**0.00**	**83.37**	**77.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Subterranean Parking Structure	Bore/Drill Rigs	1	12.00	221	0.50
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Cranes	0	6.00	231	0.29
Subterranean Parking Structure	Forklifts	0	6.00	89	0.20
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Subterranean Parking Structure	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4212	5.5654	3.1159	0.0141		0.1578	0.1578		0.1452	0.1452		1,397.8444	1,397.8444	0.4423		1,408.9009
Total	**0.4212**	**5.5654**	**3.1159**	**0.0141**		**0.1578**	**0.1578**		**0.1452**	**0.1452**		**1,397.8444**	**1,397.8444**	**0.4423**		**1,408.9009**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0136	0.1792	4.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		47.2145	47.2145	1.4800e-003		47.2515
Total	**0.0194**	**0.0136**	**0.1792**	**4.7000e-004**	**0.0447**	**3.5000e-004**	**0.0451**	**0.0119**	**3.2000e-004**	**0.0122**		**47.2145**	**47.2145**	**1.4800e-003**		**47.2515**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1763	0.7639	6.4635	0.0141		0.0235	0.0235		0.0235	0.0235	0.0000	1,397.8444	1,397.8444	0.4423		1,408.9009
Total	**0.1763**	**0.7639**	**6.4635**	**0.0141**		**0.0235**	**0.0235**		**0.0235**	**0.0235**	**0.0000**	**1,397.8444**	**1,397.8444**	**0.4423**		**1,408.9009**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0194	0.0136	0.1792	4.7000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		47.2145	47.2145	1.4800e-003		47.2515
Total	**0.0194**	**0.0136**	**0.1792**	**4.7000e-004**	**0.0447**	**3.5000e-004**	**0.0451**	**0.0119**	**3.2000e-004**	**0.0122**		**47.2145**	**47.2145**	**1.4800e-003**		**47.2515**

3.2 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4184	5.3098	3.1367	0.0142		0.1530	0.1530		0.1408	0.1408		1,371.5339	1,371.5339	0.4436		1,382.6234
Total	**0.4184**	**5.3098**	**3.1367**	**0.0142**		**0.1530**	**0.1530**		**0.1408**	**0.1408**		**1,371.5339**	**1,371.5339**	**0.4436**		**1,382.6234**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0121	0.1630	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7535	45.7535	1.3200e-003		45.7864
Total	**0.0179**	**0.0121**	**0.1630**	**4.6000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**45.7535**	**45.7535**	**1.3200e-003**		**45.7864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1763	0.7639	6.4635	0.0142		0.0235	0.0235		0.0235	0.0235	0.0000	1,371.5339	1,371.5339	0.4436		1,382.6234
Total	**0.1763**	**0.7639**	**6.4635**	**0.0142**		**0.0235**	**0.0235**		**0.0235**	**0.0235**	**0.0000**	**1,371.5339**	**1,371.5339**	**0.4436**		**1,382.6234**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0179	0.0121	0.1630	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7535	45.7535	1.3200e-003		45.7864
Total	**0.0179**	**0.0121**	**0.1630**	**4.6000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**45.7535**	**45.7535**	**1.3200e-003**		**45.7864**

LA Times - Vibratory Pile Driver

South Coast Air Basin, Winter

1.0 Project Characteristics

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Trips and VMT - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	228.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	8/17/2020	6/26/2020
tblConstructionPhase	PhaseStartDate	11/12/2019	10/5/2019
tblLandUse	LandUseSquareFeet	1,935,930.00	1,935,927.00
tblLandUse	LotAcreage	44.44	1.84
tblOffRoadEquipment	LoadFactor	0.50	0.50

tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	VendorTripNumber	317.00	0.00
tblTripsAndVMT	WorkerTripNumber	620.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.4425	5.5803	3.2787	0.0146	0.0447	0.1582	0.2029	0.0119	0.1455	0.1574	0.0000	1,442.1311	1,442.1311	0.4437	0.0000	1,453.2224
2020	0.4381	5.3231	3.2846	0.0146	0.0447	0.1533	0.1980	0.0119	0.1411	0.1529	0.0000	1,414.4479	1,414.4479	0.4448	0.0000	1,425.5683
Maximum	**0.4425**	**5.5803**	**3.2846**	**0.0146**	**0.0447**	**0.1582**	**0.2029**	**0.0119**	**0.1455**	**0.1574**	**0.0000**	**1,442.1311**	**1,442.1311**	**0.4448**	**0.0000**	**1,453.2224**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	0.1976	0.7788	6.6263	0.0146	0.0447	0.0239	0.0686	0.0119	0.0238	0.0357	0.0000	1,442.1311	1,442.1311	0.4437	0.0000	1,453.2224
2020	0.1960	0.7772	6.6113	0.0146	0.0447	0.0238	0.0686	0.0119	0.0238	0.0357	0.0000	1,414.4479	1,414.4479	0.4448	0.0000	1,425.5683
Maximum	**0.1976**	**0.7788**	**6.6263**	**0.0146**	**0.0447**	**0.0239**	**0.0686**	**0.0119**	**0.0238**	**0.0357**	**0.0000**	**1,442.1311**	**1,442.1311**	**0.4448**	**0.0000**	**1,453.2224**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**55.30**	**85.73**	**-101.69**	**0.00**	**0.00**	**84.69**	**65.80**	**0.00**	**83.37**	**77.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Subterranean Parking Structure	Bore/Drill Rigs	1	12.00	221	0.50
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Cranes	0	6.00	231	0.29
Subterranean Parking Structure	Forklifts	0	6.00	89	0.20
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Subterranean Parking Structure	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4212	5.5654	3.1159	0.0141		0.1578	0.1578		0.1452	0.1452		1,397.8444	1,397.8444	0.4423		1,408.9009
Total	**0.4212**	**5.5654**	**3.1159**	**0.0141**		**0.1578**	**0.1578**		**0.1452**	**0.1452**		**1,397.8444**	**1,397.8444**	**0.4423**		**1,408.9009**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1628	4.4000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		44.2867	44.2867	1.3900e-003		44.3214
Total	**0.0213**	**0.0149**	**0.1628**	**4.4000e-004**	**0.0447**	**3.5000e-004**	**0.0451**	**0.0119**	**3.2000e-004**	**0.0122**		**44.2867**	**44.2867**	**1.3900e-003**		**44.3214**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1763	0.7639	6.4635	0.0141		0.0235	0.0235		0.0235	0.0235	0.0000	1,397.8444	1,397.8444	0.4423		1,408.9009
Total	**0.1763**	**0.7639**	**6.4635**	**0.0141**		**0.0235**	**0.0235**		**0.0235**	**0.0235**	**0.0000**	**1,397.8444**	**1,397.8444**	**0.4423**		**1,408.9009**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0213	0.0149	0.1628	4.4000e-004	0.0447	3.5000e-004	0.0451	0.0119	3.2000e-004	0.0122		44.2867	44.2867	1.3900e-003		44.3214
Total	**0.0213**	**0.0149**	**0.1628**	**4.4000e-004**	**0.0447**	**3.5000e-004**	**0.0451**	**0.0119**	**3.2000e-004**	**0.0122**		**44.2867**	**44.2867**	**1.3900e-003**		**44.3214**

3.2 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4184	5.3098	3.1367	0.0142		0.1530	0.1530		0.1408	0.1408		1,371.5339	1,371.5339	0.4436		1,382.6234
Total	**0.4184**	**5.3098**	**3.1367**	**0.0142**		**0.1530**	**0.1530**		**0.1408**	**0.1408**		**1,371.5339**	**1,371.5339**	**0.4436**		**1,382.6234**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1478	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.9141	42.9141	1.2400e-003		42.9449
Total	**0.0197**	**0.0133**	**0.1478**	**4.3000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**42.9141**	**42.9141**	**1.2400e-003**		**42.9449**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.1763	0.7639	6.4635	0.0142		0.0235	0.0235		0.0235	0.0235	0.0000	1,371.5339	1,371.5339	0.4436		1,382.6234
Total	**0.1763**	**0.7639**	**6.4635**	**0.0142**		**0.0235**	**0.0235**		**0.0235**	**0.0235**	**0.0000**	**1,371.5339**	**1,371.5339**	**0.4436**		**1,382.6234**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1478	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.9141	42.9141	1.2400e-003		42.9449
Total	**0.0197**	**0.0133**	**0.1478**	**4.3000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**42.9141**	**42.9141**	**1.2400e-003**		**42.9449**

LA Times Square - Renovation

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
Quality Restaurant	41.02	1000sqft	0.40	41,017.00	0
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	660.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	5/13/2019	8/8/2020
tblConstructionPhase	PhaseStartDate	8/7/2018	7/1/2018
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.94	0.40
tblLandUse	LotAcreage	1.15	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.9177	24.1802	21.0965	0.0492	1.7828	1.3233	3.1060	0.4818	1.2446	1.7264	0.0000	4,990.6791	4,990.6791	0.5877	0.0000	5,005.3726
2019	2.6313	22.2706	20.1366	0.0486	1.7828	1.1589	2.9416	0.4818	1.0896	1.5714	0.0000	4,909.1280	4,909.1280	0.5719	0.0000	4,923.4257
2020	2.3816	20.3536	19.3453	0.0480	1.7828	1.0030	2.7858	0.4818	0.9428	1.4246	0.0000	4,828.4957	4,828.4957	0.5567	0.0000	4,842.4129
Maximum	**2.9177**	**24.1802**	**21.0965**	**0.0492**	**1.7828**	**1.3233**	**3.1060**	**0.4818**	**1.2446**	**1.7264**	**0.0000**	**4,990.6791**	**4,990.6791**	**0.5877**	**0.0000**	**5,005.3726**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.1850	9.2297	20.6804	0.0492	1.7828	0.1065	1.8893	0.4818	0.1033	0.5851	0.0000	4,990.6791	4,990.6791	0.5877	0.0000	5,005.3726
2019	1.0995	8.7573	19.8741	0.0486	1.7828	0.0982	1.8810	0.4818	0.0953	0.5771	0.0000	4,909.1280	4,909.1280	0.5719	0.0000	4,923.4257
2020	1.0178	8.1244	19.2071	0.0480	1.7828	0.0829	1.8657	0.4818	0.0807	0.5625	0.0000	4,828.4957	4,828.4957	0.5567	0.0000	4,842.4129
Maximum	**1.1850**	**9.2297**	**20.6804**	**0.0492**	**1.7828**	**0.1065**	**1.8893**	**0.4818**	**0.1033**	**0.5851**	**0.0000**	**4,990.6791**	**4,990.6791**	**0.5877**	**0.0000**	**5,005.3726**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.36**	**60.91**	**1.35**	**0.00**	**0.00**	**91.75**	**36.20**	**0.00**	**91.48**	**63.48**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/1/2018	8/8/2020	6	660	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Dumpers/Tenders	1	6.00	16	0.38
Building Construction	Air Compressors	1	12.00	78	0.48
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Forklifts	5	12.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	7	124.00	62.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9885	16.1701	12.9808	0.0180		1.2571	1.2571		1.1817	1.1817		1,762.0092	1,762.0092	0.4175		1,772.4458
Total	**1.9885**	**16.1701**	**12.9808**	**0.0180**		**1.2571**	**1.2571**		**1.1817**	**1.1817**		**1,762.0092**	**1,762.0092**	**0.4175**		**1,772.4458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2667	7.5326	1.9119	0.0161	0.3967	0.0551	0.4518	0.1142	0.0527	0.1669		1,717.4570	1,717.4570	0.1186		1,720.4226
Worker	0.6625	0.4776	6.2038	0.0152	1.3860	0.0111	1.3971	0.3676	0.0103	0.3778		1,511.2129	1,511.2129	0.0517		1,512.5042
Total	**0.9292**	**8.0102**	**8.1157**	**0.0313**	**1.7828**	**0.0662**	**1.8489**	**0.4818**	**0.0629**	**0.5447**		**3,228.6699**	**3,228.6699**	**0.1703**		**3,232.9268**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2559	1.2196	12.5647	0.0180		0.0404	0.0404		0.0404	0.0404	0.0000	1,762.0092	1,762.0092	0.4175		1,772.4458
Total	**0.2559**	**1.2196**	**12.5647**	**0.0180**		**0.0404**	**0.0404**		**0.0404**	**0.0404**	**0.0000**	**1,762.0092**	**1,762.0092**	**0.4175**		**1,772.4458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2667	7.5326	1.9119	0.0161	0.3967	0.0551	0.4518	0.1142	0.0527	0.1669		1,717.4570	1,717.4570	0.1186		1,720.4226
Worker	0.6625	0.4776	6.2038	0.0152	1.3860	0.0111	1.3971	0.3676	0.0103	0.3778		1,511.2129	1,511.2129	0.0517		1,512.5042
Total	**0.9292**	**8.0102**	**8.1157**	**0.0313**	**1.7828**	**0.0662**	**1.8489**	**0.4818**	**0.0629**	**0.5447**		**3,228.6699**	**3,228.6699**	**0.1703**		**3,232.9268**

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7877	14.7322	12.8272	0.0180		1.1008	1.1008		1.0344	1.0344		1,743.5044	1,743.5044	0.4115		1,753.7924
Total	**1.7877**	**14.7322**	**12.8272**	**0.0180**		**1.1008**	**1.1008**		**1.0344**	**1.0344**		**1,743.5044**	**1,743.5044**	**0.4115**		**1,753.7924**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2416	7.1171	1.7550	0.0159	0.3967	0.0472	0.4439	0.1142	0.0451	0.1593		1,701.9754	1,701.9754	0.1145		1,704.8383
Worker	0.6020	0.4213	5.5544	0.0147	1.3860	0.0109	1.3969	0.3676	0.0100	0.3776		1,463.6482	1,463.6482	0.0459		1,464.7951
Total	**0.8437**	**7.5384**	**7.3094**	**0.0306**	**1.7828**	**0.0580**	**1.8408**	**0.4818**	**0.0551**	**0.5369**		**3,165.6237**	**3,165.6237**	**0.1604**		**3,169.6334**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2559	1.2188	12.5647	0.0180		0.0402	0.0402		0.0402	0.0402	0.0000	1,743.5044	1,743.5044	0.4115		1,753.7924
Total	**0.2559**	**1.2188**	**12.5647**	**0.0180**		**0.0402**	**0.0402**		**0.0402**	**0.0402**	**0.0000**	**1,743.5044**	**1,743.5044**	**0.4115**		**1,753.7924**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2416	7.1171	1.7550	0.0159	0.3967	0.0472	0.4439	0.1142	0.0451	0.1593		1,701.9754	1,701.9754	0.1145		1,704.8383
Worker	0.6020	0.4213	5.5544	0.0147	1.3860	0.0109	1.3969	0.3676	0.0100	0.3776		1,463.6482	1,463.6482	0.0459		1,464.7951
Total	**0.8437**	**7.5384**	**7.3094**	**0.0306**	**1.7828**	**0.0580**	**1.8408**	**0.4818**	**0.0551**	**0.5369**		**3,165.6237**	**3,165.6237**	**0.1604**		**3,169.6334**

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6195	13.4477	12.7029	0.0180		0.9601	0.9601		0.9021	0.9021		1,718.8326	1,718.8326	0.4076		1,729.0215
Total	**1.6195**	**13.4477**	**12.7029**	**0.0180**		**0.9601**	**0.9601**		**0.9021**	**0.9021**		**1,718.8326**	**1,718.8326**	**0.4076**		**1,729.0215**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2058	6.5300	1.5884	0.0158	0.3967	0.0323	0.4291	0.1142	0.0309	0.1451		1,691.3061	1,691.3061	0.1083		1,694.0125
Worker	0.5562	0.3760	5.0540	0.0142	1.3860	0.0106	1.3966	0.3676	9.7400e-003	0.3773		1,418.3570	1,418.3570	0.0409		1,419.3789
Total	**0.7620**	**6.9060**	**6.6424**	**0.0301**	**1.7828**	**0.0429**	**1.8257**	**0.4818**	**0.0407**	**0.5225**		**3,109.6632**	**3,109.6632**	**0.1491**		**3,113.3914**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2558	1.2184	12.5647	0.0180		0.0400	0.0400		0.0400	0.0400	0.0000	1,718.8326	1,718.8326	0.4076		1,729.0215
Total	**0.2558**	**1.2184**	**12.5647**	**0.0180**		**0.0400**	**0.0400**		**0.0400**	**0.0400**	**0.0000**	**1,718.8326**	**1,718.8326**	**0.4076**		**1,729.0215**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2058	6.5300	1.5884	0.0158	0.3967	0.0323	0.4291	0.1142	0.0309	0.1451		1,691.3061	1,691.3061	0.1083		1,694.0125
Worker	0.5562	0.3760	5.0540	0.0142	1.3860	0.0106	1.3966	0.3676	9.7400e-003	0.3773		1,418.3570	1,418.3570	0.0409		1,419.3789
Total	**0.7620**	**6.9060**	**6.6424**	**0.0301**	**1.7828**	**0.0429**	**1.8257**	**0.4818**	**0.0407**	**0.5225**		**3,109.6632**	**3,109.6632**	**0.1491**		**3,113.3914**

LA Times Square - Renovation

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
Quality Restaurant	41.02	1000sqft	0.40	41,017.00	0
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	660.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	5/13/2019	8/8/2020
tblConstructionPhase	PhaseStartDate	8/7/2018	7/1/2018
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.94	0.40
tblLandUse	LotAcreage	1.15	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	2.9930	24.2434	20.7455	0.0479	1.7828	1.3241	3.1069	0.4818	1.2454	1.7272	0.0000	4,851.4185	4,851.4185	0.5929	0.0000	4,866.2404
2019	2.7009	22.3210	19.8173	0.0473	1.7828	1.1596	2.9424	0.4818	1.0903	1.5721	0.0000	4,772.6532	4,772.6532	0.5770	0.0000	4,787.0793
2020	2.4466	20.3882	19.0458	0.0467	1.7828	1.0035	2.7863	0.4818	0.9433	1.4250	0.0000	4,694.5080	4,694.5080	0.5616	0.0000	4,708.5467
Maximum	**2.9930**	**24.2434**	**20.7455**	**0.0479**	**1.7828**	**1.3241**	**3.1069**	**0.4818**	**1.2454**	**1.7272**	**0.0000**	**4,851.4185**	**4,851.4185**	**0.5929**	**0.0000**	**4,866.2404**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	1.2603	9.2929	20.3294	0.0479	1.7828	0.1074	1.8901	0.4818	0.1041	0.5859	0.0000	4,851.4185	4,851.4185	0.5929	0.0000	4,866.2404
2019	1.1691	8.8076	19.5548	0.0473	1.7828	0.0990	1.8817	0.4818	0.0960	0.5778	0.0000	4,772.6532	4,772.6532	0.5770	0.0000	4,787.0793
2020	1.0829	8.1590	18.9076	0.0467	1.7828	0.0834	1.8662	0.4818	0.0812	0.5630	0.0000	4,694.5080	4,694.5080	0.5616	0.0000	4,708.5467
Maximum	**1.2603**	**9.2929**	**20.3294**	**0.0479**	**1.7828**	**0.1074**	**1.8901**	**0.4818**	**0.1041**	**0.5859**	**0.0000**	**4,851.4185**	**4,851.4185**	**0.5929**	**0.0000**	**4,866.2404**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**56.85**	**60.78**	**1.37**	**0.00**	**0.00**	**91.69**	**36.19**	**0.00**	**91.42**	**63.45**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/1/2018	8/8/2020	6	660	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Dumpers/Tenders	1	6.00	16	0.38
Building Construction	Air Compressors	1	12.00	78	0.48
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Forklifts	5	12.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	7	124.00	62.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9885	16.1701	12.9808	0.0180		1.2571	1.2571		1.1817	1.1817		1,762.0092	1,762.0092	0.4175		1,772.4458
Total	**1.9885**	**16.1701**	**12.9808**	**0.0180**		**1.2571**	**1.2571**		**1.1817**	**1.1817**		**1,762.0092**	**1,762.0092**	**0.4175**		**1,772.4458**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2780	7.5486	2.1114	0.0157	0.3967	0.0559	0.4527	0.1142	0.0535	0.1677		1,671.7762	1,671.7762	0.1269		1,674.9477
Worker	0.7265	0.5248	5.6533	0.0142	1.3860	0.0111	1.3971	0.3676	0.0103	0.3778		1,417.6331	1,417.6331	0.0486		1,418.8469
Total	**1.0045**	**8.0734**	**7.7647**	**0.0299**	**1.7828**	**0.0670**	**1.8498**	**0.4818**	**0.0637**	**0.5455**		**3,089.4093**	**3,089.4093**	**0.1754**		**3,093.7946**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2559	1.2196	12.5647	0.0180		0.0404	0.0404		0.0404	0.0404	0.0000	1,762.0092	1,762.0092	0.4175		1,772.4458
Total	**0.2559**	**1.2196**	**12.5647**	**0.0180**		**0.0404**	**0.0404**		**0.0404**	**0.0404**	**0.0000**	**1,762.0092**	**1,762.0092**	**0.4175**		**1,772.4458**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2780	7.5486	2.1114	0.0157	0.3967	0.0559	0.4527	0.1142	0.0535	0.1677		1,671.7762	1,671.7762	0.1269		1,674.9477
Worker	0.7265	0.5248	5.6533	0.0142	1.3860	0.0111	1.3971	0.3676	0.0103	0.3778		1,417.6331	1,417.6331	0.0486		1,418.8469
Total	**1.0045**	**8.0734**	**7.7647**	**0.0299**	**1.7828**	**0.0670**	**1.8498**	**0.4818**	**0.0637**	**0.5455**		**3,089.4093**	**3,089.4093**	**0.1754**		**3,093.7946**

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7877	14.7322	12.8272	0.0180		1.1008	1.1008		1.0344	1.0344		1,743.5044	1,743.5044	0.4115		1,753.7924
Total	**1.7877**	**14.7322**	**12.8272**	**0.0180**		**1.1008**	**1.1008**		**1.0344**	**1.0344**		**1,743.5044**	**1,743.5044**	**0.4115**		**1,753.7924**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2521	7.1259	1.9437	0.0155	0.3967	0.0479	0.4447	0.1142	0.0459	0.1601		1,656.2613	1,656.2613	0.1225		1,659.3233
Worker	0.6612	0.4629	5.0465	0.0138	1.3860	0.0109	1.3969	0.3676	0.0100	0.3776		1,372.8875	1,372.8875	0.0430		1,373.9636
Total	**0.9132**	**7.5888**	**6.9901**	**0.0293**	**1.7828**	**0.0588**	**1.8415**	**0.4818**	**0.0559**	**0.5376**		**3,029.1489**	**3,029.1489**	**0.1655**		**3,033.2869**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2559	1.2188	12.5647	0.0180		0.0402	0.0402		0.0402	0.0402	0.0000	1,743.5044	1,743.5044	0.4115		1,753.7924
Total	**0.2559**	**1.2188**	**12.5647**	**0.0180**		**0.0402**	**0.0402**		**0.0402**	**0.0402**	**0.0000**	**1,743.5044**	**1,743.5044**	**0.4115**		**1,753.7924**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2521	7.1259	1.9437	0.0155	0.3967	0.0479	0.4447	0.1142	0.0459	0.1601		1,656.2613	1,656.2613	0.1225		1,659.3233
Worker	0.6612	0.4629	5.0465	0.0138	1.3860	0.0109	1.3969	0.3676	0.0100	0.3776		1,372.8875	1,372.8875	0.0430		1,373.9636
Total	**0.9132**	**7.5888**	**6.9901**	**0.0293**	**1.7828**	**0.0588**	**1.8415**	**0.4818**	**0.0559**	**0.5376**		**3,029.1489**	**3,029.1489**	**0.1655**		**3,033.2869**

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6195	13.4477	12.7029	0.0180		0.9601	0.9601		0.9021	0.9021		1,718.8326	1,718.8326	0.4076		1,729.0215
Total	**1.6195**	**13.4477**	**12.7029**	**0.0180**		**0.9601**	**0.9601**		**0.9021**	**0.9021**		**1,718.8326**	**1,718.8326**	**0.4076**		**1,729.0215**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2152	6.5275	1.7601	0.0154	0.3967	0.0328	0.4295	0.1142	0.0314	0.1456		1,645.3398	1,645.3398	0.1157		1,648.2323
Worker	0.6119	0.4130	4.5828	0.0134	1.3860	0.0106	1.3966	0.3676	9.7400e-003	0.3773		1,330.3356	1,330.3356	0.0383		1,331.2929
Total	**0.8271**	**6.9405**	**6.3429**	**0.0287**	**1.7828**	**0.0434**	**1.8261**	**0.4818**	**0.0411**	**0.5229**		**2,975.6754**	**2,975.6754**	**0.1540**		**2,979.5252**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2558	1.2184	12.5647	0.0180		0.0400	0.0400		0.0400	0.0400	0.0000	1,718.8326	1,718.8326	0.4076		1,729.0215
Total	**0.2558**	**1.2184**	**12.5647**	**0.0180**		**0.0400**	**0.0400**		**0.0400**	**0.0400**	**0.0000**	**1,718.8326**	**1,718.8326**	**0.4076**		**1,729.0215**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2152	6.5275	1.7601	0.0154	0.3967	0.0328	0.4295	0.1142	0.0314	0.1456		1,645.3398	1,645.3398	0.1157		1,648.2323
Worker	0.6119	0.4130	4.5828	0.0134	1.3860	0.0106	1.3966	0.3676	9.7400e-003	0.3773		1,330.3356	1,330.3356	0.0383		1,331.2929
Total	**0.8271**	**6.9405**	**6.3429**	**0.0287**	**1.7828**	**0.0434**	**1.8261**	**0.4818**	**0.0411**	**0.5229**		**2,975.6754**	**2,975.6754**	**0.1540**		**2,979.5252**

C-3 Project Operational Emissions

LA Times - Operational - South Coast Air Basin, Summer

LA Times - Operational

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
User Defined Commercial	3.02	User Defined Unit	0.04	3,025.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.08	74,643.00	0
City Park	0.92	Acre	0.08	28,777.00	0
Health Club	25.62	1000sqft	0.08	25,618.00	0
High Turnover (Sit Down Restaurant)	53.39	1000sqft	0.28	53,389.00	0
Quality Restaurant	22.20	1000sqft	0.20	22,200.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	849	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - LADWP CO2 emission factor calculated using 2016 Briefing Book and Utility Energy Supply Plans from 2015: see AQGHG calcs

Land Use - see operational assumptions

Architectural Coating -

Vehicle Trips - see operational assumptions

Woodstoves - see operational assumptions - no fireplaces and stoves

Area Coating -

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Solid Waste - see operational assumptions - based solid waste generation rate of user defined on general office building

Energy Mitigation -

Waste Mitigation -

Stationary Sources - Process Boilers -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	0.00	3.77
tblEnergyUse	NT24E	0.00	4.62
tblEnergyUse	NT24NG	0.00	0.39
tblEnergyUse	T24E	0.00	4.60
tblEnergyUse	T24NG	0.00	10.02
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	957.95	0.00
tblFireplaces	NumberNoFireplace	112.70	0.00
tblFireplaces	NumberWood	56.35	0.00
tblLandUse	LandUseSquareFeet	285,090.00	285,088.00
tblLandUse	LandUseSquareFeet	0.00	3,025.00
tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
tblLandUse	LandUseSquareFeet	74,640.00	74,643.00
tblLandUse	LandUseSquareFeet	40,075.20	28,777.00

tblLandUse	LandUseSquareFeet	25,620.00	25,618.00
tblLandUse	LandUseSquareFeet	53,390.00	53,389.00
tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.00	0.04
tblLandUse	LotAcreage	15.79	0.68
tblLandUse	LotAcreage	1.71	0.08
tblLandUse	LotAcreage	0.92	0.08
tblLandUse	LotAcreage	0.59	0.08
tblLandUse	LotAcreage	1.23	0.28
tblLandUse	LotAcreage	0.51	0.20
tblLandUse	LotAcreage	18.18	0.80
tblLandUse	LotAcreage	1.15	0.50
tblLandUse	Population	3,223.00	1,894.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	849
tblSolidWaste	SolidWasteGenerationRate	146.03	282.55
tblSolidWaste	SolidWasteGenerationRate	0.00	2.81
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	64.10	0.00
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.80

tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.90	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	6.20
tblVehicleTrips	HS_TL	5.90	4.20
tblVehicleTrips	HW_TL	14.70	10.40
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	52.00	0.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	38.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	4.98	3.15
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	7.78
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	158.37	69.03
tblVehicleTrips	ST_TR	94.36	52.82
tblVehicleTrips	ST_TR	177.59	34.61

tblVehicleTrips	SU_TR	3.65	3.15
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	7.78
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	131.84	69.03
tblVehicleTrips	SU_TR	72.16	52.82
tblVehicleTrips	SU_TR	166.44	34.61
tblVehicleTrips	WD_TR	4.20	3.15
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	7.78
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	127.15	69.03
tblVehicleTrips	WD_TR	89.95	52.82
tblVehicleTrips	WD_TR	102.24	34.61
tblWater	IndoorWaterUseRate	73,428,586.88	41,370,819.10
tblWater	IndoorWaterUseRate	50,670,114.22	22,622,497.88
tblWater	IndoorWaterUseRate	1,515,247.35	4,209,271.08
tblWater	IndoorWaterUseRate	16,205,664.91	4,236,560.43
tblWater	IndoorWaterUseRate	6,738,448.42	1,761,629.58
tblWater	IndoorWaterUseRate	6,163,410.74	3,967,634.18
tblWater	IndoorWaterUseRate	0.00	511,321.06
tblWater	OutdoorWaterUseRate	46,291,935.20	0.00
tblWater	OutdoorWaterUseRate	1,096,162.84	261,485.35
tblWater	OutdoorWaterUseRate	0.00	230,931.35
tblWater	OutdoorWaterUseRate	31,055,876.45	0.00
tblWater	OutdoorWaterUseRate	928,699.99	0.00
tblWater	OutdoorWaterUseRate	1,034,404.14	0.00
tblWater	OutdoorWaterUseRate	430,113.73	0.00
tblWater	OutdoorWaterUseRate	190,620.95	0.00
tblWoodstoves	NumberCatalytic	56.35	0.00

tblWoodstoves	NumberNoncatalytic	56.35	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Energy	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
Mobile	16.8060	68.7776	193.4541	0.7281	61.1752	0.5116	61.6868	16.3656	0.4756	16.8412		74,201.4197	74,201.4197	3.3926		74,286.2355
Total	**53.8499**	**78.8873**	**292.9806**	**0.7884**	**61.1752**	**1.7291**	**62.9042**	**16.3656**	**1.6930**	**18.0586**	**0.0000**	**85,451.2908**	**85,451.2908**	**3.7673**	**0.2032**	**85,606.0184**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Energy	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
Mobile	16.8060	68.7776	193.4541	0.7281	61.1752	0.5116	61.6868	16.3656	0.4756	16.8412		74,201.4197	74,201.4197	3.3926		74,286.2355
Total	**53.8499**	**78.8873**	**292.9806**	**0.7884**	**61.1752**	**1.7291**	**62.9042**	**16.3656**	**1.6930**	**18.0586**	**0.0000**	**85,451.2908**	**85,451.2908**	**3.7673**	**0.2032**	**85,606.0184**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	16.8060	68.7776	193.4541	0.7281	61.1752	0.5116	61.6868	16.3656	0.4756	16.8412		74,201.4197	74,201.4197	3.3926		74,286.2355
Unmitigated	16.8060	68.7776	193.4541	0.7281	61.1752	0.5116	61.6868	16.3656	0.4756	16.8412		74,201.4197	74,201.4197	3.3926		74,286.2355

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,550.05	3,550.05	3550.05	8,610,250	8,610,250
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	2,218.00	2,218.00	2218.00	5,088,609	5,088,609
Health Club	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	3,685.51	3,685.51	3685.51	8,430,151	8,430,151
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	1,172.60	1,172.60	1172.60	2,768,832	2,768,832
Supermarket	1,730.50	1,730.50	1730.50	3,885,236	3,885,236
User Defined Commercial	0.00	0.00	0.00		
Total	12,356.67	12,356.67	12,356.67	28,783,078	28,783,078

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.40	4.20	6.20	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	11.80	6.00	4.90	33.00	48.00	19.00	77	19	4
Health Club	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	11.80	6.00	4.90	8.50	72.50	19.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.80	6.00	4.90	12.00	69.00	19.00	100	0	0
Supermarket	11.80	6.00	4.90	6.50	74.50	19.00	100	0	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
City Park	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Enclosed Parking with Elevator	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
General Office Building	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Health Club	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
High Turnover (Sit Down Restaurant)	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Other Non-Asphalt Surfaces	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Quality Restaurant	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Supermarket	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
User Defined Commercial	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
NaturalGas Unmitigated	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	33897	0.3656	3.1238	1.3293	0.0199		0.2526	0.2526		0.2526	0.2526		3,987.8836	3,987.8836	0.0764	0.0731	4,011.5816
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

General Office Building	8130.87	0.0877	0.7971	0.6696	4.7800e-003		0.0606	0.0606		0.0606	0.0606		956.5725	956.5725	0.0183	0.0175	962.2569
Health Club	1270.37	0.0137	0.1246	0.1046	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003		149.4555	149.4555	2.8600e-003	2.7400e-003	150.3437
High Turnover (Sit Down Restaurant)	33753.5	0.3640	3.3092	2.7797	0.0199		0.2515	0.2515		0.2515	0.2515		3,971.0059	3,971.0059	0.0761	0.0728	3,994.6036
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	14035.3	0.1514	1.3760	1.1559	8.2600e-003		0.1046	0.1046		0.1046	0.1046		1,651.2077	1,651.2077	0.0317	0.0303	1,661.0200
Supermarket	3023.29	0.0326	0.2964	0.2490	1.7800e-003		0.0225	0.0225		0.0225	0.0225		355.6809	355.6809	6.8200e-003	6.5200e-003	357.7945
User Defined Commercial	86.2747	9.3000e-004	8.4600e-003	7.1000e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004		10.1500	10.1500	1.9000e-004	1.9000e-004	10.2103
Total		**1.0159**	**9.0356**	**6.2951**	**0.0554**		**0.7019**	**0.7019**		**0.7019**	**0.7019**		**11,081.9561**	**11,081.9561**	**0.2124**	**0.2032**	**11,147.8106**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	33.897	0.3656	3.1238	1.3293	0.0199		0.2526	0.2526		0.2526	0.2526		3,987.8836	3,987.8836	0.0764	0.0731	4,011.5816
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8.13087	0.0877	0.7971	0.6696	4.7800e-003		0.0606	0.0606		0.0606	0.0606		956.5725	956.5725	0.0183	0.0175	962.2569
Health Club	1.27037	0.0137	0.1246	0.1046	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003		149.4555	149.4555	2.8600e-003	2.7400e-003	150.3437
High Turnover (Sit Down Restaurant)	33.7535	0.3640	3.3092	2.7797	0.0199		0.2515	0.2515		0.2515	0.2515		3,971.0059	3,971.0059	0.0761	0.0728	3,994.6036
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	14.0353	0.1514	1.3760	1.1559	8.2600e-003		0.1046	0.1046		0.1046	0.1046		1,651.2077	1,651.2077	0.0317	0.0303	1,661.0200
Supermarket	3.02329	0.0326	0.2964	0.2490	1.7800e-003		0.0225	0.0225		0.0225	0.0225		355.6809	355.6809	6.8200e-003	6.5200e-003	357.7945
User Defined Commercial	0.0862747	9.3000e-004	8.4600e-003	7.1000e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004		10.1500	10.1500	1.9000e-004	1.9000e-004	10.2103
Total		**1.0159**	**9.0356**	**6.2951**	**0.0554**		**0.7019**	**0.7019**		**0.7019**	**0.7019**		**11,081.9561**	**11,081.9561**	**0.2124**	**0.2032**	**11,147.8106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Unmitigated	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.1931					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8232	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156		167.9150	167.9150	0.1623		171.9724
Total	**36.0281**	**1.0741**	**93.2313**	**4.9300e-003**		**0.5156**	**0.5156**		**0.5156**	**0.5156**	**0.0000**	**167.9150**	**167.9150**	**0.1623**	**0.0000**	**171.9724**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.1931					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8232	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156		167.9150	167.9150	0.1623		171.9724
Total	**36.0281**	**1.0741**	**93.2313**	**4.9300e-003**		**0.5156**	**0.5156**		**0.5156**	**0.5156**	**0.0000**	**167.9150**	**167.9150**	**0.1623**	**0.0000**	**171.9724**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

LA Times - Operational - South Coast Air Basin, Winter

LA Times - Operational

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
User Defined Commercial	3.02	User Defined Unit	0.04	3,025.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.08	74,643.00	0
City Park	0.92	Acre	0.08	28,777.00	0
Health Club	25.62	1000sqft	0.08	25,618.00	0
High Turnover (Sit Down Restaurant)	53.39	1000sqft	0.28	53,389.00	0
Quality Restaurant	22.20	1000sqft	0.20	22,200.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	849	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - LADWP CO2 emission factor calculated using 2016 Briefing Book and Utility Energy Supply Plans from 2015: see AQGHG calcs

Land Use - see operational assumptions

Architectural Coating -

Vehicle Trips - see operational assumptions

Woodstoves - see operational assumptions - no fireplaces and stoves

Area Coating -

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Solid Waste - see operational assumptions - based solid waste generation rate of user defined on general office building

Energy Mitigation -

Waste Mitigation -

Stationary Sources - Process Boilers -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	0.00	3.77
tblEnergyUse	NT24E	0.00	4.62
tblEnergyUse	NT24NG	0.00	0.39
tblEnergyUse	T24E	0.00	4.60
tblEnergyUse	T24NG	0.00	10.02
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	957.95	0.00
tblFireplaces	NumberNoFireplace	112.70	0.00
tblFireplaces	NumberWood	56.35	0.00
tblLandUse	LandUseSquareFeet	285,090.00	285,088.00
tblLandUse	LandUseSquareFeet	0.00	3,025.00
tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
tblLandUse	LandUseSquareFeet	74,640.00	74,643.00
tblLandUse	LandUseSquareFeet	40,075.20	28,777.00

tblLandUse	LandUseSquareFeet	25,620.00	25,618.00
tblLandUse	LandUseSquareFeet	53,390.00	53,389.00
tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.00	0.04
tblLandUse	LotAcreage	15.79	0.68
tblLandUse	LotAcreage	1.71	0.08
tblLandUse	LotAcreage	0.92	0.08
tblLandUse	LotAcreage	0.59	0.08
tblLandUse	LotAcreage	1.23	0.28
tblLandUse	LotAcreage	0.51	0.20
tblLandUse	LotAcreage	18.18	0.80
tblLandUse	LotAcreage	1.15	0.50
tblLandUse	Population	3,223.00	1,894.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	849
tblSolidWaste	SolidWasteGenerationRate	146.03	282.55
tblSolidWaste	SolidWasteGenerationRate	0.00	2.81
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	64.10	0.00
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.80

tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.90	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	6.20
tblVehicleTrips	HS_TL	5.90	4.20
tblVehicleTrips	HW_TL	14.70	10.40
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	52.00	0.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	38.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	4.98	3.15
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	7.78
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	158.37	69.03
tblVehicleTrips	ST_TR	94.36	52.82
tblVehicleTrips	ST_TR	177.59	34.61

tblVehicleTrips	SU_TR	3.65	3.15
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	7.78
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	131.84	69.03
tblVehicleTrips	SU_TR	72.16	52.82
tblVehicleTrips	SU_TR	166.44	34.61
tblVehicleTrips	WD_TR	4.20	3.15
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	7.78
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	127.15	69.03
tblVehicleTrips	WD_TR	89.95	52.82
tblVehicleTrips	WD_TR	102.24	34.61
tblWater	IndoorWaterUseRate	73,428,586.88	41,370,819.10
tblWater	IndoorWaterUseRate	50,670,114.22	22,622,497.88
tblWater	IndoorWaterUseRate	1,515,247.35	4,209,271.08
tblWater	IndoorWaterUseRate	16,205,664.91	4,236,560.43
tblWater	IndoorWaterUseRate	6,738,448.42	1,761,629.58
tblWater	IndoorWaterUseRate	6,163,410.74	3,967,634.18
tblWater	IndoorWaterUseRate	0.00	511,321.06
tblWater	OutdoorWaterUseRate	46,291,935.20	0.00
tblWater	OutdoorWaterUseRate	1,096,162.84	261,485.35
tblWater	OutdoorWaterUseRate	0.00	230,931.35
tblWater	OutdoorWaterUseRate	31,055,876.45	0.00
tblWater	OutdoorWaterUseRate	928,699.99	0.00
tblWater	OutdoorWaterUseRate	1,034,404.14	0.00
tblWater	OutdoorWaterUseRate	430,113.73	0.00
tblWater	OutdoorWaterUseRate	190,620.95	0.00
tblWoodstoves	NumberCatalytic	56.35	0.00

tblWoodstoves	NumberNoncatalytic	56.35	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Energy	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
Mobile	16.0526	69.8225	184.2026	0.6901	61.1752	0.5148	61.6900	16.3656	0.4786	16.8442		70,373.8274	70,373.8274	3.4096		70,459.0660
Total	**53.0965**	**79.9322**	**283.7291**	**0.7504**	**61.1752**	**1.7322**	**62.9074**	**16.3656**	**1.6961**	**18.0617**	**0.0000**	**81,623.6984**	**81,623.6984**	**3.7843**	**0.2032**	**81,778.8490**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Energy	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
Mobile	16.0526	69.8225	184.2026	0.6901	61.1752	0.5148	61.6900	16.3656	0.4786	16.8442		70,373.8274	70,373.8274	3.4096		70,459.0660
Total	**53.0965**	**79.9322**	**283.7291**	**0.7504**	**61.1752**	**1.7322**	**62.9074**	**16.3656**	**1.6961**	**18.0617**	**0.0000**	**81,623.6984**	**81,623.6984**	**3.7843**	**0.2032**	**81,778.8490**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	16.0526	69.8225	184.2026	0.6901	61.1752	0.5148	61.6900	16.3656	0.4786	16.8442		70,373.8274	70,373.8274	3.4096		70,459.0660
Unmitigated	16.0526	69.8225	184.2026	0.6901	61.1752	0.5148	61.6900	16.3656	0.4786	16.8442		70,373.8274	70,373.8274	3.4096		70,459.0660

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,550.05	3,550.05	3550.05	8,610,250	8,610,250
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	2,218.00	2,218.00	2218.00	5,088,609	5,088,609
Health Club	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	3,685.51	3,685.51	3685.51	8,430,151	8,430,151
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	1,172.60	1,172.60	1172.60	2,768,832	2,768,832
Supermarket	1,730.50	1,730.50	1730.50	3,885,236	3,885,236
User Defined Commercial	0.00	0.00	0.00		
Total	12,356.67	12,356.67	12,356.67	28,783,078	28,783,078

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.40	4.20	6.20	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	11.80	6.00	4.90	33.00	48.00	19.00	77	19	4
Health Club	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down Restaurant)	11.80	6.00	4.90	8.50	72.50	19.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.80	6.00	4.90	12.00	69.00	19.00	100	0	0
Supermarket	11.80	6.00	4.90	6.50	74.50	19.00	100	0	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
City Park	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Enclosed Parking with Elevator	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
General Office Building	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Health Club	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
High Turnover (Sit Down Restaurant)	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Other Non-Asphalt Surfaces	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Quality Restaurant	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Supermarket	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
User Defined Commercial	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106
NaturalGas Unmitigated	1.0159	9.0356	6.2952	0.0554		0.7019	0.7019		0.7019	0.7019		11,081.9561	11,081.9561	0.2124	0.2032	11,147.8106

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	33897	0.3656	3.1238	1.3293	0.0199		0.2526	0.2526		0.2526	0.2526		3,987.8836	3,987.8836	0.0764	0.0731	4,011.5816
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8130.87	0.0877	0.7971	0.6696	4.7800e-003		0.0606	0.0606		0.0606	0.0606		956.5725	956.5725	0.0183	0.0175	962.2569
Health Club	1270.37	0.0137	0.1246	0.1046	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003		149.4555	149.4555	2.8600e-003	2.7400e-003	150.3437
High Turnover (Sit Down Restaurant)	33753.5	0.3640	3.3092	2.7797	0.0199		0.2515	0.2515		0.2515	0.2515		3,971.0059	3,971.0059	0.0761	0.0728	3,994.6036
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	14035.3	0.1514	1.3760	1.1559	8.2600e-003		0.1046	0.1046		0.1046	0.1046		1,651.2077	1,651.2077	0.0317	0.0303	1,661.0200
Supermarket	3023.29	0.0326	0.2964	0.2490	1.7800e-003		0.0225	0.0225		0.0225	0.0225		355.6809	355.6809	6.8200e-003	6.5200e-003	357.7945
User Defined Commercial	86.2747	9.3000e-004	8.4600e-003	7.1000e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004		10.1500	10.1500	1.9000e-004	1.9000e-004	10.2103
Total		**1.0159**	**9.0356**	**6.2951**	**0.0554**		**0.7019**	**0.7019**		**0.7019**	**0.7019**		**11,081.9561**	**11,081.9561**	**0.2124**	**0.2032**	**11,147.8106**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments High Rise	33.897	0.3656	3.1238	1.3293	0.0199		0.2526	0.2526		0.2526	0.2526		3,987.8836	3,987.8836	0.0764	0.0731	4,011.5816
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	8.13087	0.0877	0.7971	0.6696	4.7800e-003		0.0606	0.0606		0.0606	0.0606		956.5725	956.5725	0.0183	0.0175	962.2569

Health Club	1.27037	0.0137	0.1246	0.1046	7.5000e-004		9.4700e-003	9.4700e-003		9.4700e-003	9.4700e-003		149.4555	149.4555	2.8600e-003	2.7400e-003	150.3437
High Turnover (Sit Down Restaurant)	33.7535	0.3640	3.3092	2.7797	0.0199		0.2515	0.2515		0.2515	0.2515		3,971.0059	3,971.0059	0.0761	0.0728	3,994.6036
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	14.0353	0.1514	1.3760	1.1559	8.2600e-003		0.1046	0.1046		0.1046	0.1046		1,651.2077	1,651.2077	0.0317	0.0303	1,661.0200
Supermarket	3.02329	0.0326	0.2964	0.2490	1.7800e-003		0.0225	0.0225		0.0225	0.0225		355.6809	355.6809	6.8200e-003	6.5200e-003	357.7945
User Defined Commercial	0.0862747	9.3000e-004	8.4600e-003	7.1000e-003	5.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004		10.1500	10.1500	1.9000e-004	1.9000e-004	10.2103
Total		**1.0159**	**9.0356**	**6.2951**	**0.0554**		**0.7019**	**0.7019**		**0.7019**	**0.7019**		**11,081.9561**	**11,081.9561**	**0.2124**	**0.2032**	**11,147.8106**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724
Unmitigated	36.0281	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156	0.0000	167.9150	167.9150	0.1623	0.0000	171.9724

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.1931					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8232	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156		167.9150	167.9150	0.1623		171.9724
Total	**36.0281**	**1.0741**	**93.2313**	**4.9300e-003**		**0.5156**	**0.5156**		**0.5156**	**0.5156**	**0.0000**	**167.9150**	**167.9150**	**0.1623**	**0.0000**	**171.9724**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0118					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	30.1931					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.8232	1.0741	93.2313	4.9300e-003		0.5156	0.5156		0.5156	0.5156		167.9150	167.9150	0.1623		171.9724
Total	**36.0281**	**1.0741**	**93.2313**	**4.9300e-003**		**0.5156**	**0.5156**		**0.5156**	**0.5156**	**0.0000**	**167.9150**	**167.9150**	**0.1623**	**0.0000**	**171.9724**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Times Mirror Square Project
Air Quality Assessment

Project - Estimated Charbroiler Stationary Source Emissions

Source[1]	Uncontrolled Emission Factors[2,3] (lb/1000 lb)				Quantity[4]	Emissions Controls[5] (percent reduction)			Controlled Emissions (pounds/day)		
	VOC	PM	PM10	PM2.5	(lb/day)	VOC	PM10	PM2.5	VOC	PM10	PM2.5
Project											
Charbroiler - 25% fat Hamburger	3.94	32.65	22.86	13.71	233.0	86%	83%	83%	0.13	0.91	0.54
Charbroiler - Chicken	1.82	10.48	7.34	4.40	233.0	86%	83%	83%	0.06	0.29	0.17
Charbroiler - Salmon	0.38	3.30	2.31	1.39	233.0	86%	83%	83%	0.01	0.09	0.05
Charbroiler - NY Steak	0.86	17.19	12.03	7.22	233.0	86%	83%	83%	0.03	0.48	0.29
Emissions									**0.23**	**1.76**	**1.06**

Notes:

1. Source type is based on the beef, chicken, and fish for under-fired broilers.
2. South Coast Air Quality Management District, Emission Factors for Commercial Cooking Operations, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1138/par1138pdsr_appendixi.pdf?sfvrsn=2. Accessed November 2017.
3. South Coast Air Quality Management District, Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, Appendix A, http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2. Accessed November 2017. Per Appendix A, for cooking (baking, charbroiling, deep fat frying), PM10 is 0.7 fraction of PM and PM2.5 is 0.42 fraction of PM.
4. Quantity of meats charbroiled is based on the average pounds of meat cooked per restaurant with a charbroiler, and assuming multiple restaurants on the project site.
5. South Coast Air Quality Management District Rule 1138 (Control of Emissions from Restaurant Operations) regulates PM10 and VOC emissions from fast-food restaurants with charbroilers. Catalytic oxidizers reduce VOC emissions by approximately 86 percent and PM emissions by approximately 83 percent.

Source: ESA 2017

Times Mirror Square Project
Air Quality Assessment

Project - Estimated Mitigated Charbroiler Stationary Source Emissions

Source[1]	Uncontrolled Emission Factors[2,3] (lb/1000 lb)				Quantity[4]	Emissions Controls[5] (percent reduction)			Controlled Emissions (pounds/day)		
	VOC	PM	PM10	PM2.5	(lb/day)	VOC	PM10	PM2.5	VOC	PM10	PM2.5
Project											
Charbroiler - 25% fat Hamburger	3.94	32.65	22.86	13.71	116.5	86%	83%	83%	0.06	0.45	0.27
Charbroiler - Chicken	1.82	10.48	7.34	4.40	116.5	86%	83%	83%	0.03	0.15	0.09
Charbroiler - Salmon	0.38	3.30	2.31	1.39	116.5	86%	83%	83%	0.01	0.05	0.03
Charbroiler - NY Steak	0.86	17.19	12.03	7.22	116.5	86%	83%	83%	0.01	0.24	0.14
Emissions									**0.11**	**0.88**	**0.53**

Notes:

1. Source type is based on the beef, chicken, and fish for under-fired broilers.
2. South Coast Air Quality Management District, Emission Factors for Commercial Cooking Operations, http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1138/par1138pdsr_appendixi.pdf?sfvrsn=2. Accessed November 2017.
3. South Coast Air Quality Management District, Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, Appendix A, http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/final_pm2_5methodology.pdf?sfvrsn=2. Accessed November 2017. Per Appendix A, for cooking (baking, charbroiling, deep fat frying), PM10 is 0.7 fraction of PM and PM2.5 is 0.42 fraction of PM.
4. Quantity of meats charbroiled is based on the average pounds of meat cooked per restaurant with a charbroiler, and assuming multiple restaurants on the project site.
5. South Coast Air Quality Management District Rule 1138 (Control of Emissions from Restaurant Operations) regulates PM10 and VOC emissions from fast-food restaurants with charbroilers. Catalytic oxidizers reduce VOC emissions by approximately 86 percent and PM emissions by approximately 83 percent.

Source: ESA 2017

Times Mirror Square Project
Cooling Towers
Air Quality Analysis

Cooling Towers Daily Emissions

High Flow Rate:	12.4	Gallons per Minute
Number of Units:	1	Cooling Towers
Operating Hours:	24	hr/day

Cooling Towers Annual Emissions

Standard Flow Rate:	12.4	Gallons per Minute
Operating Hours:	24	hr/day
	365	day/yr

Cooling Tower Emissions

Untis	PM_{10}	$PM_{2.5}$	ROG
lbs/1000 gal	0.019	0.016	—
lbs/hr	0.014	0.012	—
lbs/day	0.339	0.290	—

Units	PM_{10}	$PM_{2.5}$	ROG
lbs/1000 gal	0.019	0.016	—
lbs/yr	123.58	105.91	—
tons/yr	0.062	0.053	—

Notes:

1. Flow rate based on 17,820 gallons per day (refer to Draft EIR Section 4.18, Water Supply).
2. USEPA, AP-42, Chapter 13.4 Wet Cooling Towers, January 1995.
3. SCAQMD, Final Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, October 2006). The PM10 to PM2.5 ratio for cooling towers is 0.7 to 0.6. Thus, PM2.5 is approximately 85.7% of PM10.
4. Cooling towers are assumed to operate up to 365 days per year.

Times Mirror Square Project
Air Quality Assessment
Greenhouse Gas Assessment

Emergency Generator Emissions
updated: 1/10/2018

Conversion Factors

HP/kW	1.3410	
PM10 Fraction of Total PM	0.960	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
PM2.5 Fraction of Total PM	0.937	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
CO2 g/gal	10.21	Climate Registry, Table 13.1: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
CH4 g/gal	0.58	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
N2O g/gal	0.26	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
GWP CH4	25	IPCC AR4
GWP N2O	298	IPCC AR4
CO2e g/gal	10,302	
CO2 g/gal	10,210	
CO2/CO2e	0.9911	

North Tower Emergency Generator

Ratings:	414	kW	*(based on engineering assumptions)*
	555	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

South Tower Emergency Generator

Ratings:	623	kW	*(based on engineering assumptions)*
	835	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

Emergency Generator Emissions - North Tower

Units	Criteria Pollutants [1, 2, 3]					
	VOC	NO_X	CO	SOx	PM10	PM2.5
g/kW-hr	—	—	3.50	—	—	—
g/HP-hr	0.15	2.85	2.61	5.50E-05	0.0096	0.0094
lbs/hr	0.14	2.58	2.36	0.00	0.01	0.01
lbs/day	**0.27**	**5.16**	**4.73**	**0.00010**	**0.02**	**0.02**
lbs/yr	6.79	129.02	118.16	0.00	0.43	0.42
tons/yr	0.00	0.06	0.06	0.00	0.00	0.00
metric tons/yr	—	—	—	—	—	—

Emergency Generator Emissions - South Tower

Units	Criteria Pollutants [1, 2, 3]					
	VOC	NO_X	CO	SOx	PM10	PM2.5
g/kW-hr	—	—	3.50	—	—	—
g/HP-hr	0.15	2.85	2.61	0.00	0.01	0.01
lbs/hr	0.20	3.88	3.56	0.00	0.01	0.01
lbs/day	**0.41**	**7.76**	**7.11**	**0.00015**	**0.03**	**0.03**
lbs/yr	10.22	194.12	177.77	0.00	0.65	0.64
tons/yr	0.01	0.10	0.09	0.00	0.00	0.00
metric tons/yr	—	—	—	—	—	—

Total Emergency Generator Emissions

Units	Criteria Pollutants [1, 2, 3]					
	VOC	NO_X	CO	SOx	PM10	PM2.5
lbs/hr	0.34	6.46	5.92	0.00	0.02	0.02
lbs/day	**0.68**	**12.93**	**11.84**	**0.00025**	**0.04**	**0.04**
lbs/yr	17.01	323.14	295.93	0.01	1.09	1.06
tons/yr	0.01	0.16	0.15	0.00	0.00	0.00
metric tons/yr	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
1. Emission factors for VOC and NOX: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
2. Emission factors for CO, PM10, and PM2.5: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
3. Emission factor for SO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emission Factor for SO2 is based on 15 ppm (0.0015%) S1 from the EPA Nonroad Diesel Fuel Program, and assumes complete conversion to SO2.
1. Emission factor for CO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emissions of GHGs assume 99.11% of the CO2e emissions occur as CO2, which is typical for off-road diesel engines.

Source: ESA 2017.

Times Mirror Square Project
Air Quality Assessment
Greenhouse Gas Assessment

Emergency Generator Emissions

updated: 1/10/2018

Conversion Factors

HP/kW	1.3410	
PM10 Fraction of Total PM	0.960	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
PM2.5 Fraction of Total PM	0.937	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
CO2 g/gal	10.21	Climate Registry, Table 13.1: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
CH4 g/gal	0.58	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
N2O g/gal	0.26	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
GWP CH4	25	IPCC AR4
GWP N2O	298	IPCC AR4
CO2e g/gal	10,302	
CO2 g/gal	10,210	
CO2/CO2e	0.9911	

North Tower Emergency Generator

Ratings:	414	kW	*(based on engineering assumptions)*
	555	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

South Tower Emergency Generator

Ratings:	623	kW	*(based on engineering assumptions)*
	835	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

Emergency Generator Emissions - South Tower

Units	**Criteria Pollutants** [1, 2, 3]					
	VOC	**NO_x**	**CO**	**SOx**	**PM10**	**PM2.5**
g/kW-hr	—	—	3.50	—	—	—
g/HP-hr	0.15	2.85	2.61	0.00	0.01	0.01
lbs/hr	0.20	3.88	3.56	0.00	0.01	0.01
lbs/day	**0.41**	**7.76**	**7.11**	**0.00015**	**0.03**	**0.03**
lbs/yr	10.22	194.12	177.77	0.00	0.65	0.64
tons/yr	0.01	0.10	0.09	0.00	0.00	0.00
metric tons/yr	—	—	—	—	—	—

Notes:

1. Emission factors for VOC and NOX: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
2. Emission factors for CO, PM10, and PM2.5: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
3. Emission factor for SO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emission Factor for SO2 is based on 15 ppm (0.0015%) S1 from the EPA Nonroad Diesel Fuel Program, and assumes complete conversion to SO2.
1. Emission factor for CO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emissions of GHGs assume 99.11% of the CO2e emissions occur as CO2, which is typical for off-road diesel engines.

Source: ESA 2017.

Project: Omni Times Square
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

PROJECT

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	
Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	
Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction =	**29.06%**	Cap:	75%
(Includes double counting correction.)			
Total LUT/SDT/PDT/TST VMT Reduction =	**29.06%**	Cap:	70%
Total LUT % VMT Reduction =	**27.61%**	Cap:	65%

Land Use/Location Transportation Measures (65% Reduction Cap)

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction =	0.70%	Cap:	30%
Number of DU/acre:	305.4	A =	500%
Number of Jobs/acre:	425.7	A =	500%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap:	65%
Compact Infill LUT % VMT Reduction Cap:	30%
Suburban Center LUT % VMT Reduction Cap:	10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction =	0.00%	Cap:	30%
Single family sqft:	-	a_1 =	-
Multi-family sqft:	-	a_2 =	-
Commercial sqft:	-	a_3 =	-
Industrial sqft:	-	a_4 =	-
Institutional sqft:	-	a_5 =	-
Park sqft:	-	a_6 =	-
Total sqft:	-		

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction =	7.33%	Cap:	20%
Miles to downtown or job center:	7.6		

(Average distance to: Beverly Hills, Century City, Hollywood and Downtown L.A. These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5 Increase Transit Accessibility

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Transit × B [not to exceed 30%]
Transit = % project transit - % typical ITE transit
% project transit = -50x + 38 [where x = 0 - 0.5 miles to transit]
-4.4x + 15.2 [where x = 0.5 - 3 miles to transit]
% typical ITE transit = 1.3%
B = 0.67

% VMT Reduction = 0.00% Cap: 30%
Miles to transit:
(Note: Only effective for 3 miles or less)

LUT-6 Integrated Affordable and Below Market Rate Housing

% VMT Reduction = 4% × % units BMR

% VMT Reduction = 0.00%
% of units below market rate: 0.0%
(Note: Only effective up to 30%)

LUT-7 Orient Project Toward Non-Auto Corridor

Not quantified separately; Assumed to be included in LUT-3
(If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)

LUT-8 Locate Project near Bike Path/Bike Lanes

Not quantified separately; Assumed to be included in LUT-4
(If included in LUT-4, VMT reduction should be at least 0.625%)

LUT-9 Improve Design of Development

% VMT Reduction = Intersections × B
Intersections = % increase vs. typical ITE suburban
= (Intersections per square mile of project - 36) / 36
B = 0.12

% VMT Reduction = 21.33%
Intersections per square mile: 100
(Estimated based on count of 4-way intersections within 1 mile radius of project site.)
(Note: Only effective up to 100)

Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)

Total SDT % VMT Reduction = 2.00% Cap: 5% without NEV
Cap: 15% With NEV

SDT-1 Provide Pedestrian Network Improvements

VMT reduction based on urban/rural context and pedestrian accomodations

% VMT Reduction = 2.00%

Pedestrian network on-site and connecting off-site (urban/suburban):	X	2%
Pedestrian network on-site (urban/suburban):		1%

(Mark an "X" in one of the above)

SDT-2 Provide Traffic Calming Measures

Marked crosswalks, count-down signal timers, curb extensions, speed tables, rasied crosswalks, raised intersections, median islands, tight corner radii, roundabouts, on-street parking, planter strips with trees, chicanes/chokers, and others.

% VMT Reduction = 0.00%

25% of streets with improvements:		A
50% of streets with improvements:		B
75% of streets with improvements:		C
100% of streets with improvements:		D
25% of intersctions with improvements:		W
50% of intersctions with improvements:		X
75% of intersctions with improvements:		Y
100% of intersctions with improvements:		Z

(Mark an "X" in one of the above for each group)

% of intersections with improvements	% of streets with improvements: A	B	C	D
W	0.25%	0.25%	0.50%	0.50%
X	0.25%	0.50%	0.50%	0.75%
Y	0.50%	0.50%	0.75%	0.75%
Z	0.50%	0.75%	0.75%	1.00%

SDT-3	Neighborhood Electric Vehicle Network	% VMT Reduction = Pop × Number × NEV Pop × Number = NEVs per household [0.04 to 1.0] NEV = VMT reduction rate per household [12.7%]	% VMT Reduction =	0.00%	
			Low NEVs per Household:	0.04	
			High NEVs per Household:	1.0	
			(Mark an "X" in one of the above)		
SDT-4	Create Urban Non-Motorized Zones	Not quantified separately; Assumed to be included in SDT-1 (If included in SDT-1, VMT reduction should be at least 0.01% to 0.2%)			
SDT-5	Incorporate Bike Lane Street Design	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 1% of worker commute per additional mile of bike lanes per square mile)			
SDT-6	Provide Bike Parking in Non-Residential Projects	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 0.625%)			
SDT-7	Provide Bike Parking in Multi-Unit Residential Projects	Not quantified separately; Assumed to be included in LUT-9			
SDT-8	Provide Electric Vehicle Parking	Not quantified separately; Assumed to be included in SDT-3			
SDT-9	Dedicated Land for Bike Trails	Not quantified separately; Assumed to be included in LUT-9			
Parking Policy/Pricing (20% Reduction Cap)			**Total PDT % VMT Reduction =**	**0.00%**	Cap: 20%
PDT-1	Limit Parking Supply	% VMT Reduction = = (Actual Parking - ITE Parking) / ITE Parking × 0.5	% VMT Reduction =	0.00%	Cap: 12.50%
			Actual Parking Spaces:	-	
			ITE Parking Spaces:	-	
PDT-2	Unbunble Parking Costs from Property	% VMT Reduction = Change in vehicle cost × elasticity × A Change in vehicle cost = Monthly parking cost × (12/$4000) Elasticity = 0.4 A = 85%	% VMT Reduction =	0.00%	Cap: 13%
			Monthly parking cost:	$ -	
PDT-3	Implement Market Price Public Parking (On-Street)	% VMT Reduction = Park$ × B Park$ = Percent increase in on-street parking prices [minimum of 25%] B = 0.11	% VMT Reduction =	0.00%	Cap: 5.5%
			Actual On-Street Parking Price:	$ -	
			Baseline On-Street Parking Price:	$ -	
PDT-4	Require Residential Area Parking Permits	Not quantified separately; Assumed to be included in PDT-1, -2-, and -3 (If included in LUT-9, VMT reduction should be at least 0.09% to 0.36% depending on land use)			

Transit System Improvements (10% Reduction Cap)

Total TST % VMT Reduction = 0.00% Cap: 10%

TST-1	Provide a Bus Rapid Transit System	% VMT Reduction = Riders × Mode × Lines × D Riders = 28% Mode = 17% Urban Center 4% Urban 1.30% Suburban Lines = Percent of lines serving project converting to BRT D = 0.67	% VMT Reduction = 0.00% Cap: 3.2% Urban Center: 17% Urban: 4% Suburban: 1.30% (Mark an "X" in one of the above) Lines Converting to BRT: 0% Total Baseline Lines:			
TST-2	Implement Transit Access Improvements	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-3	Expand Transit Network	% VMT Reduction = Coverage × B × Mode × D Coverage = % increase in transit network coverage B = 0.65 Urban Center 0.72 Urban 1.01 Suburban Mode = 17% Urban Center 4% Urban 1.30% Suburban D = 0.67	% VMT Reduction = 0.00% Cap: 8.2% Urban Center: 17% 0.65 Urban: 4% 0.72 Suburban: 1.30% 1.01 (Mark an "X" in one of the above) Coverage:			
TST-4	Increase Transit Service Frequency/Speed	% VMT Reduction = Headway × B × C × Mode × E Headway = % reduction in headways [15% - 80%] B = 0.32 Urban 0.36 Suburban C = 50% < 50% lines improved 85% >= 50% lines improved Mode = 17% Urban Center 4% Urban 1.30% Suburban E = 0.67	% VMT Reduction = 0.00% Cap: 2.5% Urban Center: 17% 0.32 Urban: 4% 0.32 Suburban: 1.30% 0.36 (Mark an "X" in one of the above) Headway: Percent of Lines Improved:			
TST-5	Provide Bike Parking Near Transit	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-6	Provide Local Shuttles	Not quantified separately; Assumed to be included in TST-3 and -4				

Commute Trip Reduction (25% Reduction Cap - WORK VMT ONLY)

Total TRT % Work VMT Reduction = 0.00% Cap: 25%
% Work VMT of Total VMT: 2.5%
Total TRT % Overall VMT Reduction = 0.00% Cap: 15%

TRT-1	Implement Voluntary Commute Trip Reduction Program	% Work VMT Reduction = A × B A = 6.2% Urban 5.4% Suburban Center 5.2% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 6.2% Urban: 6.2% Suburban Center: 5.4% Suburban: 5.2% (Mark an "X" in one of the above) % Employees Eligible:			

TRT-2 — Implement Required Commute Trip Reduction Program

% Work VMT Reduction = A × B
A = 21%
B = % employees eligible

% Work VMT Reduction = 0.00% Cap: 21.0%

% Employees Eligible:

TRT-3 — Provide Ride-Sharing Programs

% Work VMT Reduction = Commute × Employee
Commute = 15% Urban
10% Suburban Center
5% Suburban
Employee = % employees eligible

% Work VMT Reduction = 0.00% Cap: 15.0%

Urban:		15%
Suburban Center:		10%
Suburban:		5%

(Mark an "X" in one of the above)

% Employees Eligible:

TRT-4 — Implement Subsidized or Discounted Transit Program

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 20.0%

Urban:		A
Suburban Center:		B
Suburban:		C
Transit Subsidy: $0.75		W
Transit Subsidy: $1.49		X
Transit Subsidy: $2.98		Y
Transit Subsidy: $5.96		Z

(Mark an "X" in one of the above for each group)

% Employees Eligible:

Daily Transit Subsidy

Setting	W	X	Y	Z
A	6.2%	12.9%	20%	20%
B	3.4%	7.3%	16.4%	20%
C	1.5%	3.3%	7.9%	20%

TRT-5 — Provide End of Trip Facilities

Not quantified separately; Assumed to be included in TRT-1 through -3
(If included, Work VMT reduction should be 2% to 5%, or total VMT reduction should be 0.02% to 0.625%)

TRT-6 — Encourage Telecommuting and Alternate Work Schedules

% Reduction in Commute VMT

% Work VMT Reduction = 0.00% Cap: 5.5%

9-day/80-hour Work Week:		A
4-day/40-hour Work Week:		B
Telecommuting 1.5 Days:		C
Employee Participation: 1%		V
Employee Participation: 3%		W
Employee Participation: 5%		X
Employee Participation: 10%		Y
Employee Participation: 25%		Z

(Mark an "X" in one of the above for each group)

Employee Participation

Schedule	V	W	X	Y	Z
A	0.07%	0.21%	0.35%	0.70%	1.75%
B	0.15%	0.45%	0.75%	1.50%	3.75%
C	0.22%	0.66%	1.10%	2.20%	5.50%

TRT-7 — Implement Commute Trip Reduction Marketing

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips [4%]
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 4.0%

% Employees Eligible:

TRT-8 — Implement Preferential Permit Parking Program

Not quantified separately; Assumed to be included in TRT-1 through -3

TRT-9	Implement Car-Sharing Program	% Work VMT Reduction = A × B / C A = % reduction in car-share member annual VMT [37%] B = number of car share members per shared car [20] C = 1,000 Urban 2,000 Suburban	% Work VMT Reduction = 0.00% Cap: 0.74% Urban: 1,000 Suburban: 2,000 (Mark an "X" in one of the above)
TRT-10	Implement a School Pool Program	Not applicable.	
TRT-11	Provide Employer-Sponsored Vanpool/Shuttle	% Work VMT Reduction = A × B × C A = % shift in vanpool mode share of commute trips = 2% to 20% B = % employees eligible C = 0.67	% Work VMT Reduction = 0.00% Cap: 13.4% A: Shift in Vanpool Mode Share: B: Employees Eligible:
TRT-12	Implement Bike Sharing Program	Not quantified separately; Assumed to be included in LUT-9 and SDT-5 (If included, total VMT reduction should be at least 0.03%)	
TRT-13	Implement School Bus Program	Not applicable.	
TRT-14	Price Workplace Parking	% Work VMT Reduction = A × B A = % reduction in commute VMT B = % employees subject to priced parking	% Work VMT Reduction = 0.00% Cap: 19.7% Urban: A Suburban Center: B Suburban: C Daily Parking Charge: $1 W Daily Parking Charge: $2 X Daily Parking Charge: $3 Y Daily Parking Charge: $6 Z (Mark an "X" in one of the above for each group) % Employees Subject to Priced Parking:
TRT-15	Implement Employee Parking Cash-Out	% Work VMT Reduction = A × B A = 7.7% Urban 4.5% Suburban Center 3.0% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 7.7% Urban: 7.7% Suburban Center: 4.5% Suburban: 3.0% (Mark an "X" in one of the above) % Employees Eligible:

Daily Parking Charge

Setting	W	X	Y	Z
A	6.9%	12.5%	16.8%	19.7%
B	1.8%	3.7%	5.4%	6.8%
C	0.5%	1.2%	1.9%	2.8%

Project: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

Project Trips and Vehicle Miles Traveled

Land Use (CalEEMod Land Use)	Unit Amount	Daily Project Trips
PROJECT		
Residential Units	1,127 DU	4.20 Baseline trip rate per DU
		-25.0% Deductions (Traffic Study)
		3.15 Trip rate per DU less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		14.7 H-W Trip Length (Baseline)
		5.9 H-S Trip Length (Baseline)
		8.7 H-O Trip Length (Baseline)
		10.4 H-W Trip Length (Project)
		4.2 H-S Trip Length (Project)
		6.2 H-O Trip Length (Project)
Recreational (Quality Restaurant)	22,200 sf	89.95 Baseline trip rate per 1000 sf
		-41.3% Deductions (Traffic Study)
		52.82 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Recreational (High Turnover Restaurant)	53,389 sf	127.15 Baseline trip rate per 1000 sf
		-45.7% Deductions (Traffic Study)
		69.03 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Retail (Supermarket)	50,000 sf	102.24 Baseline trip rate per 1000 sf
		-66.1% Deductions (Traffic Study)
		34.61 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Office	285,088 sf	11.03 Baseline trip rate per 1000 sf
		-29.5% Deductions (Traffic Study)
		7.78 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)

Source: Fehr and Peers, 2018; ESA 2018.

C-4 Derivation of Localized Significance Thresholds

Onni Times Square
Air Quality Assessment

Localized Significance Thresholds
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 1
Adjacent to Offsite Receptors (i.e., within 25 meters)

	Screening Values		Project Site [a]
Acres	1	2	1.84
Construction LSTs			
NOX	74	108	**103**
CO	680	1,048	**989**
PM10	5	8	**7.5**
PM2.5	3	5	**4.7**
Operational LSTs			
NOX	74	108	**103**
CO	680	1,048	**989**
PM10 [b]	2	2	**2.4**
PM2.5	1	2	**1.8**

Notes:

a. Project screening levels are linearly interpolated based on the 1- and 2- acre acreening levels.

b. The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 1.84-acre site with sensitive receptors conservatively assumed to be located adjacent to the construction area.

Onni Times Square
Air Quality Assessment

Localized Significance Thresholds - Towers and Renovation
(SCAQMD, Final Localized Significance Threshold Methodology, Appendix C (2008))

Source Receptor Area 1
Screening Distance to Offsite receptors 25 meters

	Screening Values			**Project Site** [b]
Acres	1	2	5	**3.69**
Construction LSTs				
NOX	74	108	161	**138**
CO	680	1,048	1,861	**1,506**
PM10(25)	5	8	16	**12.5**
PM2.5(25)	3	5	8	**6.7**
Operational LSTs				
NOX	74	108	161	**138**
CO	680	1,048	1,861	**1,506**
PM10 (25m)	2	2	4	**3.1**
PM2.5 (25 m)	1	2	2	**2.0**

Notes:

a. Project screening levels are linearly interpolated based on the 2- and 5- acre acreening levels.

b. The SCAQMD LSTs are based on Source Receptor Area 1 (Central Los Angeles County) for a 3.6-acre site with sensitive receptors conservatively assumed to be located adjacent to the construction area.

C-5 SCAQMD 2003 AQMP Appendix V, Carbon Monoxide Attainment Demonstration (Select Pages)

FINAL
2003 AQMP APPENDIX V

MODELING AND ATTAINMENT DEMONSTRATIONS

AUGUST 2003

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CHAPTER 4

REVISION TO THE FEDERAL CARBON MONOXIDE ATTAINMENT DEMONSTRATION PLAN

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Carbon Monoxide Emissions

Modeling Methodology

Carbon Monoxide Control Strategy

Future Air Quality Projections

Conclusion

Hot Spot Analysis

The hot-spot analysis was performed using CAL3QHC. CAL3QHC is a model developed to predict the level of CO or other inert pollutant concentration emitted from motor vehicles at roadway intersections. CAL3QHC inputs include roadway geometry, receptor locations, meteorological conditions and vehicular emissions rate. A general description of the selection of the hot spot intersection, model input assumptions, and model application was presented in the 1992 CO Plan and is not repeated here.

The CAL3QHC model was applied to the four intersections listed in Table 4-7 to estimate the CO impacts from motor vehicles traveling at roadway intersections. CO concentrations were estimated for both the 1997 base year and for the year 2002 based on projected traffic volume and emission factors. The October 31-November 1, 1997 episode specific meteorological conditions for the grid cell hosting the intersection was used for the simulation. Tables 4-8, 4-9, and 4-10 show the model predicted and calculated CO concentration at the selected intersection in the years 1997 and 2002.

TABLE 4-7

Selected Intersections for the CAL3QHC
Hot Spot Modeling Analysis

Intersection	Receptor	Description
Long Beach Blvd. /Imperial Highway	Lynwood Air Monitoring Station	The Lynwood air monitoring stations consistently records the highest 8-hour CO concentrations in the Basin each year
Wilshire Blvd./ Veteran Ave.	No Air Monitoring	The most congested intersection in Los Angeles county. The average daily traffic volume is about 100,000 vehicles/day.
Highland Ave./ Sunset Blvd.	No Air Monitoring Station	One of the most congested intersections in the city of Los Angeles. The intersection study has been conducted and traffic data is available.
Century Blvd./ La Cienega Blvd.	No Air Monitoring Station	One of the most congested intersections in the city of Los Angeles. The intersection study has been conducted and traffic data is available.

TABLE 4 -8

Emissions Predicted by EMFAC2002 in Year 1997 and 2002

	Wilshire - Veteran		Sunset - Highland		La Cienega - Century		Long Beach - Imperial	
	AM	PM	AM	PM	AM	PM	AM	PM
a) EMFAC2002 Emission Variables (1997)								
Running Exhaust Emission Factor (g/mile)	11.57	11.96	13.31	12.72	11.82	11.66	11.92	11.93
Idling Emission Factor (g/min)	2.13	2.18	2.43	2.32	2.19	2.15	2.22.	2.18
b) EMFC2002 Emission Variables (2002)								
Running Exhaust Emission Factor (g/mile)	7.20	7.21	7.22	7.98	7.31	7.24	7.35	7.48
Idling Emission Factor (g/min)	1.24	1.24	1.25	1.30	1.27	1.25	1.28	1.28

TABLE 4-9

1997 1-Hour Average Carbon Monoxide Concentrations
Calculated from the CAL3QHC Model

	Morning*	Afternoon+	Peak++
Wilshire - Veteran	7.7	5.7	--
Sunset - Highland	6.9	7.3	--
La Cienega - Century	6.4	5.2	--
Long Beach - Imperial	5.1	5.2	2.2

* Morning : 7-8 a.m. for La Cienega - Century, 11-12 a.m. for Sunset - Highland, 8-9 for Wilshire-Veteran, and 7-8 a.m. for Long Beach - Imperial

\+ Afternoon : 3-4 p.m. for Sunset - Highland, 3-4 p.m. for Wilshire - Veteran, 4-5 p.m. for Long Beach - Imperial, and 6-7 p.m. for La Cienega - Century

++ Peak : 11-12 p.m. (concentration at the hour of the observed peak). Peak is only provided for the Long Beach/Imperial intersection since it is intersection associated with the regional peak at Lynwood.

TABLE 4-10

Year 2002 1-Hour Average Carbon Monoxide Concentrations
Calculated from the CAL3QHC Model

	Morning*	Afternoon+	Peak++
Wilshire-Veteran	4.6	3.5	--
Sunset-Highland	4.0	4.5	--
La Cienega-Century	3.7	3.1	--
Long Beach-Imperial	3.0	3.1	1.2

* Morning : 7-8 a.m. for, La Cienega - Century, 8-9 a.m. for Wilshire - Veteran, 7-8 a.m. for Long Beach - Imperial, and 8-9 a.m. for Sunset - Highland

\+ Afternoon : 3-4 p.m. for Sunset - Highland, 5-6 p.m. for Wilshire - Veteran, 4-5 p.m. and Long Beach - Imperial, and. 6-7 p.m. for and La Cienega - Century

++ Peak : 11-12 p.m. (concentration at the hour of the observed peak)). Peak is only provided for the Long Beach/Imperial intersection since it is intersection associated with the regional peak at Lynwood.

CARBON MONOXIDE CONTROL STRATEGY

Mobile sources, which are regulated primarily by ARB or U.S. EPA, produce the largest amount of carbon monoxide emissions in the Basin. The on-road motor vehicle control strategy is primarily based on adopted regulations, such as the 1990 ARB Low-Emission Vehicles and Clean Fuels (LEV/Clean Fuels) regulations, Phase 2 Reformulated Gasoline Program, oxygenated fuel regulation, and enhancements to the Inspection and Maintenance (I/M) or Smog Check program. The emission reduction resulting from these already adopted regulations are sufficient to demonstrate attainment in the year 2002, as discussed in a later section.

Contingency Measures

Section 187(a)(3) of the 1990 CAAA requires that adopted and enforceable contingency measures be included in the attainment plan submission. A deviation from the forecasted VMT of more than a given percentage will trigger implementation of contingency measures to offset either excess VMT or carbon monoxide emissions due to the additional VMT. According to the EPA General Preamble [Sect. 532(c)(1)], this percentage is 5 percent in 1994, 4 percent in 1995, and 3 percent for 1996 and subsequent years. The cumulative VMT growth cannot be greater than or equal to 5 percent above the VMT forecast used as the basis of the attainment demonstration.

APPENDIX D

Cultural Resources Documentation

ESA

D-1 Historical Resources Technical Report

TIMES MIRROR SQUARE

Los Angeles, California





Historical Resource Technical Report

Prepared by:

CONSULTING GPA

December 7, 2018

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EXECUTIVE SUMMARY

The Applicant proposes to develop the city block known as Times Mirror Square in Downtown Los Angeles. The block is bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. Times Mirror Square is occupied by five buildings: the Times Building constructed in 1935, the Plant Building constructed between 1935 and 1955, the Mirror Building constructed in 1948, the Executive Building constructed in 1973, and the Parking Structure also constructed in 1973. GPA Consulting (GPA) was retained to prepare this report as part of the environmental review of the proposed Project in compliance with the California Environmental Quality Act (CEQA). The purpose of this report was to identify historical resources on and in the vicinity of the project site, to analyze impacts on the identified historical resources, and to recommend mitigation measures, as appropriate. Although archaeological sites may be considered historical resources if they are listed or eligible for listing in the California Register of Historical Resources, this report was limited to historical resources that are part of the built environment.

There are four buildings constituting three individual historical resources on the project site and five buildings contributing to a potential historic district. The Times-Plant Complex and Mirror Building were previously determined eligible for listing in the National Register of Historic Places through the Section 106 process in 1978 and 2010, respectively. Properties that are formally determined eligible for listing in the National Register of Historic Places are automatically listed in the California Register of Historical Resources. Additionally, the Times-Plant Complex and Mirror Building are collectively designated as a Los Angeles Historic-Cultural Monument. GPA studied these buildings in greater detail to gain a better understanding of their significance and integrity, and to properly identify their character-defining features. GPA concluded that the Executive Building appears individually eligible for listing in the California Register of Historical Resources for its association with the Times Mirror Company and Otis Chandler. The Parking Structure is not individually ineligible under national, state, or local landmark programs because does not meet the criteria for significance. Furthermore, the City Council excluded the Executive Building and Parking Structure from the Los Angeles Historic-Cultural Monument designation. Nevertheless, GPA conservatively concluded that Times Mirror Square appears eligible for listing in the National Register of Historic Places and California Register of Historical Resources as a potential historic district. The potential historic district is historically significant as a reflection of the ascent of the *Los Angeles Times* to the front ranks of American journalism and the Times Mirror Company to a national media giant. The period of significance is 1935, the year the Times-Plant Complex was completed, to 2000, the year the Times Mirror Company was sold to the Tribune Company. All of the buildings within the block are contributing to the significance of the potential historic district because they were constructed within the period of significance and retain sufficient integrity to convey their significance. Therefore, all of the buildings on the block qualify as historical resources subject to the CEQA.

GPA identified three more historical resources in the vicinity of the project site. These include the Los Angeles Civic Center Historic District, Los Angeles City Hall, and Higgins Building. The Los Angeles Civic Center Historic District was formally determined eligible for listing in the National Register of Historic Places in 2010, and automatically included in the California Register of Historical Resources. Los Angeles City Hall is a contributing building within the Civic Center Historic District and is designated Los Angeles Historic-Cultural Monument No. 150. The Higgins Building is designated Los Angeles Historic-Cultural Monument No. 873. Therefore, these properties qualify as historical resources subject to the CEQA.

The Project as proposed involves three activities: demolition, rehabilitation, and new construction. The Executive Building and Parking Structure would be demolished. This activity would result in a significant adverse impact on the two buildings as well as Times Mirror Square. The Executive Building would no longer be individually eligible for listing in the California Register of Historical Resources. Times Mirror Square would no longer be eligible under national or state historic district programs. Mitigation measures are recommended; however, they would not reduce the impact to less than significant.

The demolition and rehabilitation activities would have a less than significant impact on the Times, Plant, and Mirror Buildings because they would not be materially impaired. While the demolition and rehabilitation components of the Project would require alterations to the Times, Plant, and Mirror Buildings, they would retain sufficient integrity to convey their significance. Indeed, it is more likely that the integrity would be improved rather than diminished by the alterations because the work would be completed in accordance with a Historic Structure Report, a feature of the Project. Thus, they would remain eligible for listing in the National Register of Historic Places, listed in the California Register of Historical Resources, and designated as a Los Angeles Historic-Cultural Monument. Nevertheless, mitigation measures are recommended to minimize the already less than significant impact and to promote the highest level of preservation standards. The potential impacts on the historic buildings from excavation and grading and the use of vibratory equipment during the construction of the new buildings can be avoided by mitigation measures.

In place of the Executive Building and Parking Structure, two towers would be constructed over a five-story podium and, from street grade. The north tower would rise 37 stories or approximately 495 feet above grade, while the south tower would rise 53 stories or approximately 665 feet above grade. A paseo bisecting the middle of the block would physically and visually separate the towers from the Times, Plant, and Mirror Buildings to the east. The new construction would diminish the integrity of the setting of the Times, Plant, and Mirror Buildings, but not to the degree that they would not remain eligible for listing in the National Register of Historic Places, listed in the California Register of Historical Resources, and designated as a Los Angeles Historic-Cultural Monument. The new construction would not diminish the integrity of setting of the Los Angeles Civic Center Historic District, Los Angeles City Hall, or the Higgins Building. These three historical resources are so far removed from the project site that the potential for impact was already minimal. The north and south towers would be physically and visually separated from these historical resources by streets and/or other buildings. Therefore, the indirect impact of the new construction component of the project on the historical resources on the project site and in the vicinity is less than significant and no mitigation is required or recommended. Furthermore, there would be no potential for cumulative impacts as a result of the Project and related projects, when taken as a whole, that substantially diminish the number of historical resources within the same or similar context or property type.

1. INTRODUCTION

1.1 Purpose and Qualifications

The purpose of this report is to analyze whether or not a proposed development project would significantly impact historical resources. The Project involves the city block known as Times Mirror Square in Downtown Los Angeles. The block is bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway (see **Figure 1**). Addresses ranges include: 202-234 W. 1st Street, 121-147 S. Spring Street, 205-221 W. 2nd Street, and 100-142 S. Broadway. Assessor's Parcel Numbers (APN) include: 5149-001-003, 5149-001-004, 5149-001-005, 5149-001-006, and 5149-001-007.



Figure 1: Project Site

Times Mirror Square is occupied by five structurally distinct but internally connected buildings: an eight-story building completed in 1935, referred to in this report as the Times Building; a two-story building completed in 1935 and expanded to four stories in 1955, referred to in this report as the Plant Building; a twelve-story building constructed in 1948, referred to in this report as the Mirror Building; a six-story building constructed in 1973, referred to in this report as the Executive

Building; and a six-story structure constructed in 1973, referred to in this report as the Parking Structure.[1]

The proposed project (Project) would involve the rehabilitation of the Times Building, Plant Building, and Mirror Building, the demolition of the Executive Building and Parking Structure, and the construction two new mixed-use buildings. The Project is described in greater detail in Section 5.3.

GPA Consulting (GPA) was retained to identify historical resources on and in the vicinity of the Project site, to assess any potential impacts the Project may have on the identified historical resources, and to recommend mitigation measures, as warranted, for compliance with the California Environmental Quality Act (CEQA). Teresa Grimes, Laura O'Neill, Emily Rinaldi Williams, Amanda Yoder Duane, and Audrey von Ahrens were responsible for the preparation of this report. They fulfill the qualifications for historic preservation professionals outlined in Title 36 of the Code of Federal Regulations, Part 61. Their résumés are attached in Appendix A.

1.2 Methodology

In preparing this report, GPA performed the following tasks:

1. Conducted a field inspection of the Project site and surrounding area to determine the scope of the study. The study area was defined as the Project site, which comprises the single city block known as Times Mirror Square, and the adjacent parcels within a 550-foot radius. This radius was established to account for potential indirect impacts on historical resources in the vicinity. Thus, the study area includes the opposite and diagonal block faces from the Project site. Historical resources beyond the 550-foot radius were not included in the study area because the Project would have no potential to indirectly impact these resources. These resources are physically and visually separated from the Project site by surface parking lots and buildings constructed during various periods. The Project site cannot be reasonably considered a part of the environmental setting of historical resources beyond the study area.

2. Requested and reviewed a records search from the South Central Coastal Information Center at California State University, Fullerton to determine whether or not any of the buildings on the Project site are currently listed as landmarks at the national, state, or local levels and whether or not they had been previously evaluated as historical resources. Following are the results of the review:

    a. Some portion of Times Mirror Square was evaluated in 1978 as part of the Downtown People Mover Program. Two historical resources inventory forms exist from the evaluation. One appears to address the entire complex of buildings; the other appears to address the Times Building only. The evaluation resulted in a formal determination of eligibility for listing in the National Register of Historic

[1] Technically, there are six buildings on the site. The structural components of a six-story building are located on Broadway at roughly the mid-point of the block. It was constructed by the Times Mirror Company for printing and binding in 1931. The building was completely enveloped in 1973 by the Executive Building and Parking Structure. Due to the existence of large color printing presses in the building, the company chose to incorporate the building's foundation and some walls into the new buildings, instead of trying to remove and relocate the presses. The existence of the structural remnants is only perceptible on the interior of the 1973 buildings and evidenced only by changes in floor level and wall material.

Places, though it is unclear if the determination covered the entire complex or just the Times Building. On June 1, 2010, as part of the Regional Connector Transit Corridor Project, the State Historic Preservation Officer (SHPO) included the "Los Angeles Times Building" at "202 West 1st Street" in a list of historical resources eligible for listing in the National Register of Historic Places, indicating that the formal determination applied to the Times Building only. The California Historical Resource Inventory (HRI) includes two different Historical Resource Status Codes (Status Codes) for the address 202 W. 1st Street: 2S2 (individual property determined eligible for the National Register of Historic Places by a consensus through Section 106 process and listed in the California Register of Historical Resources); and 7K (resubmitted to State Office of Historic Preservation (SOHP) for action but not re-evaluated). The 2S2 Status Code resulted from the 1978 evaluation. It is not clear what resulted in the 7K Status Code. Copies of the inventory forms are located in Appendix B and the Status Codes are further defined in Section 2.2 of this report.

b. The Mirror Building located at 145 S. Spring Street was evaluated as individually eligible for the National Register of Historic Places, California Register of Historical Resources, and as a Los Angeles Historic-Cultural Monument in 2009 as part of the Regional Connector Transit Corridor Project. It was formally determined eligible by the SHPO on June 1, 2010. The Status Code for the building is 2S2 (individual property determined eligible for the National Register of Historic Places by consensus through the Section 106 process; listed in the California Register of Historical Resources). The site of the building is also designated as California Historical Landmark (CHL) #744 as the location of the Butterfield Stage Station (building no longer extant). A copy of the inventory form is located in Appendix B and the Status Codes are further defined in Section 2.2 of this report.

3. Consulted the Los Angeles Office of Historic Resources (OHR) to determine if any of the buildings on the Project site were identified by SurveyLA, the citywide historic resource survey of Los Angeles. The Central City Community Plan Area in which the Project site is located was surveyed in 2016. SurveyLA identified the block as a potential historic district, but did not identify contributing or non-contributing buildings. The Times, Plant, and Mirror Buildings were not re-evaluated by SurveyLA as they were already listed in the California Register of Historical Resources. The Executive Building was evaluated as appearing eligible for listing in California Register of Historical Resources and designation as a Los Angeles Historic-Cultural Monument. The Status Code for the building is 3CS and 5S3.

   During the preparation of this report, interested parties nominated Times Mirror Square as a Los Angeles Historic-Cultural Monument. Ultimately, the City Council designated the Times, Plant and Mirror Buildings, but excluded the Executive Building and Parking Structure.

4. Determined the number and scope of evaluations required to adequately document the block.

   a. The Times Building and the Plant Building were considered jointly as one resource, referred to in this report as the Times-Plant Complex, instead of two individual resources for the following reasons: both buildings were built at the same time

and designed by the same architect, and while their structures are separated by a 6-inch seismic joint, they have always been internally connected and used for purposes directly related to publishing the *Los Angeles Times* newspaper. Although the Times Building is listed in the California Register of Historical Resources, the scope of the previous evaluation was unclear and the documentation out of date, so re-evaluation was necessary to accurately identify periods of significance and character-defining features in this report.

b. The Mirror Building did not require re-evaluation, because the 2009 evaluation conforms to current professional standards, demonstrates a clear scope, uses current inventory forms, and comes to logical conclusions. Minor revisions to the 2009 evaluation based on additional research were suggested, but a complete evaluation was not conducted.

c. The Executive Building and Parking Structure required evaluation under national and state landmark designation programs as the buildings are 45 years of age. The 45-year benchmark recognizes that there may be as much as a five-year lag between the identification of historical resources and the date planning decisions are made. This benchmark is found on page 2 the "Instructions for Recording Historical Resources," State Office of Historic Preservation, March 1995. It encourages the collection of information about properties that may become eligible for listing in the National Register of Historic Places or California Register of Historical Resources within the planning period for a development project. The Executive Building and Parking Structure were evaluated in this report using the same contexts because they were constructed at the same time, designed by the same architecture firm, and used by the Times Mirror Company.

d. As all the buildings within Times Mirror Square are physically and historically related, the block required evaluation as a potential historic district under national and state programs.

5. Conducted additional research to fill information gaps, as necessary. Sources consulted included building plans and permits, Sanborn Fire Insurance maps, historic photograph collections, architectural periodicals, newspapers, and scholarly sources, such as books, articles, and documentaries.

6. Consulted the Context/Theme/Property Type (CTP) eligibility standards formulated for the *Los Angeles Citywide Historic Context Statement* to identify the appropriate CTPs under which to evaluate the Times-Plant Complex, Executive Building, and Parking Structure.

7. Reviewed and analyzed ordinances, statutes, regulations, bulletins, and technical materials relating to federal, state, and local historic preservation designations, and assessment processes and programs to evaluate the significance and integrity of the Times-Plant Complex, Executive Building, and Parking Structure.

8. Summarized the eligibility of the Mirror Building based on the existing inventory forms from 2009.

9. Identified the character-defining features of all buildings evaluated as individual historical resources on the block. The features are listed, described, and pictured in **Appendix B**.

10. Reviewed and analyzed Entitlement Submittal to determine if the Project would have direct or indirect impacts on the identified historical resources as defined by CEQA.

2. REGULATORY ENVIRONMENT

Generally, a lead agency must consider a property a historical resource under CEQA if it is eligible for listing in the California Register of Historical Resources (California Register). The California Register is modeled after the National Register of Historic Places (National Register). Furthermore, a property is presumed to be a historical resource if it is listed in a local register of historical resources or has been identified as a historical resource in a historic resources survey (provided certain criteria and requirements are satisfied) unless a preponderance of evidence demonstrates that the property is not historically or culturally significant.[2] The National Register, California Register, and local landmark and historic district programs are discussed below.

2.1 National Register of Historic Places

The National Register is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment."[3]

Criteria

To be eligible for listing in the National Register, a property must be at least 50 years of age (unless the property is of "exceptional importance") and possess significance in American history and culture, architecture, or archaeology. A property of potential significance must meet one or more of the following criteria:[4]

A. Associated with events that have made a significant contribution to the broad patterns of our history; or

B. Associated with the lives of persons significant in our past; or

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Yield, or may be likely to yield, information important in prehistory or history.

Context

To be eligible for listing in the National Register, a property must be significant within a historic context. *National Register Bulletin #15* states that the significance of a historic property can be judged only when it is evaluated within its historic context. Historic contexts are "those patterns, themes, or trends in history by which a specific...property or site is understood and its meaning... is made clear."[5] A property must represent an important aspect of the area's history or prehistory and possess the requisite integrity to qualify for the National Register.

[2] Public Resources Code Section 5024.1 and 14 California Code of Regulations Sections 4850 & 15064.5(a)(2).
[3] Title 36 Code of Federal Regulations Part 60.2.
[4] Title 36 Code of Federal Regulations Part 60.4.
[5] *National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation* (Washington D.C.: National Park Service, Department of the Interior, 1997), 7-8.

Integrity

In addition to possessing significance within a historic context, to be eligible for listing in the National Register a property must have integrity. Integrity is defined in *National Register Bulletin #15* as "the ability of a property to convey its significance."[6] Within the concept of integrity, the National Register recognizes the following seven aspects or qualities that, in various combinations, define integrity: feeling, association, workmanship, location, design, setting, and materials. Integrity is based on significance: why, where, and when a property is important. Thus, the significance of the property must be fully established before the integrity is analyzed.

In the case of districts, integrity means the physical integrity of the buildings, structures, or features that make up the district as well as the historic, spatial, and visual relationships of the components. Some buildings or features may have been more altered over time than others. In order to possess integrity a district must, on balance, still communicate its historic identity.

Criteria Consideration G

Certain types of properties are not usually eligible for listing in the National Register. These properties include buildings and sites that have achieved significance within the past 50 years. Fifty years is a general estimate of the time needed to develop historical perspective and to evaluate significance. In addition to being significant under one of the four criteria listed above, these properties must meet a special requirement called a criteria consideration in order to be eligible for listing in the National Register. There are seven criteria considerations. Criteria Consideration G states "a property achieving significance within the last 50 years is eligible if it is of exceptional importance."[7] This criteria consideration guards against the listing of properties of fleeting contemporary interest.

Historic Districts

The National Register includes significant properties, which are classified as buildings, sites, districts, structures, or objects. A historic district "derives its importance from being a unified entity, even though it is often composed of a variety of resources. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties."[8]

A district is defined as a geographically definable area of land containing a significant concentration of buildings, sites, structures, or objects united by past events or aesthetically by plan or physical development.[9] A district's significance and historic integrity should help determine the boundaries. Other factors include:

- Visual barriers that mark a change in the historic character of the area or that break the continuity of the district, such as new construction, highways, or development of a different character;
- Visual changes in the character of the area due to different architectural styles, types, or periods, or to a decline in the concentration of contributing resources;

[6] Ibid., 44-45.
[7] Ibid., 41.
[8] Ibid., 5.
[9] Title 36 Code of Federal Regulations Part 60.3(d).

- Boundaries at a specific time in history, such as the original city limits or the legally recorded boundaries of a housing subdivision, estate, or ranch; and
- Clearly differentiated patterns of historical development, such as commercial versus residential or industrial.[10]

Within historic districts, properties are identified as contributing and noncontributing. A contributing building, site, structure, or object adds to the historic associations, historic architectural qualities, or archaeological values for which a district is significant because:

- It was present during the period of significance, relates to the significance of the district, and retains its physical integrity; or
- It independently meets the criterion for listing in the National Register.[11]

2.2 California Register of Historical Resources

In 1992, Governor Wilson signed Assembly Bill 2881 into law establishing the California Register. The California Register is an authoritative guide used by state and local agencies, private groups, and citizens to identify historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from substantial adverse impacts.[12]

The California Register consists of properties that are listed automatically as well as those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed in the National Register and those formally Determined Eligible for the National Register;
- State Historical Landmarks from No. 0770 onward; and
- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (SOHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.[13]

Criteria and Integrity

For those properties not automatically listed, the criteria for listing in the California Register are based upon National Register criteria, but are identified as 1-4 instead of A-D. To be eligible for listing in the California Register, a property generally must be at least 50 years of age and must possess significance at the local, state, or national level, under one or more of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or

[10] *National Register Bulletin #21: Defining Boundaries for National Register Properties Form* (Washington D.C.: U.S. Department of the Interior, 1997), 12.
[9] *National Register Bulletin #16: How to Complete the National Register Registration Form* (Washington D.C.: U.S. Department of the Interior, 1997), 16.
[12] Public Resources Code Section 5024.1 (a).
[13] Public Resources Code Section 5024.1 (d).

2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important in the prehistory or history of the local area, California, or the nation.

Properties eligible for listing in the California Register may include buildings, sites, structures, objects, and historic districts. A property less than 50 years of age may be eligible if it can be demonstrated that sufficient time has passed to understand its historical importance. While the enabling legislation for the California Register is less rigorous with regard to the issue of integrity, there is the expectation that properties reflect their appearance during their period of significance.[14]

The California Register may also include properties identified during historic resource surveys. However, the survey must meet all of the following criteria:[15]

1. The survey has been or will be included in the State Historic Resources Inventory;
2. The survey and the survey documentation were prepared in accordance with office [SOHP] procedures and requirements;
3. The resource is evaluated and determined by the office [SOHP] to have a Status Code of 1 to 5 on a DPR Form 523; and
4. If the survey is five or more years old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historical resources that have become eligible or ineligible due to changed circumstances or further documentation and those that have been demolished or altered in a manner that substantially diminishes the significance of the resource.

SOHP Survey Methodology

The evaluation instructions and classification system prescribed by the SOHP in its *Instructions for Recording Historical Resources* provide a Status Code for use in classifying potential historical resources. In 2003, the Status Codes were revised to address the California Register. These Status Codes are used statewide in the preparation of historical resource surveys and evaluation reports. The first code is a number that indicates the general category of evaluation. The second code is a letter that indicates whether the property is separately eligible (S), eligible as part of a district (D), or both (B). There is sometimes a third code that describes some of the circumstances or conditions of the evaluation. The general evaluation categories are as follows:

1. Listed in the National Register or the California Register.
2. Determined eligible for listing in the National Register or the California Register.
3. Appears eligible for listing in the National Register or the California Register through survey evaluation.

[14] Public Resources Code Section 4852.
[15] Public Resources Code Section 5024.1.

4. Appears eligible for listing in the National Register or the California Register through other evaluation.
5. Recognized as historically significant by local government.
6. Not eligible for listing or designation as specified.
7. Not evaluated or needs re-evaluation.

The specific Status Codes referred to in this report are as follows:

2S2 Individual property determined eligible for the National Register by a consensus through Section 106 process and listed in the California Register.

3S Appears eligible for National Register as an individual property through survey evaluation.

3CB Appears eligible for California Register both individually and as a contributor to an eligible district through a survey evaluation.

3CS Appears eligible for the California Register as an individual property through survey evaluation.

5S1 Individual property that is listed or designated locally.

3D Appears eligible for National Register as a contributor to a National Register eligible district through survey evaluation.

3CD Appears eligible for California Register as a contributor to a California Register eligible district through a survey evaluation.

7K Resubmitted to State Office of Historic Preservation (SOHP) for action but not re-evaluated.

2.3 Los Angeles Cultural Heritage Ordinance

The Los Angeles City Council adopted the Cultural Heritage Ordinance in 1962 and amended it in 2007 (Sections 22.171 et seq. of the Administrative Code). The Ordinance created a Cultural Heritage Commission (Commission) and criteria for designating Historic-Cultural Monuments (HCM). The Commission is comprised of five citizens, appointed by the Mayor, who have exhibited knowledge of Los Angeles history, culture, and architecture. The four criteria for HCM designation are stated below:

- The proposed HCM reflects the broad cultural, economic, or social history of the nation, state or community; or
- The proposed HCM is identified with historic personages or with important events in the main currents of national, state or local history; or
- The proposed HCM embodies the characteristics of an architectural type specimen inherently valuable for a study of a period, style or method of construction;

- The proposed HCM is the notable work of a master builder, designer, or architect whose individual genius influenced his or her age.[16]

Unlike the National and California Registers, the Ordinance makes no mention of concepts such as physical integrity or period of significance. However, in practice it is common for the Commission to consider alterations to nominated properties in making its recommendations on designations. Moreover, properties do not have to reach a minimum age requirement, such as 50 years, to be designated as HCMs.

[16] Los Angeles Administrative Code Section 22.171.7.

3. ENVIRONMENTAL SETTING

3.1 Project Location and Study Area

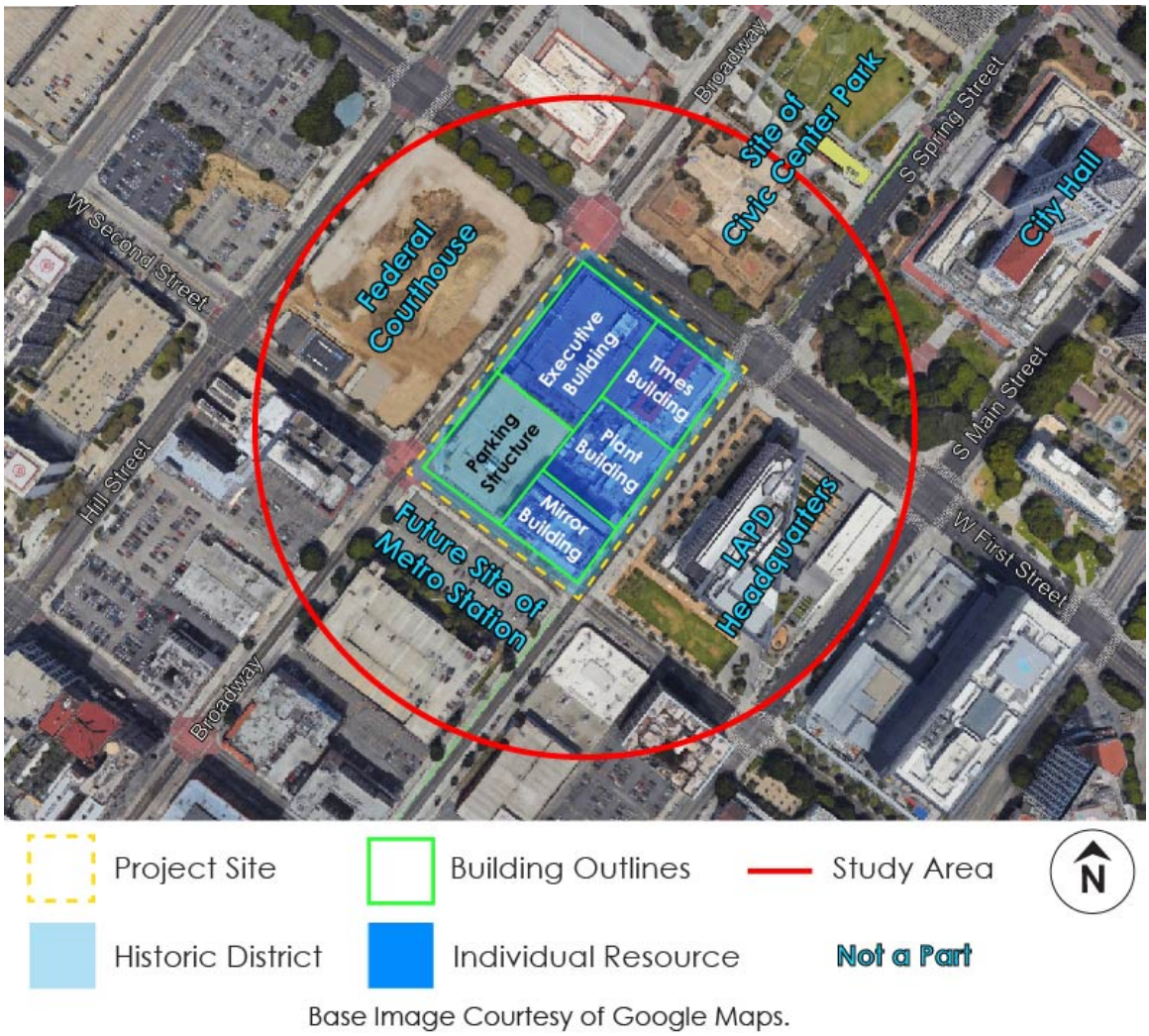

Figure 2: Project Site and Study Area

The Project site is located just south of the Civic Center in Downtown Los Angeles. It is a single city block bounded by W. 1st Street to the north, S. Spring Street to the east, W. 2nd Street to the south, and S. Broadway to the west. The study area encompasses approximately a 550-foot radius from the center of the Project site (see **Figure 2**). Immediately north of the Project site is the 1.96-acre First and Broadway Civic Center Park, a public park currently under development and anticipated for completion in 2019. The Los Angeles County Law Library is located diagonally across S. Broadway and W. 1st Street from the Project site. It ranges in height from one to three stories. The 29-story Los Angeles City Hall is located diagonally across S. Spring Street and W. 1st Street from the Project site. City Hall Park is situated in the setback from W. 1st Street. The 10-story Los Angeles Police Department (LAPD) Headquarters Building occupies the block bounded by S. Spring Street, E. 1st Street, S. Main Street, and E. 2nd Street, immediately to the east of the Project Site. The LAPD Headquarters Building is oriented toward City Hall and is characterized by 75-foot setbacks on three sides. The LAPD Headquarters Building's deep

setbacks accommodate a main plaza along E. 1st Street. In addition, the deep setback on the south of the Headquarters Building supports a one-acre park along E. 2nd Street. The park is landscaped open space edged with planters and benches. The 10-story Federal Courthouse is located directly west of the Project site in the block bounded by W. 1st Street, S. Broadway, W. 2nd Street, and S. Hill Street. The building rests on a podium structure, which provides a horizontal base relative to the rise along W. 1st Street. The podium structure and the rising topography of the site require broad staircases from S. Broadway and W. 1st Street to reach the building's entrance. The west frontage of the building is at grade with S. Hill Street. The building is located within a deep setback from W. 2nd Street. Low- and mid-rise office buildings, enclosed parking structures, and surface parking lots are the predominant land uses to the south of the Project site. A surface parking lot and a 7-level enclosed parking structure are currently located directly across W. 2nd Street from the Project site. The site was selected for Metro's proposed 2nd and Broadway Subway Station, one of three subway stations making up Regional Connector Transit Project. Although construction for the Regional Connector Transit Project is underway, construction at the 2nd Street and Broadway Station hasn't yet begun. Completion of the entire Regional Connector Transit Project is anticipated in May 2021. A current development proposal for the subway station site includes demolition of the existing parking structure for the construction of a 30-story mixed-use building. The building would integrate the subway station and provide ground-level retail uses. East of the future 2nd and Broadway Subway Station and south of the LAPD Headquarters Building is the 10-story Beaux Arts-style Higgins Building.

3.2 History and Description of the Project Site

Times Mirror Square consists of five buildings that were developed at various times by the Times Mirror Company. The five buildings are summarized in the following table and described in detail below.

Table 1: Buildings in Times Mirror Square

No.	Name	Address/Location[17]	Date	Description
1	Times Building	202 W. 1st Street/northeast corner of block	1935	Eight-story PWA Moderne building designed by Gordon B. Kaufmann
2	Plant Building	121 S. Spring Street/between Times and Mirror buildings	1935-55	Four-story PWA Moderne building designed by Gordon B. Kaufmann; addition designed by Rowland H. Crawford
3	Mirror Building	145 S. Spring Street/southeast corner of block	1948	Twelve-story Late Moderne building designed by Rowland H. Crawford
4	Executive Building	234 W. 1st Street/northwest corner of block	1973	Six-story International Style building designed by William L. Pereira & Associates
5	Parking Structure	142 S. Broadway/southwest corner of block	1973	Six-story parking Structure designed by William L. Pereira & Associates

[17] Please note that all buildings have multiple addresses associated with them. Listed addresses are primary addresses based on the locations of entrances and primary building facades.

Times Building

The Times Building was constructed between 1933 to 1935 as the new headquarters of the Times Mirror Company, the parent company of the *Los Angeles Times*.[18] By this time Harry Chandler was the chairman of the company and publisher of the newspaper. The new headquarters replaced the old one his father-in-law, Harrison Gray Otis had constructed at the northeast corner of W. 1st Street and S. Broadway (see **Figure 26**). The architect Gordon B. Kaufmann designed the Times Building, along with the first two stories of the Plant Building (described below) in the PWA Moderne style.

The Times Building is located in the northeast corner of Times Mirror Square and faces north toward W. 1st Street. It has a steel frame structural system and a rectangular plan. The walls are made of reinforced concrete and clad with marble, granite, and limestone. The building originally had a symmetrical massing which stepped down from approximately eight stories at its tallest central tower to six stories and then four stories at its east and west extents. Rooftop additions east and west of the center tower constructed in the 1940s, 1960s, and 1970s altered the purity of the original massing somewhat, yet the design intent remains evident. The roof over the central tower is hipped and clad with clay tiles. The roof over the east wing is flat, while the roof over the west wing is comprised of the fifth and sixth floors of the Executive Building.

The building's north elevation exhibits a strong emphasis on verticality. It is divided into nine bays divided by fluted limestone pilasters and changes in wall plane. The pilasters begin above a decorative band between the first and second stories and travel to varying heights that step down from the tallest, flanking the center bay, to the shortest, flanking the east and west bays. The pilasters framing the three central bays exhibit more ornamentation than the outer pilasters.

The window openings on the north elevation are original, while the window sashes are all non-original replacements. Counting from east to west, the windows in bays 1, 2, 8, and 9 include pairs of fixed metal-sash windows divided vertically by bronze spandrels. The spandrels exhibit fluting similar to the pilasters. Windows in bays 3 and 7 include single recessed fixed metal-sash windows with no frames or surrounds. Windows in bays 4, 5, and 6 include single fixed metal-sash windows. On the lower stories the windows are divided by bronze spandrels; the fourth and fifth story windows are separated by bas-relief terra cotta panels, and the fifth story windows are topped with sculptures by artist Merrell Gage. There are three sculptures in total and each represents a different journalism-related theme. The titles of the sculptures are "Father Time," "Spirit of the Times," and "Gutenberg." Above the sculptures, at the sixth story, the center bay features a carved terra cotta vent. Above the vent is a large clock. The numbers and ticks are carved into the limestone and illuminated by neon backlights. The hands are metal.

The north elevation's first story is separated from the upper stories by a decorative band of sunbursts and a change in wall material from limestone to granite. Windows on the first story consist of pairs of fixed metal-sash windows with decorative bronze frames in bays 1, 2, 8, and 9, and single recessed fixed metal-sash windows with carved, chamfered frames in bays 3, 4, 6, and 7. Bay 5 consists of the main entrance.

[18] Building Permit 1933LA13162, Application for the Erection of Buildings, September 11, 1933.



Figure 3: Times Building, North and East Elevations



Figure 4: Times Building, Top of North Elevation



Figure 5: Times Building, East Elevation



Figure 6: Times Building, North and West Elevations

The building's main entrance is located in the center of the north elevation's first story. It is recessed and framed with marble and two different kinds of granite. The entry doors are four side-by-side doors. Bronze crests, sculpted by Merrell Gage, atop the entry doors are dedicated to the themes of "Liberty under the Law" and "True Industrial Freedom."[19]

The east elevation has nine vertical bays. Like the north elevation, the window openings on the east elevation are original, while the window sashes are all non-original replacements. The first four stories of the bays repeat the same motif evident in bays 1, 2, 8, and 9 on the north elevation. Bays 1 and 9 on the east elevation, counted from south to north, are recessed slightly from the rest of the elevation's bays. The fifth and sixth stories have been altered by rooftop additions dating from 1946 and 1965. The 1946 addition was designed by the architect Rowland H. Crawford. There was an identical addition on the west elevation that was removed for the construction of the Executive Building, described below. The 1965 addition, designed by the firm William L. Pereira & Associates, sits on top of the 1946 addition. The additions block some of the building's original design features, including canted bay windows, metal doors, decorative metalwork, terra cotta vents, and five of the eight thin buttresses that span from the fourth story

[19] "The Los Angeles Times Building," *California Arts and Architecture*, Vol. 48 (October 1935), 22.

roof to above the sixth story roof. Above the buttresses the words "THE TIMES" appear in recessed, neon-lit lettering. Above the lettering is a band of dentils.

Due to the presence of the Plant Building, the south elevation of the Times Building is only visible above the fourth story. On the west elevation of the Times Building, only the central tower is visible due to the presence of the Executive Building. The third through sixth stories appear to have originally been identical to those on the east elevations. All of the original buttresses along the west elevation were demolished in 1971 for the construction of the adjoining Executive Building.

Most of the interior of the Times Building has been altered over time by various tenant improvements (see **Appendix D** for a summary of the building permit history). The one significant exception is the lobby. The lobby retains its original plan and many of its decorative elements. It consists of a two-story rotunda that leads to an elevator lobby. There are one-story display areas to the east and west of the rotunda.

The rotunda features elaborate murals designed by artist Hugo Ballin and a large globe sculpture by Merrell Gage. The murals depict newspaper-related themes such as printing, gathering news, and the service of journalism to the community. The globe is 5.5 feet in diameter and made of aluminum.[20] It originally rotated, making a complete revolution every 15 minutes.[21] Other decorative elements in the rotunda include marble flooring, marble columns, marble trim, and cast metal trim.

The elevator lobby has a bullet-shaped plan. It exhibits marble walls and floors, marble elevator doors, and bronze and aluminum trim. The floor features inlaid bronze panels depicting the previous *Times* buildings. At the south end of the elevator lobby is a large eagle sculpture from the roof of the building that was bombed in 1910, which was reinstalled on top of the Times Building in 1935 and later relocated to the elevator lobby in 1981.

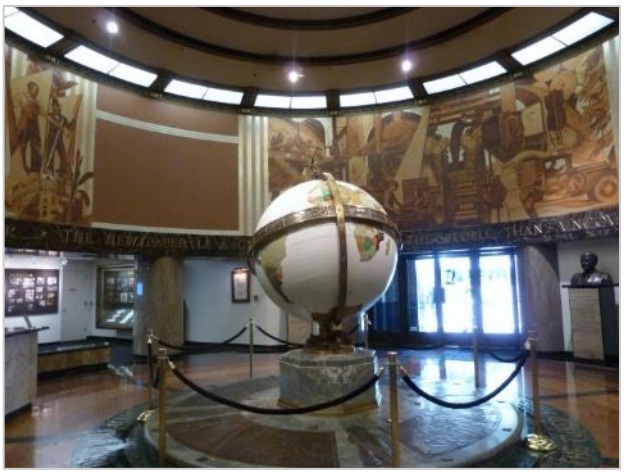

Figure 7: Times Building, Lobby



Figure 8: Times Building, Lobby

[20] The existing globe in the Times Building lobby is likely not original or if it is original, it has been substantially changed. The original globe was painted by John B. Smeraldi.

[21] "The Los Angeles Times Building," *California Arts and Architecture*, Vol. 48 (October 1935), 22.

The display areas to the east and west of the rotunda are rectangular and exhibit non-original features, such as carpeting, drywall, bronze display cases, and T-bar ceiling panel lighting. They were installed in 1981 as part of the Los Angeles Times Centennial Exhibition.

Plant Building

The Plant Building exhibits three distinct phases of construction. The first phase occurred in 1935 in conjunction with the Times Building, under the leadership of publisher Harry Chandler. It was designed by Gordon B. Kaufmann. The second phase occurred in 1946 and included the addition of a third story. The third story was designed by Rowland H. Crawford who worked for Kaufmann and would later design the Mirror Building.[22] Harry's son Norman was in charge of the paper by this time. The third phase occurred in 1955, also designed by Crawford, and consisted of the addition of a fourth story that connected to the Times and Mirror Buildings.[23]



Figure 9: Plant Building, East Elevation



Figure 10: Plant Building, Storefronts

After the two additions in 1946 and 1955, the Plant Building is currently four stories tall and rectangular in plan. It faces east onto S. Spring Street. The building has a steel frame structural system and reinforced concrete walls clad with granite and limestone. It abuts buildings to the north, south, and west, leaving only the east elevation visible. The first story of the east elevation is clad with the same granite as the first story of the Times Building and is divided into nine bays. It originally featured seven large openings for loading docks. The openings remain, but they have been altered. The most recent alterations occurred in 2000. Five of the seven loading dock openings were infilled with curved, butt-glazed storefront windows with marble tile bulkheads and thick aluminum trim. The opening in the seventh bay, when counted from south to north, has been infilled with a flat, glazed storefront with a frameless glass door, butt-glazed sidelights, a marble tile bulkhead, and thick aluminum trim. The eighth bay has a non-original metal roll-up door.

The second story is divided from the first by a decorative band of sunbursts identical to the one on the Times Building. The wall surface changes from granite to limestone above the band. Windows on the second story include recessed fixed metal-sash windows with chamfered openings. In the center above the windows, the words "LOS ANGELES TIMES" and the paper's

[22] "New Building for New Paper," *Architectural Record* (April 1949), 34; Building Permit 1946LA00465, Application to Alter, Repair, Move or Demolish, January 8, 1945.
[23] Building Permit 1955LA22284, Application to Alter, Repair, Move or Demolish, August 11, 1955.

insignia are carved into the limestone. The third and fourth stories consist of continuous bands of fixed metal windows with prismatic glass block transoms.

The interior of the Plant Building originally housed a "giant eighteen-unit press."[24] In 1997, it was remodeled to house a cafeteria and office space. The building connects internally to both the Times Building to the north and the Mirror Building to the south. The buildings are separated structurally by seismic joints.

Mirror Building

The Mirror Building was constructed between 1947 and 1948 for the Times Mirror Company and was designed by Rowland H. Crawford.[25] Norman Chandler was the chairman of the Times Mirror Company and publisher of the *Los Angeles Times* during this period. In 1948, he launched the *Los Angeles Mirror* as an afternoon paper to compete with the *Herald-Express* and *Daily News*. The Mirror Building housed the new paper's offices as well as a mail room, press room, television offices, rental offices, and equipment storage rooms.[26]



Figure 11: Mirror Building, East and North Elevations.



Figure 12: Mirror Building, Window on East Elevation.



Figure 13: Mirror Building, Bottom of East Elevation



Figure 14: Mirror Building, East and South Elevations

[24] "The Los Angeles Times Building," *California Arts and Architecture*, 23.
[25] Building Permit 1946LA23383, Application to Erect a New Building, September 9, 1946.
[26] "New Building for Los Angeles Times Ready in Fall," *Architectural Record* (June 1948), 32-1.

The Mirror Building is located in the southeast corner of Times Mirror Square. It faces east toward S. Spring Street. It has a rectangular plan, a flat roof, and is ten stories tall with a two-story penthouse. The building has a steel-frame structural system and exterior walls clad with Indiana limestone and granite.

The east elevation is symmetrical. Above the second story, it is organized into three vertical sections. The center section has seven bays; the end sections have horizontal bands of ribbon windows. The center section is taller than the end sections.

The seven vertical bays of the center section are recessed and consist of metal windows separated by sculpted bronze spandrels. The windows on the third and fourth stories are fixed single-light replacement windows. The windows on the upper stories are multi-light casements. The five middle bays extend to the parapet and are topped with sculpted figures that were designed by Crawford and represent culture, justice, faith, progress, and equality. The two end bays are shorter and topped with sculpted panels.

The ribbon windows on the two end sections consist of metal windows with prismatic glass block transoms. As in the center section, the windows on the third and fourth stories are non-original. They are fixed single-light windows with metal sashes. The windows on the upper stories are two-light metal-sash awning windows. The window bands wrap around to the north and south elevations.

The east elevation's first story consists of the main entrance and six windows. The main entrance is located in the center of the elevation and surrounded with granite. There are four side-by-side entry doors recessed in an entrance vestibule. The doors are fully glazed with bronze frames and push-bars. The doors are topped with tall single-light transoms. The side walls of the vestibule feature bronze doors flanked and topped with decorative cast bronze panels.

The rest of the first story consists of the following: four recessed single-light fixed metal windows with decorative metal surrounds, a large, non-original, butt-glazed window at the north end with a bronze surround and a granite bulkhead, a large, 11-light window with prismatic glass block in the top three lights and a decorative, coated metal frame, and a granite base.

The east elevation's second story is separated from the first by a decorative band similar to those on the Plant and Times buildings. Above the band there are nine recessed openings. Some are infilled with vents; others include metal-sash windows.

The south elevation repeats many of the features from the south end of the east elevation, including the ribbon windows on the upper stories, recessed windows on the second story, decorative band between the first and second stories, and the granite base on the first story. The first story of the south elevation also includes a band of multi-light windows with glass block top lights and decorative coated metal frames, similar to the one at the south end of the east elevation. Other openings on the first story include large vents, a non-original storefront window, and a vehicular opening with a metal roll-up door.

Most of the west elevation is blocked by the adjacent Parking Structure. The upper stories visible above the Structure exhibit seven vertical bays similar to those on the east elevation, but much simpler in detail. The bays consist of multi-light metal casement windows and limestone spandrels. The north elevation consists of six stories above the adjoining Plant Building. The ribbon windows from the north end of the east elevation wrap the corner of the building on all of the visible stories.

Much of the Mirror Building's interior has been altered by tenant improvements over the years, completed on a floor-by-floor basis from 1959 through the 2000s, with significant concentrations of building activity in the 1960s and 1990s, though the lobby remains largely intact.[27] The lobby consists of three adjoining rectangular spaces forming an L-shaped plan. All of the spaces feature marble walls with bronze trim, travertine floors, and soffited ceilings.

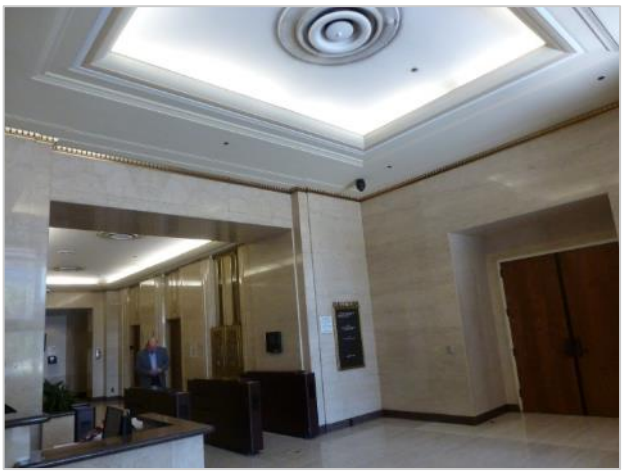

Figure 15: Mirror Building, Lobby



Figure 16: Mirror Building, Lobby

The Mirror Building was seismically retrofitted in 1997. The retrofit included the addition of steel cross-bracing at various locations along the building's perimeter walls. The steel remains exposed on the interior.

Executive Building

The Executive Building was constructed between 1970 and 1973 for the Times Mirror Company.[28] By this time, Franklin David Murphy was chairman of the company, Norman, Dorothy, and Otis Chandler were on the board, and Otis Chandler was the publisher of the *Times*. According to an article in the *Times*, the building was to be called the Chandler Building.[29] Of the three Chandlers, it was Dorothy who was placed in charge of the development of the building. She hired William L. Pereira & Associates as architects. Chandler was already familiar with Pereira & Associates, since the early 1960s the firm was responsible for numerous alterations to the Times, Plant, and Mirror Buildings (see **Appendix D** for a summary of the building permit history).

The Corporate International Style Executive Building faces north onto W. 1st Street. It is six stories in height and has a rectangular plan and a flat roof. The building has a steel frame structural system. The walls are clad with a combination of Norwegian granite and metal coated with a dark bronze silicon copolymer finish. The building's massing consists of large boxy horizontal volumes supported by boxy vertical volumes. The horizontal volumes feature bands of fixed coated aluminum windows with coated spandrels and coated metal paneling, so they have a visually lighter appearance than the granite-clad vertical boxes. The boxes are arranged to create a deep recess at the street level which feature landscaping. The recess wraps the northwest corner of the building. The largest horizontal box protrudes beyond the rest of the building at the fifth story, creating a high overhang for the recessed space below.

[27] City of Los Angeles Building Permits, various dates.
[28] Building Permit 1977LA24124, Application to Alter, Repair, Move or Demolish, April 27, 1971.
[29] "Times Mirror to Build a 6-Story Addition to Downtown Square," *Los Angeles Times*, May 29, 1969.

The building's main entrance is located at the east end of the north elevation. It is deeply recessed from the street and consists of coated aluminum storefront doors with large sidelights and transoms. An additional exterior entrance is located near the center of the west elevation. This entrance consists of a pair of aluminum and glass doors with a fixed aluminum transom. An exterior walkway at the second story extends from the adjacent Parking Structure to the south along the Executive Building's west elevation and onto the north elevation.



Figure 17: Executive Building, North and West Elevations

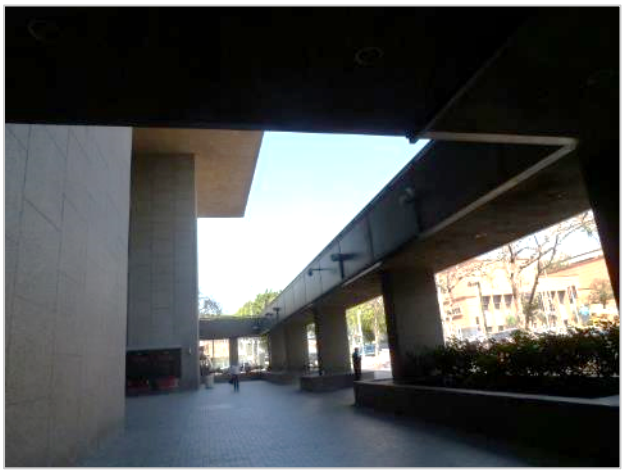

Figure 18: Executive Building, Ground Floor Plaza



Figure 19: Executive Building, North Elevation

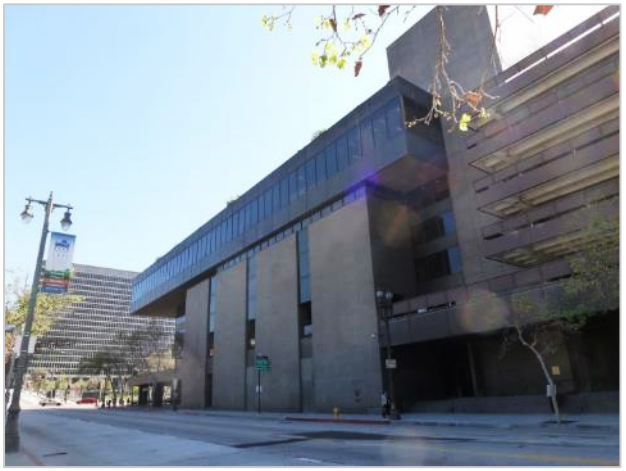

Figure 20: Executive Building, West Elevation

The interior of the Executive Building includes a bank space on the first floor, which appears to retain its original design and most of its original finishes, such as granite flooring, wall panels, coated aluminum doors, and floor-to-ceiling windows. A restaurant planned for the basement was not executed. Floors two through four were not occupied by Times Mirror, but rather leased to second parties for income. They have been altered by tenant improvements over the years. The fifth and sixth floors were designed by Charles Kratka Interior Planning and Design as the executive offices for Times Mirror. While the fifth floor has been altered by tenant improvements, the sixth floor retains its original plan and finishes. Notable interior spaces on the sixth floor include: an atrium created by a pyramidal skylight, original executive offices, and an original boardroom with a built-in circular conference table and corresponding lighting soffit. Notable features and finishes include: tile flooring in the corridors and atrium, wood wall paneling in many

rooms, wood doors, built-in planters in the atrium, and floor-to-ceiling coated aluminum windows in the corridors.



Figure 21: Executive Building, Sixth Floor Atrium



Figure 22: Executive Building, Sixth Floor Boardroom

Parking Structure

The Parking Structure is located at the southwest corner of Times Mirror Square. It was designed by William L. Pereira & Associates in conjunction with the Executive Building, and completed 1973. It has a rectangular plan and a steel-frame structural system. The building's massing consists of a solid, vertical core with open, horizontal parking decks. The core is clad with the same granite as the vertical elements of the Executive Building. The low walls of the parking decks are clad with the same coated metal. Railings along the parking deck walls are also made of coated aluminum. Entrances to the Parking Structure consist of large vehicular gates on the first story of both the south and west elevations. Most of the first story is enclosed with metal slat vents.



Figure 23: Parking Structure, West and South Elevations



Figure 24: Parking Structure, West Elevation



Figure 25: The first three homes of the Los Angeles Times and Times Mirror Company, no date (LAPL Photograph Collection)



Figure 26: The second home Los Angeles Times and Times Mirror Company at the northeast corner of W. 1st Street and S. Broadway, 1887 (Water and Power Associates)

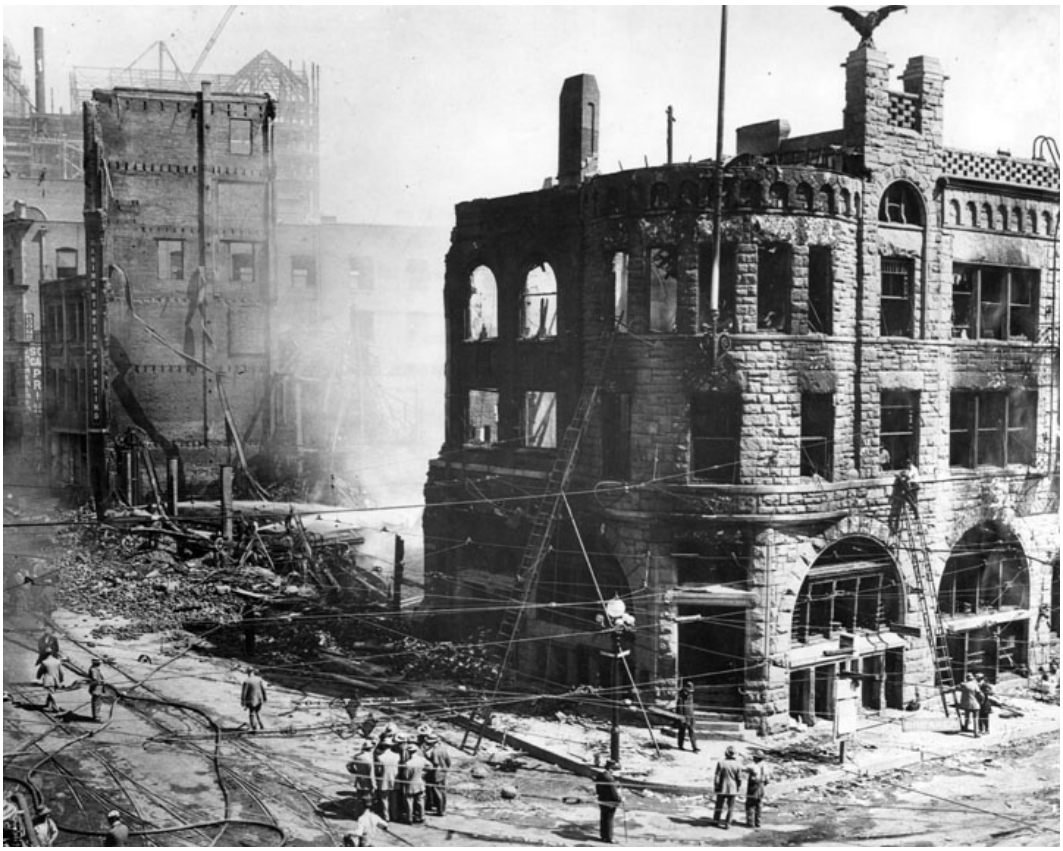

Figure 27: Remains of the bombed-out Los Angeles Times and Times Mirror Company Building, 1910 (Water and Power Associates)



Figure 28: The third home of the Los Angeles Times and Times Mirror Company, view during parade looking north on S. Broadway, 1920s (Water and Power Associates)



Figure 29: The previous home of the newspaper and company was demolished after the Times-Plant Complex was constructed, 1937 (Water and Power Associates)

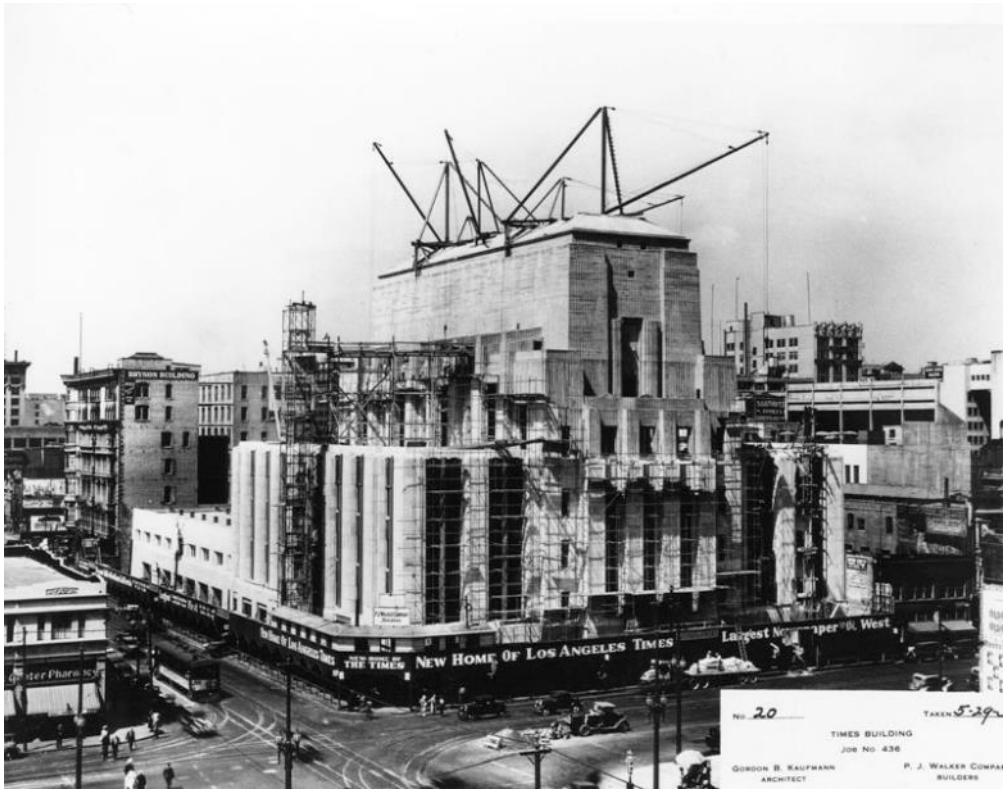

Figure 30: Times-Plant Complex under construction, view looking northwest, 1934 (Water and Power Associates)



Figure 31: Times-Plant Complex under construction, view looking north on S. Spring Street, 1934 (Water and Power Associates)



Figure 32: Times-Plant Complex, view looking north on S. Spring Street, 1939 (Water and Power Associates)



Figure 33: Times-Plant Complex, view looking south on S. Spring Street, circa 1945 (Water and Power Associates)



Figure 34: Mirror Building under construction, July 1947
(Huntington, Dick Whittington Studio)



Figure 35: Mirror Building under construction, February 1948
(Huntington, Dick Whittington Studio)



Figure 36: Mirror and Plant Buildings, 1948 view looking south on S. Spring Street (Getty Research Institute, Julius Shulman Collection)

4. IDENTIFICATION OF DESIGNATED AND POTENTIAL HISTORICAL RESOURCES

4.1 Study Area

The study area was identified as the Project site and the adjacent parcels within a 550-foot radius. In addition to the individual historical resources and the potential historic district identified on the Project site, three historical resources were identified within the study area to the north, northeast, and southeast of the Project site: the Los Angeles Civic Center Historic District, Los Angeles City Hall, and Higgins Building. These three historical resources within the study area are described below.

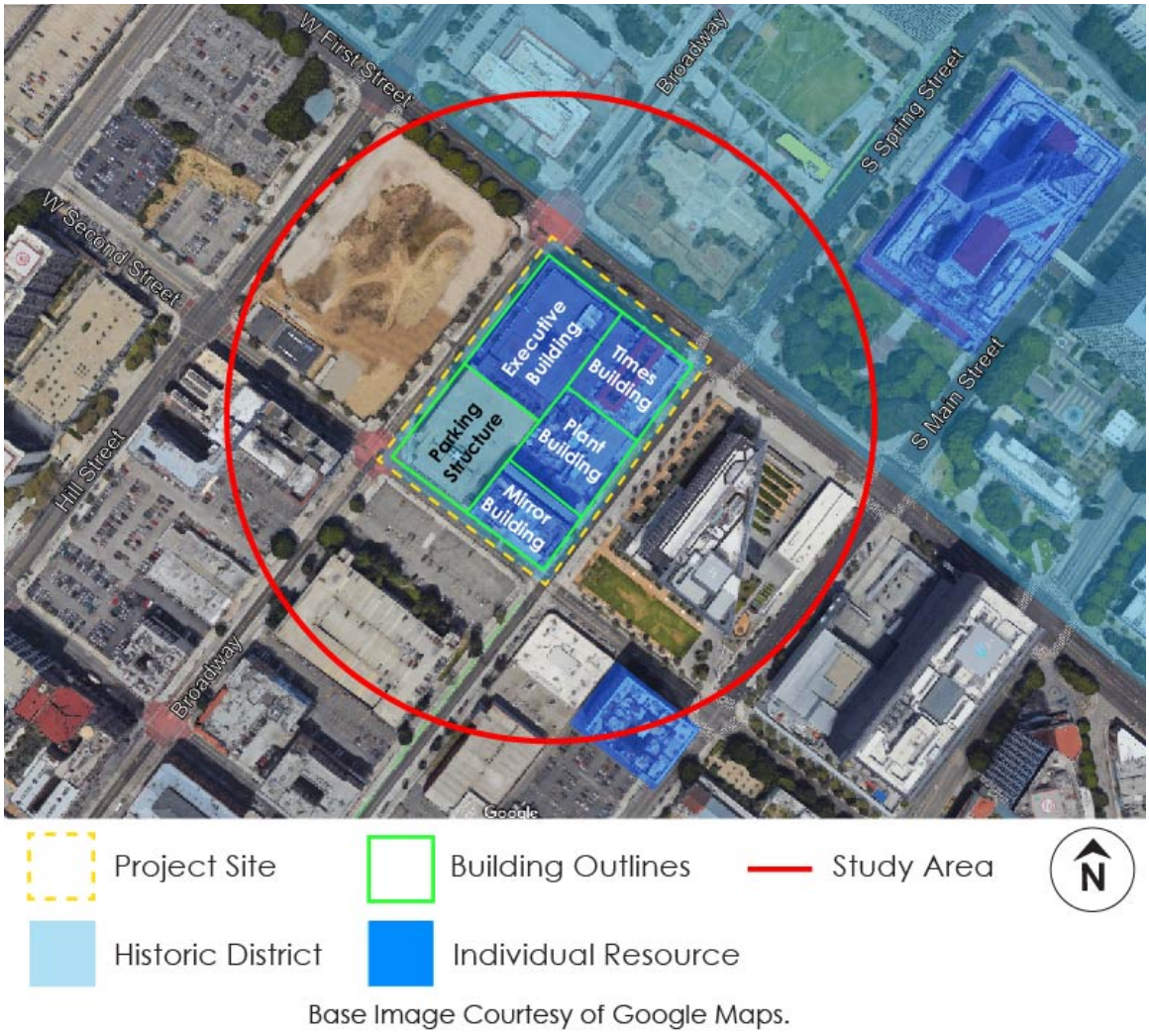

Figure 37: Historical Resources in Study Area

4.1.1 Los Angeles Civic Center Historic District

The Los Angeles Civic Center Historic District (Historic District) is a historical resource subject to CEQA. It was evaluated in 2009 as part of the Regional Connector Transit Corridor project, and was formally determined eligible for listing in the National Register through the Section 106

review process for the Regional Connector Transit Corridor Project in 2010. Consequently, it is listed in the California Register.

The Historic District is a closely built, informally organized complex of government buildings, structures, and landscapes located between W. Temple Street on the north, W. 1st Street on the south, N. Figueroa Street on the east, and S. San Pedro Street on the west. It is comprised of 18 contributing buildings and other related site features that collectively are the nucleus of government operations in Los Angeles. These include the John Ferraro/Department of Water and Power Building (1965); Los Angeles Music Center buildings and landscape, including the Dorothy Chandler Pavilion (1964), Mark Taper Forum (1968), Ahmanson Theatre (1968), and all associated landscape features and public art pieces; Kenneth Hahn Hall of Administration (1960); Stanley Mosk Courthouse (1958); El Paseo de las Pobladores de Los Angeles (1966); Central Heating and Refrigeration Plant (1958); Los Angeles County Hall of Records (1962); Court of Historic American Flags (1971); Los Angeles County Law Library (1953); Hall of Justice (1925); Clara Shortridge Foltz Criminal Justice Center (1972); United States Courthouse and Federal Building (1940); Los Angeles City Hall (1928); City Health Building/City Hall East (1954); Federal Building (1965); Parker Center (1955); historic streetlights on Los Angeles Street and Main Street; and two air raid sirens. The period of significance is 1925 to 1972, the period between the construction of the Hall of Justice (1925) to the construction of the Criminal Justice Center (1972).



Figure 38: Los Angeles County Law Library, view looking northwest from Project site at W. 1st Street and S. Broadway

The parcels within the Historic District that are across W. 1st Street from Times Mirror Square include the Los Angeles County Law Library, the site of the demolished State Office Building, and City Hall Park, a landscaped lawn to the south of Los Angeles City Hall. The Los Angeles County Law Library is a one- and three-story, split-level concrete office building located on the northwest corner of W. 1st Street and Broadway, catty-cornered to Times Mirror Square. The building was constructed in 1953 and designed by the architecture firm, Austin, Fields & Fry. It contributes to the significance of the Historic District for its association with the historic planning and development of the Civic Center in the 1950s and for its architectural design as a prominent example of a civic building with Modernist geometric details. The parcel directly across W. 1st Street from Times Mirror Square between S. Broadway and N. Spring Street is the site of the demolished State Office Building and therefore, does not contribute to the Historic District because it is vacant and unimproved. The First and Broadway Civic Center Park is currently under development on this parcel. Los Angeles City Hall and its associated park are located to the northeast of Times Mirror Square and contribute to the significance of the Historic District. City Hall is also an individual historical resource and is discussed in more detail below. The other contributing buildings are so far removed from the Project site that there is no potential for impact.

4.1.2 Los Angeles City Hall

Los Angeles City Hall is a historical resource subject to CEQA because it was formally determined eligible for listing in the National Register through the Section 106 process for the Downtown People Mover Program in 1978, and therefore, was automatically listed in the California Register. The building was designated as a HCM (No. 150) by the City of Los Angeles in 1976. It also contributes to the Los Angeles Civic Center Historic District (see Section 4.1.1 above).



Figure 39: Los Angeles City Hall view looking northwest from Project site at W. 1st Street and S. Broadway

City Hall is a 29-story, monumental government building with Classical and Mediterranean style elements completed in 1928. Designed by John Parkinson, Albert C. Martin, and John C. Austin, the building and associated landscaping comprise an entire city block between W. Temple Street on the north, W. 1st Street on the south, S. Main Street on the east, and S. Spring Street on the west. It is a steel-framed building clad in white glazed terra cotta with four major masses, including the base, central tower with pyramidal apex, and flanking low-rise office wings. Its rectangular plan oriented to the Downtown street grid is surrounded by lawns and landscaping. The steps from the south entrance to City Hall lead to a park, which is located across W. 1st Street directly to the northeast of Times Mirror Square. This park has tile and concrete paving, decorative ornamental lampposts, and landscaping that consists of mature trees, grass, and small plantings. In 2017, the park was re-landscaped to reduce water consumption. At that time the lawns were reduced and beds of succulents were added. There is also a memorial fountain at the center of the park dedicated to Frank Putnam Flint. City Hall is an important and widely recognized landmark. It is significant for its association with the development of Los Angeles, and the history, planning, and development of the Los Angeles City government. It is also significant for its architectural design, and as an important example of the work of Parkinson, Martin, and Austin.

4.1.3 Higgins Building

The Higgins Building is a historical resource subject to CEQA because it was individually designated as a HCM (No. 873) in 2007. The building is located southeast of Times Mirror Square at 108 W. 2nd Avenue between S. Spring Street and S. Main Street. It is a 10-story Beaux Arts-style building clad in reinforced concrete with decorative elements arranged in a classic base-shaft-capital composition. Developer Thomas P. Higgins commissioned architect Arthur L.



Figure 40: Higgins Building, view looking southeast from Project site at W. 2nd and S. Spring Streets

Haley and engineer Albert C. Martin to design the structure, which was completed in 1910. The Higgins Building is significant for its association with the development of Downtown Los Angeles, and as an excellent example of Beaux Arts architecture. It is also significant as an important early work by master architect Arthur L. Haley, and as a significant example of early monolithic concrete construction in a high-rise building.

4.2 Project Site

During the field inspection and research phases of this report, it was determined that Times Mirror Square, the Project site, should be evaluated as a potential historic district. In addition, there was one designated historical resource requiring re-evaluation, one designated historical resource not requiring re-evaluation, and two potential historical resources requiring evaluation for the first time:

- The Times Building was formally determined eligible for listing in the National Register in 1978, but the scope and details of the evaluation were unclear. Properties that are formally determined eligible for listing in the National Register are automatically listed in the California Register. However, it was unclear if the 1978 evaluation included the adjoining Plant Building, and periods of significance were not defined. As a result, the Times and Plant Buildings, known jointly as the Times-Plant Complex, are re-evaluated below to gain a better understanding of significance, appropriate periods of significance, and to properly identify character-defining features.
- The Mirror Building was formally determined eligible for listing in the National Register in 2010. Properties that are formally determined eligible for listing in the National Register are automatically listed in the California Register. The scope and details of the previous evaluation were well defined, so it was not re-evaluated. The evaluation is summarized below.
- The Executive Building was identified as appearing eligible for listing in the California Register and for designation as a HCM by SurveyLA. It is fully evaluated as an individual potential historical resource below.
- While the Parking Structure was included within the boundaries of Times Mirror Square, which was identified as a potential historic district by SurveyLA, it was not identified or evaluated individually at that time.
- Times Mirror Square was identified as appearing eligible for listing in the National and California Registers and for designation as a HPOZ by SurveyLA. It is fully evaluated as a potential historical district below.

4.2.1 Times-Plant Complex

National Register Evaluation

The Times Building and the Plant Building were considered jointly as one historical resource with two contributing buildings, instead of two individual resources, for the following reasons: both buildings were built at the same time and designed by the same architect, and while their structures are separated by a 6-inch seismic joint, they have always been internally connected and used for purposes directly related to publishing the *Los Angeles Times* newspaper.

The Times-Plant Complex, consisting of the Times Building and the Plant Building, is eligible for listing in the National Register under Criterion A for the period of 1935 to 2000 for its direct association with the *Los Angeles Times* and the history of newspapers and publishing in Los Angeles. It is also eligible under Criterion B for the periods of 1935 to 1944, 1936 to 1968, and 1960 to 1972 for its direct associations with significant *Los Angeles Times* publishers and businessmen Harry Chandler, Norman Chandler, and Otis Chandler. Additionally, the complex is eligible under Criterion C for the period of 1935 as a significant example of PWA Moderne architecture and as a representative work of master architect Gordon B. Kaufmann. And finally, the lobby of the Times Building is eligible under Criterion C for possessing high artistic value. The Times-Plant Complex retains integrity from its various periods of significance. Because it possesses both significance and integrity, it is a historical resource subject to CEQA. The following paragraphs provide a detailed evaluation under each criterion, as well as an analysis of integrity.

Criterion A

In order to qualify under Criterion A, a property must be associated with events or trends that have made a significant contribution to the broad patterns of our history. The *Los Angeles Citywide Historic Context Statement* was used to determine the relevant context for the re-evaluation of the Times-Plant Complex under Criterion A. The most applicable sub-context within the Public and Private Development Context is Newspapers and Publishing.

The *Los Angeles Times* was first published on December 4, 1881, under the name *Los Angeles Daily Times*. When the original founders ran into financial problems the following year, the fledgling newspaper was inherited by its printer, the Mirror Printing Office and Book Binding Company. The company hired as editor former military officer Harrison Gray Otis, who quickly turned the *Los Angeles Daily Times* into a financial success. Otis and a partner purchased the newspaper and company in 1884 and incorporated them as a new company, the Times-Mirror Company. Two years later, Otis purchased his partner's interest in the company. In October 1886, the word "Daily" was removed from the title and the newspaper became the *Los Angeles Times*.

In 1914, Otis transferred his controlling interest in the *Los Angeles Times* to his daughter and son-in-law, Marian and Harry Chandler; however, he continued to direct the day-to-day operations until his death in 1917.[30] Although Harry Chandler then took over as publisher of the *Los Angeles Times*, he was first and foremost a businessman. His real estate holdings extended from the Baja Peninsula in Mexico to the El Tejon Ranch in the pass to central California. He was a major figure in the development of the San Fernando Valley, making a fortune in the process.

The Times-Plant Complex was constructed in 1935 to house the *Los Angeles Times* under the direction of Chandler. Like his father-in-law before him, Chandler used the paper to promote a singularly Republican agenda favoring rapid economic growth and opposing unionized labor.[31] The paper's top competitors in the 1930s included William Randolph Hearst's pro-union *Los Angeles Examiner*, an afternoon paper called the *Los Angeles Express*, and a partisan Democratic paper run by Manchester Boddy called the *Los Angeles Daily News*.

In 1944, Harry Chandler died and his son Norman succeeded him as chairman of the Times Mirror Company and publisher of the *Times.* Norman continued the paper's Republican, pro-growth,

[30] Marshall Berges, *The Life and Times of Los Angeles* (New York, NY: Atheneum, 1984), 33.
[31] David Halberstam, *The Powers That Be: Within the Kingdom of the Media* (New York, NY: Alfred A. Knopf, 1979), 108.

anti-union agenda. By 1947, the *Times* was the top newspaper in the city in terms of circulation. To further its market domination, the Times Mirror Company launched the *Los Angeles Mirror*, an afternoon paper, in 1948 to compete directly with Hearst's *Herald-Express* and Boddy's *Daily News*. The strategy worked, at least in part: the *Mirror* absorbed the *Daily News* just four years later, eliminating one of its biggest competitors.

In the 1950s, Hearst and Chandler battled for newspaper dominance in Los Angeles. The *Herald-Express*, though it started as a pro-union force, became increasingly conservative in the 1940s and 1950s and thus attracted some of the *Times* reader base. In 1962, the *Herald-Express* became the *Herald Examiner*, and in a surprising move, chose to circulate in the afternoon only, leaving the *Los Angeles Times* as the city's only major morning paper. The *Herald Examiner* succeeded for a few years, but eventually its circulation began a rapid decline, while the *Times'* circulation soared. In the late 1960s, *Herald Examiner* workers began a strike that would last an entire decade, further signaling the paper's ultimate demise in 1989.

Meanwhile, the *Times* entered a new era in the 1960s under the leadership of Otis Chandler, Norman's son. When Otis began his tenure as publisher in 1960 he replaced the heads of nearly all of the paper's departments and transformed its prescribed role from right-wing promotional machine to purveyor of serious, unbiased journalism. The paper that was infamously considered the "second worst newspaper in America" in 1957 quickly became one of the leading papers in the country, not just in terms of readership, but in terms of integrity, as well.

Table 2: Important Events in Newspapers and Publishing
Context: Public and Private Institutional Development
Sub-Context: Newspapers and Publishing
Theme: Important Events in Newspapers and Publishing
Eligibility Standards
• Was the founding or long-term location of a publication significant in the history of the press in Los Angeles
Character-Defining/Associative Features
• For National Register, properties associated with events that date from the last 50 years must possess exceptional importance
• Retains most of the essential character-defining features from the period of significance
• Publication may be located in a building designed for another use
• Publication must have occupied the property for a significant period in its history, if it is not the founding location
Integrity Considerations
• Should retain integrity of Location, Feeling, Design, and Association from the period of significance
• Integrity is based on the period during which the significant publication occupied the property
• Setting may have changed

In addition to becoming a Pulitzer Prize-winning institution, the *Los Angeles Times* remained a financial success under Otis' direction and after his departure in 1980, far outlasting its greatest competitors. In 2000, the descendants of the Chandler family sold the paper to the Chicago-based Tribune Company, ending nearly 120 years of family ownership. The Times-Plant Complex is the oldest extant headquarters of the *Los Angeles Times*. The paper originally operated out of a small brick building located at the corner of Temple and New High (now Spring) Streets in

Downtown Los Angeles. Its second location was at the northeast corner of W. 1st Street and S. Broadway, across W. 1st Street from Times Mirror Square. This location was bombed by union leaders in 1910 in response to the paper's anti-union stance. In 1911, construction began on a new headquarters building on the same site. Finally, in 1934, Harry Chandler initiated the construction of the current Times and Plant Buildings, designed by Gordon B. Kaufmann and completed in 1935. The complex remains the center of the *Los Angeles Times* newspaper operations to the present day, despite the change in parent company ownership in 2000.[32] As the longest running and at various times most prominent newspaper in Los Angeles, the *Los Angeles Times* is undoubtedly significant within the history of the city's press. The Times-Plant Complex has a clear and direct association with the *Times* as it is the paper's oldest extant headquarters. Thus, it meets the eligibility standards for the Newspapers and Publishing Sub-Context listed in **Table 3.** The buildings represent multiple periods in the paper's history, and in doing so represent the history of the city itself. As a result, the Times-Plant Complex is significant under Criterion A with a period of significance of 1935, the year the buildings were constructed, to 2000, the year the Tribune Company purchased the Times Mirror Company and by extension the *Los Angeles Times*.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past. As the Times-Plant Complex has continuously functioned as the headquarters of the *Los Angeles Times* for almost 80 years, it was the workplace for numerous journalists, editors, and publishers over time. Of these, three stand out as potentially significant individuals: the three Chandler publishers Harry, Norman, and Otis. All three had offices in the Times Building for several years during their tenures.

Harry Chandler became publisher of the *Times* in 1917 following the death of his father-in-law, Harrison Gray Otis. Chandler and Otis were not just related; they were friends and business partners with the same interests: Republican politics, union opposition, and economic growth. As a result, when Otis died, Harry continued the partisan reporting and agenda pushing initiated by his predecessor decades earlier. His contributions to the *Times* and the press, therefore, were unremarkable. Harry's real vocation was real estate development, not publishing, and real estate is the field in which he made his most significant contributions to Los Angeles history. He was one of the partners in the 1905 plan to build the Los Angeles Aqueduct, which delivered water to the San Fernando Valley using money provided by city taxpayers, even though the valley was not part of the city at the time. The scheme, notoriously fictionalized in the film *Chinatown*, led to the development of the valley and its ultimate annexation into the city. Harry was also the developer behind such major real estate projects as the suburban community of the Hollywood Hills (originally Hollywoodland) in the 1920s and the town of Dana Point in Orange County. As one of Los Angeles's most prominent and powerful business leaders, he played a role in luring major auto manufacturers to the city and investing in Douglas Aircraft, sparking the development of the aerospace industry in Southern California in the 1920s. Harry was also involved in the development of numerous Los Angeles landmarks, such as the Los Angeles Coliseum for the 1932 Olympic Games and Santa Anita Racetrack in 1934.

[32] During the preparation of this report, new ownership was in the process of acquiring the *Los Angeles Times* and moving its operations to new headquarters.

The Times-Plant Complex has been called Harry's "last great real estate deal."[33] The deal involved selling the 1911 *Los Angeles Times* building at 1st and Broadway to make way for a new rail station on the site. A battle erupted over the purchase price for the property, which Harry pursued all the way to the State Supreme Court. He settled for $1.19 million, a large sum in the midst of the Great Depression, and built the current Times-Plant Complex. Although the old headquarters were ultimately demolished, Los Angeles County supervisors chose a different site in Chinatown for the rail station, conveniently located near some of Harry's other real estate holdings, which subsequently climbed in value.[34]

Table 3: Commercial Merchants, Leaders and Builders
Context: Commercial Development
Theme: Commercial Merchants, Leaders and Builders
Eligibility Standards
• Individual must be proven to have made an important contribution to commercial development in Los Angeles • Directly associated with the productive life of the individual in the area of commercial development
Character-Defining/Associative Features
• For National Register, properties associated with events that date from the last 50 years must possess exceptional importance
• Retains most of the essential character-defining features from the period of significance
• Individual must have resided in the property during the period in which he or she achieved significance
Integrity Considerations
• Should retain integrity of Location, Feeling, Design, and Association from the period of significance
• Integrity is based on the period during which the significant person occupied the property
• Setting may have changed

For his many contributions to Los Angeles development, both famous and infamous, it is clear that Harry Chandler is significant in the Commercial Development Context and Commercial Merchants, Leaders and Builders Theme within the *Los Angeles Citywide Historic Context Statement*. The productive period of his life for which he is significant began in 1905 with the aqueduct project and continued until his death in 1944, although his influence waned in the late 1930s and 1940s when both his health and public approval declined. Harry commissioned the construction of the Times and Plant Buildings. They represent one of his last major real estate deals and housed his personal office from 1935 to 1944. As a result, the Times-Plant Complex meets eligibility standards listed in **Table 3** for the Commercial Merchants, Leaders and Builders Theme for its direct association with Harry Chandler, an important businessman in the history of Los Angeles and Southern California. Therefore, the Times-Plant Complex is significant under Criterion B with a period of significance of 1935, the year the buildings were constructed, to 1944, when Harry Chandler died.

In 1944, Norman Chandler officially took over as publisher of the *Times*. He had been the general manager of the Times Mirror Company since 1936 and president since 1941, when his father

[33] Dennis McDougal, *Privileged Son: Otis Chandler and the Rise and Fall of the L.A. Times Dynasty* (Cambridge, MA: Perseus Publishing, 2001), 128.
[34] McDougal, 130.

appointed him to the position. Like Harry, Norman had the mind of a businessman. The paper's circulation was diminishing when Norman took over, yet by 1947, it had the highest circulation in the city, beating out Hearst and other rivals.[35] The increased circulation led to increased advertising revenue and profits which would last through the 1950s.

While Norman's business savvy made the paper a financial success, the *Times* was still considered a journalistic failure.[36] It continued to offer only biased, one-sided news coverage that provoked NBC news anchor Chet Huntley to exclaim in 1958 that he would "always read the *Los Angeles Times* and know that I can be reasonably accurate by going 180 degrees in the other direction."[37] Norman attempted to improve the quality of the journalism by naming Nick Williams as managing editor. Williams joined the staff of the *Times* in 1931 as a copy editor, and was considered to be a gifted writer.[38] While Williams made modest gains in providing more balanced reporting, progress was slow as Norman did not increase the budget for more or better reporters. As a result, Norman's significant achievements were in the newspaper and publishing business, not journalism. He rescued the paper from declining readership and revenue in the 1940s and enabled its survival. He also spearheaded employee benefit programs, such as medical insurance, a pension plan, and an emergency fund, long before they were the norm in American business. Under Norman's management, the Times Mirror Company grew to become a media conglomerate. In 1948, in addition to launching the *Mirror*, Times Mirror formed a joint partnership with CBS to start the television station KTTV, and purchased the Publishers Paper Company in Oregon. In 1960, Norman stepped down as the publisher of the Times and Mirror to spend more time managing the parent company. He began a series of major acquisitions that included: Jeppesen Sanderson, the world's leading publisher of air navigation information and flight-training systems, in 1961; H.M. Goush Company, a producer of travel maps, also in 1961; Matthew Bender & Company, the largest publisher of legal forms and treatises in the U.S., in 1963; Year Book Medical Publishers, publishers of medical reference books, in 1965; Harry A. Abrams, Inc., the New York-based publisher of art books, in 1966; and C.V. Mosby Company, the leading publisher of health and science books, in 1967. The company's entrance into magazine publishing came in 1967 when it acquired *Popular Science, Outdoor Life, Golf Magazine,* and *Ski Magazine*. In 1968, Franklin David Murphy, former chancellor of the University of California at Los Angeles, was hired as the chief executive officer and replaced Norman as the chairman of Times Mirror.[39]

The Times-Plant Complex meets the eligibility standards for the Newspapers and Publishing Sub-Context for its direct association with Norman Chandler, listed in **Table 4**. His business acumen propelled the Times Mirror Company from a local business with one newspaper to a national enterprise with a variety of publishing and media companies. His period of significant work began in 1936, when he took on a leadership role as general manager of the *Times*, and lasted until 1968, when he retired as the chairman of Times Mirror. Norman's office was located in the Times Building throughout this period. While the Mirror Building was built in 1948 during his tenure,

[35] "The Times' 128-Year History," http://www.latimes.com/about/mediagroup/la-mediacenter-milestones,0,1502162.story?page=2#axzz2vgpZhT1R, accessed July 18, 2017.
[36] Berges, 73-74.
[37] McDougal, 219.
[38] David Shaw, "Nick B. Williams, Former Editor of the Times Dies," *Los Angeles Times*, July 2, 1992. Williams retained his position when Otis Chandler became the publisher, and the two of them transformed the reputation of the paper from mediocrity to excellence; Berges, 75-77; and Halberstam, 283-86.
[39] Margaret Leslie Davis, *The Culture Broker: Franklin D. Murphy and the Transformation of Los Angeles* (Berkeley, CA: University of California Press, 2007), 119-20.

it was not used for executive offices. Rather, it was used for press rooms, mail rooms, department offices, television offices, and rental space.[40] Therefore, as Norman Chandler's place of business, the Times-Plant Complex appears to be significant under Criterion B.

Table 4: Important Persons in Newspapers and Publishing
Context: Public and Private Institutional Development: Newspapers and Publishing
Theme: Important Persons in Newspapers and Publishing
Eligibility Standards
• Individual must be proven to have made an important contribution to the history of the press at the local, state, or national levels
• Directly associated with the productive life of the person who made important contributions to the history of the press
Character-Defining/Associative Features
• For National Register, properties associated with events that date from the last 50 years must possess exceptional importance
• Retains most of the essential character-defining features from the period of significance
Integrity Considerations
• Should retain integrity of Location, Feeling, Design, and Association from the period of significance
• Integrity is based on the period during which the significant person occupied the property
• Setting may have changed

When Otis Chandler assumed control of the *Times* in 1960, he instituted widespread, unprecedented changes that would transform the paper's negative reputation without hurting its profits. Otis replaced the heads of nearly all of the paper's departments and changed its focus from white, right-wing, conservatism to unbiased, hard-nosed journalism. He also expanded the paper's operations internationally, creating numerous foreign bureaus. Otis has been widely recognized as one of the most important newspaper publishers in the U.S., along with Henry Luce and Katherine Graham. As his *New York Times* obituary in 2006 explained, he transformed the *Los Angeles Times* into "one of the most respected, widely read and profitable newspapers in the United States," and he accomplished this in a very short period of time, considering the paper had eight decades of partisan history behind it.[41] In 1980, at the age of 52, Otis stepped down as publisher, although he remained associated with the Times Mirror Company until 1985.

As a result, the Times-Plant Complex meets the eligibility standards for the Newspapers and Publishing Sub-Context listed in **Table 4** for its direct association with Otis Chandler who was important in the history of the press in Los Angeles and the country at large. The Times-Plant Complex is directly associated with Otis for 12 of his 20 years at the helm, and it is significant under Criterion B as such. The period of significance is 1960 to 1972, when he worked out of the Times Building.

Criterion C

To be significant under Criterion C, a property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic

[40] "New Building for Los Angeles Times Ready in Fall," *Architectural Record*, 32-1.
[41] Jonathan Kandell, "Otis Chandler, Publisher Who Transformed Los Angeles Times, Dies at 78," *New York Times*, February 28, 2006.

values, or represent a significant and distinguishable entity whose components may lack individual distinction. The Times-Plant Complex was designed in the PWA Moderne style of architecture by Gordon B. Kaufmann. Its sculptures and murals were designed by Merrell Gage and Hugo Ballin, respectively. Within the *Los Angeles Citywide Historic Context Statement*, the PWA Moderne style is a Sub-Theme in the Architecture and Engineering Context and L.A. Modernism Sub-Context.

The Times-Plant Complex is an excellent example of PWA Moderne architecture from the 1930s. The PWA Moderne style developed during the Great Depression as part of various government relief projects sponsored by the Public Works Administration. The government created jobs for architects by putting them to work, designing civic buildings such as post offices, train stations, public schools, bridges, and dams throughout the United States. The style typically exhibited stripped Classical motifs and integrated art including murals, mosaics, and sculptures created by artists also employed by the PWA.

The Times Building is the more ornate and stylized of the two buildings. It possesses many of PWA Moderne's character-defining features, including a symmetrical façade, strong vertical emphasis, thick walls clad with smooth stone and granite, a band of sunbursts, sculptures and carved details, decorative spandrels, and a stepped massing with a central tower. The features are employed with expertise and rendered in beautiful, rich materials. Overall, the Times Building exhibits very high quality of design. The Plant Building exhibits the same basic materials and symmetry as the Times Building, and although it does not have the same elaborate details, it complements the Times Building while reflecting its original industrial use. As a whole, the Times-Plant Complex meets the eligibility standards for the PWA Moderne listed in **Table 5**. As a result, the Times-Plant complex is significant under Criterion C for embodying the distinctive characteristics of the PWA Moderne style. The period of significance is the date of construction, 1935.

Both buildings are the work of master architect Gordon B. Kaufmann. Master architects were not identified in the Architecture and Engineering Context, thus there are no eligibility standards. Kaufmann, however, is widely recognized as one of the best architects working in Los Angeles from the 1910s through the 1940s. In his early career, he perfected his interpretation of the Spanish Colonial and Mediterranean Revival styles, which were very popular at the time. In the late 1920s, he transitioned into the Art Deco and PWA Moderne styles with buildings like the Royal Laundry (1927) in Pasadena, Santa Anita Park (1934) in Arcadia, and the Times and Plant buildings (1935) at Times Mirror Square.[42] Later in the 1930s, Kaufmann's style evolved a step further into Streamline Moderne as evidenced by San Pedro High School (1936) and the Hollywood Palladium (1940).[43]

The Times Building represents Kaufmann's most impressive PWA Moderne design before he transitioned into the curved edges and glass block synonymous with the Streamline Moderne. It is a striking composition that stands out as an important example of his work in the 1930s. The Plant Building, though not one of Kaufmann's most important buildings individually, complements the Times Building and contributes to the design of the resource as a whole. Thus, the Times-Plant Complex is significant under Criterion C as the work of master architect Gordon

[42] Jan Furey Muntz, "Gordon B. Kaufmann: California Classicism," in *Johnson, Kaufmann, Coate: Partners in the California Style*, edited by Jan Bellolli and Lauren Weiss Bricker (Claremont: Scripps College, 1992), 32-37.
[43] Ibid., 37-39.

B. Kaufmann with a period of significance of 1935, the date of the design Kaufmann, however, is widely recognized as one of the best architects working in Los Angeles from the 1910s through the 1940s. In his early career, he perfected his interpretation of the Spanish Colonial and Mediterranean Revival styles, which were very popular at the time. In the late 1920s, he transitioned into the Art Deco and PWA Moderne styles with buildings like the Royal Laundry (1927) in Pasadena, Santa Anita Park (1934) in Arcadia, and the Times and Plant buildings (1935) at Times Mirror Square.[44] Later in the 1930s, Kaufmann's style evolved a step further into Streamline Moderne as evidenced by San Pedro High School (1936) and the Hollywood Palladium (1940).[45]

Table 5: PWA Moderne, 1928-1945
Context: Architecture and Engineering
Context: L.A. Modernism
Theme: Related Responses to Modernism
Sub-Theme: PWA Moderne, 1928-1945
Eligibility Standards
• Retains the essential character-defining features of the PWA Moderne style from the period of significance
• Was constructed during the period of significance
• Exhibits quality of design through distinctive features
Character-Defining/Associative Features
• Emphasis on verticality
• Flat roofs
• Formal symmetry and massing
• Smooth wall surfaces, such as stucco, marble, terrazzo, polished stone (and brick, although rare)
• Pier supports (rather than columns)
• Windows arranged in vertical recessed bays
• Stripped appearance with minimal ornamentation, including some zigzags, medallions, or plaster reliefs
• May have regional influence, exhibiting characteristics of the Spanish Colonial Revival or Mediterranean Revival style
Integrity Considerations
• Replacement of some windows and doors may be acceptable if the openings have not been resized and original fenestration patterns have not been disrupted
• Original use may have changed
• Setting may have changed
• Location, may have been moved for preservation purposes

The Times Building lobby includes sculptures, murals, and other decorative features, which constitute a cohesive work of art. The intricate, detailed pieces created by Gage and Ballin are truly outstanding, as are the marble columns, walls, and floors. As a result, the Times Building lobby is significant under Criterion C for possessing high artistic value. The period of significance is 1935, the date of the design.

[44] Ibid., 32-37.
[45] Ibid., 37-39.

Criterion D

Criterion D was not considered in this report, as it generally applies to archaeological resources and this report only pertains to historical resources that are part of the built environment. Refer to Appendix C-2 of the DEIR for the Phase I Archaeological and Paleontological Resources Report.

Integrity

To be eligible for listing in the National Register, properties must retain their physical integrity from the period in which they gained significance. In the case of architecturally significant properties, the period of significance is normally the date of construction. For historically significant properties, the period of significance is usually measured by the length of the associations. The Times-Plant Complex has multiple periods of significance: under Criterion A the period of significance is 1935 to 2000; under Criterion B there are three periods of significance is 1935 to 1944, 1936 to 1968, and 1960 to 1972 for the first three publishers; and under Criterion C the period of significance is 1935. While some factors of integrity are more important than others depending on the property, a majority of the seven recognized factors should be retained. The Times-Plant Complex retains its integrity of location, workmanship, feeling, and association for each period of significance. Its integrity of design and materials has been diminished by the construction of the roof top additions on the Plant Building and interior alterations to the Times Building and Plant Building with regard to Criterion B and C, but not Criterion A. The immediate setting of the Times Building in particular changed dramatically with the construction of the Executive Building. The Executive Building replaced one and two-story buildings and enveloped an eight-story building. While the scale of the two buildings is similar, the design of the Executive Building is physically imposing on the Times Building. The broader setting of the Times-Plant Complex also changed with the redevelopment of the surrounding blocks. Integrity of setting, however, is not essential to eligibility under Criterion B and C. Despite the alterations and additions, the Times-Plant Complex retains integrity as a whole under Criteria A, B, and C for each period of significance.

California Register Evaluation

The Times-Plant Complex was automatically included in the California Register when it was signed into law in 1992. The California Register was modeled on the National Register. The criteria for eligibility for listing in the California Register are virtually the same as the National Register. Therefore, the Times-Plant Complex remains eligible for listing in the California Register for the same reasons noted above.

4.2.2 Mirror Building

National Register Evaluation

The Mirror Building was evaluated by SWCA Environmental Consultants in 2009 as part of the Regional Connector Transit Corridor Project. The evaluation concluded that the building was eligible for listing in the National Register under Criteria A, C, and D. As such, it is a historical resource subject to CEQA. The following paragraphs summarize the 2009 evaluation and provide some suggestions for minor revisions. A copy of the 2009 inventory forms is located in **Appendix A**.

The Mirror Building is eligible under Criterion A for its direct association with the Times Mirror Company and the history of the press in Los Angeles. The period of significance identified on the

2009 inventory form for this criterion extends from 1948 to 1959. While the 1948 start date is accurate as it relates to the year of construction, a more appropriate end date would be 1962 when the Times Mirror Company ceased publication of the *Times*' afternoon edition, the *Los Angeles Mirror*. The building was constructed to house the *Mirror*'s offices, and as a result, its significance is most accurately reflected by the time period associated with the *Mirror's* publication.

Table 6: Late Moderne, 1936-1960
Context: Architecture and Engineering
Context: L.A. Modernism
Theme: Related Responses to Modernism
Sub-Theme: Late Moderne, 1936-1960
Eligibility Standards
• Retains the essential character-defining features of the Late Moderne style from the period of significance
• Was constructed during the period of significance
• Exhibits quality of design through distinctive features
Character-Defining/Associative Features
• Horizontal orientation
• Flat or nearly flat roofs
• Smooth stucco cladding
• Unadorned wall surfaces with minimal ornamentation
• Windows "punched" into walls with no surrounds
• Horizontal bands of bezeled windows with projecting frames
• Metal, often steel sash, windows
Integrity Considerations
• Should retain integrity of Location, Feeling, and Association from the period of significance
• Replacement of some windows and doors may be acceptable if the openings have not been resized and original fenestration patterns have not been disrupted
• Original use may have changed
• Location, may have been moved for preservation purposes

The Mirror Building is eligible under Criterion C for embodying the distinctive characteristics of the Late Moderne style of architecture. The 2009 evaluation classifies the building as PWA Moderne, but Late Moderne is a more appropriate classification due to the building's 1948 construction date and design details. The eligibility standards for the Late Moderne Sub-Theme within the *Los Angeles Citywide Historic Context Statement* are listed in **Table 7.** The building is also eligible under Criterion C as the work of master architect Rowland H. Crawford. The period of significance under Criterion C is 1948, the date of construction.

The 2009 evaluation concluded that the site on which the Mirror Building is located is eligible under Criterion D, because of its CHL designation as the location of the Butterfield Stage Station. As the site of an important historical place, it has the potential to yield important information about the prehistory or history of the area. However, it should be noted that because the Mirror Building has multiple floors below grade, it is likely that any intact archaeological resources were disturbed or removed during its 1948 construction.

For a resource to be eligible for the National Register, it must reflect its appearance from its period of significance. The 2009 inventory form did not provide a detailed assessment of integrity

but concluded that the Mirror Building is able to convey its significance. The Mirror Building has multiple periods of significance and it reflects its appearance from each of them: under Criterion A the period of significance is 1948 to 1962 and under Criterion C the period of significance is 1948. Although the interior has been substantially altered, the exterior is essentially intact. The integrity of setting has changed with the construction of the Parking Structure and the redevelopment of the surrounding blocks. Integrity of setting, however, is not essential to eligibility under Criterion C.

California Register Evaluation

The Mirror Building was automatically included in the California Register when it was determined eligible for listing in the National Register in 2010. The California Register was modeled on the National Register. The criteria for eligibility for listing in the California Register are virtually the same as the National Register. Therefore, the Mirror Buildings remains eligible for listing in the California Register for the same reasons noted above.

4.2.3 Executive Building and Parking Structure

National Register Evaluation

The Executive Building and Parking Structure are ineligible for the listing in the National Register because they are not of exceptional significance, which is required for properties less than 50 years of age. The following paragraphs provide a detailed evaluation under each criterion, as well as an analysis of integrity.

Criterion A

In order to qualify under Criterion A, a resource must be associated with events or trends that have made a significant contribution to the broad patterns of our history. The *Los Angeles Citywide Historic Context Statement* was used to determine the relevant context for the evaluation of the Executive Building and Parking Structure under Criterion A. The most applicable sub-context within the Public and Private Development Context is Newspapers and Publishing.

The Executive Building and Parking Structure were constructed between 1970 and 1973 to house the executive offices of the Times Mirror Company, as well as office rental and bank space and parking spaces under the direction of Dorothy Chandler. Times Mirror was an American newspaper and print media publisher that grew to include televisions stations. It had its roots in the Mirror Printing and Binding House, established in 1873 primarily for commercial printing. In 1881, the Mirror Printing and Binding House agreed to print a new daily newspaper called the *Los Angeles Daily Times,* soon renamed the *Los Angeles Times*.[46] The publishers abandoned the project shortly after it was launched, although the printers kept the newspaper going. Seven months later, Harrison Gray Otis was named full-time editor.[47] In 1884, Otis and Colonel H.H. Boyce purchased both the newspaper and the printing company, incorporating them into The Times-Mirror Company.[48] The hyphen was dropped before long. Two years later, Otis bought out Boyce for full ownership of the company.

[46] Berges, 6, 12.
[47] Berges, 12.
[48] Berges, 13.

Before World War II, the *Los Angeles Times* remained the company's only newspaper. During this period, Harry Chandler was the publisher, but his main interest was real estate development. Norman Chandler assumed control over the company and the newspaper in 1944 after the death of his father. It was Norman who began to develop the company into a media empire. In 1948, Times Mirror made its first acquisition, the Publishers Paper Company. In the 1980s, Publishers Paper would emerge as the third-largest newsprint producer in the United States, and about 70 percent of the newsprint produced by Publishers Paper in the early 1990s was sold to Times Mirror.

By 1963, Times Mirror was expanding through the acquisition of art, legal, medical, and science book companies throughout the U.S. The purpose was to reduce the company's dependence on the *Los Angeles Times*.[49] To help execute his plans, Norman hired Albert V. Casey, former vice president and treasurer of Railway Express, a shipping company that used railroad infrastructure to make mail and parcel deliveries.[50] The Times Mirror went public in 1964, with the Chandlers as the largest stockholders. The company's entrance into magazine publishing came in 1967 with the acquisition of *Popular Science, Outdoor Life, Golf Magazine,* and *Ski Magazine*. Within 20 years of that acquisition, Times Mirror Magazines, Inc. had more than nine million readers and operated two national book clubs with annual sales in excess of two million books. Times Mirror's other strategic move came in 1968 when it purchased Co-Axial Systems Engineering Company and its seven cable franchises in Southern California.[51]

In 1968, Franklin David Murphy succeeded Norman Chandler as the chairman of the company. At this time, Times Mirror was only outranked by Time, Inc. and the McGraw Hill Book Company in the world of publishing and printing.[52] Murphy continued to expand the company with the formation of Times Mirror Broadcasting in 1970, which initially comprised KDFW-TV, Dallas, Texas; KTBC-TV in Austin, Texas; KTVI-TV in St. Louis, Missouri; WVTM-TV in Birmingham, Alabama; WHTM-TV in Harrisburg, Pennsylvania; WSTM-TV in Syracuse, New York; and WETM-TV in Elmira, New York.

Times Mirror kept returning to its newspaper roots, however, for acquisitions that strengthened both its editorial clout and revenue base. Between 1977 and 1984, it purchased the Southern Connecticut Newspapers Inc.; the Sporting News Publishing Company of St. Louis, Missouri; the *Hartford Courant* of Connecticut, the nation's oldest continuously published newspaper; the *Denver Post, and the* Call-Chronicle Newspapers, Inc., now *The Morning Call,* serving a nine-county region in eastern Pennsylvania and in New Jersey.[53]

In 1984, Times Mirror profits were at an all-time high and the company began a restructuring process that ended two years later in a flurry of buying and selling. After 1986, Times Mirror turned its attention to capital expenditures, particularly in its newspaper operations, where equipment had to be updated. In 1987 it launched a five-year $385 million capital investment plan, bringing a new plant and facilities to the *Los Angeles Times.* In 1987, David Laventhol succeeded Robert Erburu as president of *Times Mirror* although Erburu continued as chairman and chief executive officer of the company.

[49] Davis, 120.
[50] Davis, 121. Casey left Times Mirror in 1974 to become the chief executive officer of American Airlines.
[51] McDougal, 230-31.
[52] Davis, 120.
[53] McDougal, 342-43.

By 1990, Times Mirror had become the 12th-largest multiple cable system operator in the country and operated four network television affiliates. It spent $1.5 billion acquiring new businesses throughout the 1980s: $583 million on newspaper properties; $595 million on book, magazine, and other publishing acquisitions; $235 million on cable TV systems; and $82 million on broadcast properties. Capital expenditures during the decade totaled $2.53 billion–more than half of which was concentrated in its newspaper operations. During that same period, revenues grew from $1.87 billion to $3.52 billion.[54]

Notwithstanding the capital investments in the 1980s, Times Mirror's core newspaper segment, which continued to account for close to 60 percent of its overall corporate revenues, struggled. After revenues fell to a five-year low in 1994, Mark Willes was hired as the new chief executive officer. He began a process of downsizing the company by reducing jobs and selling assets. But there was no arguing with the economic reality that newspaper circulation was on the decline while newsprint prices and other costs continued to rise. In 2000, the Times Mirror Company was sold to the Tribune Company, making Los Angeles the largest city in the country without a locally owned daily newspaper.[55]

The Times Mirror Company is undoubtedly significant in the Sub-Context Newspapers and Publishing. It was one of the oldest and largest companies in Los Angeles before it was sold in 2000. Properties like the Executive Building that have achieved significance within the past 50 years, must meet Criteria Consideration G to be eligible for listing in the National Register. Criteria Consideration G states "a property achieving significance within the last 50 years is eligible if it is of exceptional importance."[56] For a variety of reasons, the Executive Building is not of exceptional importance for its association with the Times Mirror Company. First, it is not the founding location of the company. The original and earlier buildings have been demolished. Between 1935 and 1972 the company was located in the extant Times Building to the east. In its 116-year history, the company was located in the Executive Building for 27 years, 1973 to 2000. Second, no information was found to indicate that events of exceptional importance occurred during this period. The growth of the company into a media giant began in the 1950s and continued in the 1960s when it was located in the Times Building. Thus, the Executive Building is ineligible for listing under Criterion A as it does not meet the eligibility standards listed in **Table 3.** The Parking Structure is ineligible for listing under Criterion A because it is a purely functional building without a direct association with the activities of the Times Mirror Company.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past. As the headquarters of the Times Mirror Company for the last 27 years of its history, it was the workplace for numerous executives and directors. However, the three most closely associated with the building were Otis Chandler, Franklin Murphy, and Dorothy Chandler. All three are undeniably significant in the history of Los Angeles, and their many accomplishments are well documented. Other individuals that could be

[54] "The Times Mirror Company History," http://www.fundinguniverse.com/company-histories/the-times-mirror-company-history/ accessed, July 30, 2017.
[55] David Shaw and Sallie Hofmeister, "Time Mirror Agrees to Merger with Tribune," *Los Angeles Times*, March 13, 2000.
[56] *National Register Bulletin #15,* 41.

significant include, but are not discussed below, Albert Casey and Robert Erburu.[57] As *National Register Bulletin #15* explains, "For properties associated with several community leaders…, it is necessary to identify specific individuals and to explain their significant accomplishments."[58] The bulletin further explains that for a property associated with numerous individuals to be significant, "the significance of one or more specific [individuals must be] explicitly justified."[59] It goes on to clarify that if the significance of the historic property is related to "the cumulative importance of prominent [persons]," then the property would not be eligible under Criterion B; but rather, it might be eligible under Criterion A.[60] As noted above, however, the Executive Building and Parking Structure do not meet Criterion A.

When the buildings were completed in 1973, Otis Chandler was the publisher of the *Los Angeles Times* as well as a director of the Times Mirror Company of which his family was the largest stockholder. Murphy was the chairman and chief executive officer of the company. Dorothy Chandler was also a director of the company and the person Murphy charged with developing the Executive Building and Parking Structure. Dorothy explained, "I used the same approach with this building [Executive Building] that I had used in the planning of the Music Center. I approved the concept, the architecture and all of the materials used, right down to the ashtrays."[61]

When Otis Chandler assumed control of the *Times* in 1960, he instituted unprecedented widespread reform that would transform the paper's negative reputation without hurting its profits. Otis replaced the heads of nearly all of the paper's departments and changed its focus from political and cultural conservatism to unbiased journalism. He also expanded the paper's operations internationally, creating numerous foreign bureaus. Otis has been widely recognized as an incredibly important newspaper publisher. As his *New York Times* obituary in 2006 explained, he transformed the *Los Angeles Times* into "one of the most respected, widely read and profitable newspapers in the United States," and he accomplished this in a very short period of time, considering the paper had eight decades of partisan history behind it.[62] In 1980, at the age of 52, Otis stepped down as publisher and appointed an outsider, not a family member, to the post for the first time in the paper's history. That outsider was Tom Johnson who served in the role of publisher until 1989 when he became president of the Cable News Network (CNN).

Franklin Murphy was a physician, educator, businessman, and civic and cultural leader. Murphy was born in Kansas City, Missouri in 1916, the son and grandson of physicians. His mother was a concert pianist and one of his aunts a painter, so art, as well as medicine, was an essential part of his life from the beginning. Murphy received his medical degree from the University of Pennsylvania in 1941. During World War II, he served in a medical unit. After the war, he joined the faculty of the University of Kansas. When he was only 32 years old, he became the dean of the medical school, and three years later he was chosen as the chancellor of the university. In 1959, Murphy accepted the position of chancellor at the University of California, Los Angeles

[57] Albert Casey was hired by Norman Chandler in 1963. In 1968 when Norman retired, the company was effective run by Murphy as the chief executive officer, Otis as the vice president in charge of the newspapers, and Casey as the president in charge of operations, acquisitions, non-newspaper subsidiaries. Robert Erburu was appointed the general counsel in 1961, joined the board of directors in 1968, and in 1969 he was appointed senior vice president. Erburu replaced Casey as the president in 1974.
[58] *National Register Bulletin #15*, 14-15
[59] Ibid.
[60] Ibid.
[61] Dick Turpin, "Times Mirror Building Puts Accent on Beauty," *Los Angeles Times*, July 1, 1973.
[62] Kandell.

(UCLA). During his tenure at UCLA, Murphy plunged deeply into community affairs, developed a program of interdisciplinary institutes and study centers, and restructured the College of Applied Arts into the College of Fine Arts. During his administration two new professional schools were established, the School of Library Service and the School of Architecture and Urban Planning. He played important roles in the development of Pauley Pavilion, the creation of the Jules Stein Eye Institute, and the passage of the 1962, 1964, and 1966 bond issues, which provided UCLA with $95,000,000 in construction funds.[63]

In 1966, Norman Chandler approached Otis about assuming more duties in the Times Mirror Company. Otis carried the title of senior vice president, and it was assumed that he would one day become the chairman and chief executive officer. However, he told his father that he would be of more benefit to the company as the publisher; after only six years in the position there was so much more he could accomplish.[64] Thus, Norman and Dorothy began casting for a new leader for the parent company. Dorothy was familiar with Murphy through her role on the board of regents of the University of California. The two had much in common politically and artistically, so she recommended his appointment to the board of Times Mirror in 1965. Frustrated by the student protests on campus and conservative politics of the governor, Murphy left UCLA in 1968 when offered the position of chairman and chief executive officer of Times Mirror. He saw the company grow and expand into new fields as publishing and the wider market of communications grew. It also became a base from which he could extend himself to the world of philanthropy. In Los Angeles, he was one of those who founded the Los Angeles County Museum of Art on its present site. He was also a trustee of the J. Paul Getty Trust and chairman of its finance committee, as well as chairman of the Samuel Kress Foundation. He succeeded Paul Mellon as chairman of the trustees of the National Gallery of Art in Washington D.C.[65] Robert F. Erburu succeeded Murphy as chief executive officer at Times Mirror in 1980.

Dorothy Buffum Chandler was a business, civic, and cultural leader, and widely recognized as one of the most influential women in the history of Los Angeles. She was born into the Long Beach family that owned Buffum's, a Southern California chain of department stores. She attended Stanford University where she met her future husband, Norman Chandler. She became involved in cultural affairs by rescuing the Hollywood Bowl from financial failure in 1951 and promoting cultural exchange with the Soviet Union in 1958. During that same period, she spearheaded the fundraising drive to establish the Los Angeles County Music Center, which lasted from 1954 to 1964. The Dorothy Chandler Pavilion is named in honor of her critical role in the development of the Music Center.[66] She was also instrumental in bringing Zubin Meta to Los Angeles as conductor of the Philharmonic in 1965.

Dorothy was a political moderate who used her influence with her husband and son to soften the conservative editorial perspective of the *Los Angeles Times*. As a member of the University of California Board of Regents, she generally sided with the liberal wing, like the time she backed Murphy for chancellor. However, she was a member of the Republican Party and campaigned for the presidential candidacy of Eisenhower over Taft in 1952, and Rockefeller over Goldwater

[63] William H. Honan, "Franklin D. Murphy, 78 Dies: Leader in Arts and Publishing," *New York Times,* June 17, 1994; and Myrna Oliver, "Franklin D. Murphy Dies: L.A. Civic, Business Leader, Ex-UCLA Chancellor, Times Mirror CEO was a Renaissance man with a gift for bringing people together," *Los Angeles Times*, June 17, 1994.
[64] Berges, 124.
[65] "Franklin Murphy, 1960-1968," http://www.pastleaders.ucla.edu/murphy.html, accessed July 29, 2017.
[66] Halberstam, 272-75.

in 1964.[67] Dorothy worked for the Times Mirror Company from 1948 to 1976. She was a director of Times Mirror from 1955 until 1973, when she was named director emeritus. Although Dorothy exerted enormous influence, she publicly downplayed her position at the newspaper and the company. "I fix the facilities, but I don't tell them what to put in the paper." She told *Women's Wear Daily* her responsibilities at the company were focused on the management of public relations and facilities.[68] At the opening ceremony, Murphy gave Dorothy and Charles Kratka, the interior designer, the credit for the Executive Building. "What you and your staff and Mrs. Chandler have finally pulled together is not only exciting, but exceedingly tasteful."[69] After the death of his father, Otis urged Murphy to force his mother out of the company. Bitter about being expelled from the company she helped create, Dorothy told friends that Murphy's performance as chief executive officer was one of the biggest disappointments of her life.[70]

The significance of the Executive Building rests in the cumulative contributions of the important individuals who were instrumental in the management of the Times Mirror Company, rather than the specific contributions of one, or even a few, individuals. Otis Chandler, Franklin Murphy, and Dorothy Chandler[71] all played important roles in the company, and are associated with the Executive Building; however, the individual association of each is not particularly strong. From 1960 to 1972, Otis Chandler's office was located in the Times Building. During that period, he had already transformed the *Times* from a local publication to a national newspaper with a reputation for excellence. He moved his office to the Executive Building in 1973. From 1973 to 1980, he continued to serve as the publisher of the *Los Angeles Times* and the vice president for newspapers at Times Mirror. He stepped down as the publisher in 1980 and became the chairman of Times Mirror, but the position of chief executive officer was filled by Robert Erburu. Chandler kept an office in the Executive Building but reduced his role in the day-to-day operations of the company to focus on other interests. He was ousted as chairman of Times Mirror in 1985. Murphy was influential in the educational, political, and cultural development of Los Angeles, if not the United States.[72] The length of his association with the Executive Building is not long enough to be considered significant. In the 116-year history of the company, Murphy was the chairman and chief executive officer of Times Mirror for 12 years (1968 to 1980) and his office was in the building for seven years (1973 to 1980). Furthermore, his specific accomplishments at the company during this period are not well documented. While Dorothy Chandler by all accounts had more to do with construction of the Executive Building than any other individual, she only maintained an office in the building until 1976. From 1974 to 1976 she was relegated to emeritus director and it is unclear how much time she spent in the building. Arguably, Chandler would consider her life's work to be the Los Angeles Music Center.

Therefore, the Executive Building does not appear to be eligible for listing in the National Register under Criterion B and in any event is not of exceptional importance. The Parking Structure is ineligible for listing under Criterion B because it is a purely functional building without a direct association with significant persons.

[67] Davis, 129.
[68] Davis, quote at 132.
[69] Davis, quote at 149.
[70] Davis, 171.
[71] Others could include Albert Casey and Robert Erburu.
[72] Davis, 119-37.

Criterion C

To be significant under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. The Executive Building and Parking Structure were designed in 1970 in the Corporate International Style of architecture by William L. Pereira & Associates. Within the *Los Angeles Citywide Historic Context Statement*, the International Style is a Sub-Theme in the Architecture and Engineering Context and L.A. Modernism Sub-Context.

Table 7: Corporate International Style, 1946-1976
Context: Architecture and Engineering
Context: L.A. Modernism
Theme: Post-War Modernism
Sub-Theme: Corporate International Style, 1946-1976
Eligibility Standards
• Retains the essential character-defining features of the Corporate International Style from the period of significance
• Was constructed during the period of significance
• Exhibits quality of design through distinctive features
Character-Defining/Associative Features
• Box-shaped form
• Constructed of concrete, steel, and glass
• Flat roofs, either with flush eaves or cantilevered slabs
• Casement windows, often steel
• Horizontal bands of flush, metal framed windows, or curtain walls
• Lack of applied ornament
• Articulated ground story, often double-height and set back behind columns or pilotis
• Integral parking lot, either subterranean or above grade
• Landscaped plaza or integral plantings at ground floor
• For National Register, property must possess exceptional importance if less than 50 years of age
Integrity Considerations
• Replacement of some windows and doors may be acceptable if the openings have not been resized and original fenestration patterns have not been disrupted
• Original use may have changed
• Original setting may not be intact (this applies to individual resources only; buildings associated with corporate or institutional campuses must maintain integrity of setting)
• The modification of signage may be acceptable only if the signage itself was not a major character-defining feature

The International Style developed in the 1920s and 1930s as a reaction to the excessive and popular period revival styles of the day. It began in Europe with architects like Walter Gropius, Mies van der Rohe, and Le Corbusier, and spread to the U.S. through immigrants like Richard Neutra and Rudolph Schindler. The style evolved with advances in technology and was practiced through the 1970s. In its early years, the style was commonly applied to small-scale residences, but as it developed, it became a popular aesthetic for low-rise commercial buildings, skyscrapers, corporate office and industrial parks, university buildings, and government offices.

In postwar America, the socially oriented tenets of European modernism were absorbed and transformed by big American companies (themselves a post–World War II phenomenon) into effective marketing and branding tools rendered in glass, concrete, and steel buildings. An important feature of many of these Corporate International style buildings is that they are often free-standing objects in the urban landscape, exemplified by the Department of Water and Power Building (1965, Los Angeles, renamed the John Ferraro Building) by A.C. Martin and Associates on Bunker Hill, or the Occidental Life Insurance Building (1965, Los Angeles, commonly known as the Transamerica Building and renamed AT&T Center) by William L. Pereira & Associates in South Park. These buildings reflect the changing patterns in urban design and transportation modes that increasingly revolved around the automobile, the freeway, and the parking lot.[73]

The Corporate International Style also demonstrated a progressive approach to construction methods. This approach to smart experimentation owes a great deal to the proximity of the aerospace industry, close in both geography and in time. For example, Welton Becket & Associates developed panels for the Beverly Hilton hotel (1955, Beverly Hills) that were based on new aircraft technology, a product of design research in Becket's office. These "privacy panels," colored in bright pastels and meant to define private balconies were sandwiches of metal skins adhered to a paper honeycomb mesh to achieve a divider that was very light in weight, but flexible and stiff – all good attributes in reducing costs without sacrificing style on behalf of a corporate client.[74]

The Los Angeles region has countless examples of Corporate International Style buildings, many of which are considered extremely significant. These include everything from office buildings like the American Cement Building (1961, Los Angeles) by DMJM, hotels like the Century Plaza Hotel (1966, Los Angeles) by Minoru Yamasaki, hospitals like the Century City Medical Plaza (1969, Los Angeles) by Cesar Pelli and Anthony Lumsden for DMJM, and numerous banks buildings like Great Western Savings (1972, Beverly Hills, renamed the Flynt Building) by William L. Pereira & Associates and Bank of America Plaza (1974, Los Angeles) by A.C. Martin and Associates as well as campuses for new technology firms like Xerox (Craig Ellwood, 1966, El Segundo) and TRW (A.C. Martin and Associates, 1967, El Segundo).

For the Executive Building and Parking Structure to be significant under Criterion C for their Corporate International design, they must not just be examples of the style; they must also be important examples. This is not the case with either building. While the Executive Building employs several elements of the Corporate International Style listed in **Table 8** such as the box-shaped forms, horizontal bands of windows and stone panels, and landscaped plaza, it is clear that it is not a significant example when compared with the landmark examples noted above and numerous others. Rather, the building is a late, average example of the style applied to a mid-rise corporate building. Additionally, research on the building in architectural periodicals and books did not yield any results indicating that it was considered an important work during its time or in subsequent decades. The only mentions of the building were in the *Los Angeles Times*, which gave it glowing reviews, for obvious, promotional reasons. While the Parking Structure was designed in conjunction with the Executive Building, it was not referred to in the article. Furthermore, it does not exhibit the elements of the Corporate International Style, or any other

[73] Barbara Lamprecht, "L.A. Modernism," Los Angeles Citywide Historic Context Statement, City of Los Angeles Office of Historic Resources, June 2008, 22.
[74] Ibid., 25.

styles within the Modern movement. As the Executive Building and Parking Structure are not significant examples of an architectural style, the buildings do not appear to be significant for embodying the distinctive characteristics of its type or period of construction. Additionally, they did not involve any novel or noteworthy construction techniques, so they do not appear to be significant for embodying the distinctive characteristics of a method of construction.

The Executive Building and Parking Structure were designed by the architecture firm William L. Pereira & Associates. The firm's namesake was born and educated in Chicago before moving to Los Angeles in the 1930s. He worked on his own as an architect and as an art director for several Hollywood films. In 1949, he became a professor at the University of Southern California (USC) where he connected with Charles Luckman. The two formed Pereira & Luckman in 1950. The firm was remarkably successful and designed numerous noteworthy buildings in Southern California, such as CBS Television City (1953, Los Angeles), the Disneyland Hotel (1958, Anaheim), and parts of the Los Angeles International Airport (1958, Los Angeles). In 1959, Pereira started his own firm, William L. Pereira & Associates. He continued with the firm until his death in 1985.[75]

Pereira's design style evolved over time from minimal and rigid in the 1950s and early 1960s, though he was never as dogmatic as contemporaries Frank Lloyd Wright and Richard Neutra, to more sculptural and expressive in the 1970s and 1980s. His earliest work mixed elements of the International and Mid-Century Modern styles as evidenced by his designs for CBS Television City (1953, Los Angeles), the Southern California Institute of Technology (1956, Claremont), Santa Rosa Hall (1954) at the University of California, Santa Barbara, and the Beckman Helipot building (1958, Newport Beach).

With Pereira & Associates, Pereira became more heavily involved with master plans. He had done some planning work with Luckman, but his work in the field dramatically increased in the 1960s with projects like the University of Southern California Master Plan (1960, Los Angeles) and Irvine Ranch Master Plan (1961, Irvine), which evolved to include the University of California, Irvine campus (1964, Irvine). Pereira's list of projects from 1960 through 1985 contains nearly 70 master plans in geographical locations ranging from Hawaii to Doha, Qatar. Some of his notable individual buildings from the period include the University of California San Diego Central Library (1965, San Diego) and the Transamerica Corporate Headquarters Tower (1973, San Francisco). These buildings, with their sculpted concrete forms, exhibit expressive qualities much different than architect's earlier minimalist work. (See Appendix E for a list of William L. Pereira Projects.)

The remarkable number of commissions completed by Pereira's firm reveals what James Steele called his "decidedly anti-Modernist willingness to delegate."[76] Rather than designing every detail of a project himself or micro-managing his employees, Pereira was known for delegating work to others and guiding them. He was also known to assign the same project to multiple designers at once, using competition as a means of arriving at the best design.[77] This managerial style, indicative of the corporate future of the architecture profession, yielded customer

[75] Douglas C. McGill, "William L. Pereira, Architect; A Specialist in Planned Cities," *New York Times*, November 15, 1985; Thomas S. Hines, *Architecture of the Sun* (New York: Rizzoli International Publications, Inc., 2010), 678-707.
[76] James Steele, "Introduction – Pereira as Part of a Changing Ethos," in *William Pereira*, edited by James Steele (Los Angeles: University of Southern California Architectural Guild Press, 2002), 16.
[77] Ibid.

satisfaction and numerous repeat clients, but it also resulted in a lack of a definitive Pereira style.[78]

Regardless of this lack of a singular style, Pereira's contributions to the fields of architecture and planning cannot be overlooked. Steele defines him as a man of "matchless vision and countless innovations."[79] His importance during his own time is obvious based not on the number but on the prestige of the commissions he received – universities, museums, major corporation headquarters, large-scale land developments, etc. In his 1985 *Los Angeles Times* obituary, writer Michael Seiler called Pereira's body of work "an architectural and planning honor roll of livable and workable Southern California places."[80] He also noted that the architect was praised by critics for "his ability to combine form and function in an optimistic and congenial body of work."[81] Further evidencing Pereira's far-reaching influence, he was one of a select few architects ever to be featured on the cover of *Time* magazine (September 6, 1963).[82]

Although some of Pereira's work has become controversial in recent years as new development projects loom, his status as a master architect and planner is undeniable. As Seiler pointed out, "…as much as any other one man, [Pereira] was responsible for the artistic topography of the (Los Angeles] and exurbs," and his influence was not just local.[83] His remarkable, forward-thinking designs landed him commissions all over the US and internationally. While Pereira designed a number of iconic individual buildings, like the Transamerica Tower, for example, James Steele explains that many of the architect's most notable contributions have come in the form of master plans. In fact, Steele credits him with "virtually inventing the profession of regional master planning in America."[84]

As the product of the William L. Pereira & Associates firm, the Executive Building and Parking Structure have been presumed to be the product of master architect William Pereira; however, the identity of the designer is unclear. Only the name of the firm appears on the drawings and permits, and there is conflicting information in the *Los Angeles Times* about the partner in charge of the project. A 1972 article stated that Pereira was the partner in charge with John C. Knight as the project director and Shreve Babcock as deputy project director.[85] That team was apparently replaced as a 1973 article stated that Gin Wong was the partner in charge, and that Roy G. Schmidt was the project director. Pereira & Associates was responsible for the interior of the bank on the ground floor, and Sue Wilson acted as the designer. The interiors of the fifth and sixth floors, which were the executive offices of the Times Mirror Company, were designed by Charles Kratka Interior Planning and Design. Jan Hornbeck was in charge of the project for Kratka.[86] As so many individuals apparently contributed to the design, the extent of Pereira's involvement in the design of the Executive Building and Parking Structure is uncertain. Additionally, the buildings are not included in the extensive chronology of projects provided in

[78] Ibid.
[79] Ibid.
[80] Michael Seiler, "Pereira, Architect Whose Works Typify L.A., Dies," *Los Angeles Times*, November 14, 1985, 26.
[81] Ibid.
[82] Steele, "Introduction," 14.
[83] Seiler, 26.
[84] Steele, "Introduction," 19.
[85] Dick Turpin, "Times Mirror Building Rising: Setback, Atrium Emphasize Garden Setting," *Los Angeles Times*, March 12, 1972.
[86] Dick Turpin, "Times Mirror Building Puts Accent on Beauty," *Los Angeles Times*, July 1, 1973.

Steele's book. Steele explains that his list is "selective in the sense that it only includes projects with clear provenance."[87]

Even if Pereira designed the Executive Building and Parking Structure, they are not important or distinctive examples of his work. In order to be eligible under Criterion C as the work of a master, the buildings would have to express a particular phase in the development of Pereira's career, an aspect of his work, or a particular idea or theme in his craft. By the early 1970s, when the Executive Building and Parking Structure were constructed, Pereira's work on singular buildings had shifted away from the minimalist toward more expressive, monumental forms often rendered in concrete, and his practice in general had shifted from individual buildings to large-scale master plans. Thus, his work from the period is better represented by buildings like the Pacific Life Building (1972) and Marriot Hotel (1973) in Newport Beach (1975) Transamerica Tower (1972) in San Francisco and his numerous master plans, especially those for airports and college campuses. In short, the Executive Building and Parking Structure do not appear to be eligible under Criterion C as a representative work of master architect William L. Pereira.

The last two aspects of Criterion C, possessing high artistic values, or representing a significant and distinguishable entity, whose components may lack individual distinction, apply to works of art and historic districts, respectively. The Executive Building and Parking Structure are neither. Therefore, for all of the reasons described above, they do not appear to be significant under Criterion C and in any event are not of exceptional importance.

Criterion D

Criterion D was not considered in this report, as it generally applies to archaeological resources, and this report only pertains to historical resources that are part of the built environment. Refer to Appendix C-2 of the DEIR for the Phase I Archaeological and Paleontological Resources Report.

Integrity

As the Executive Building and Parking Structure do not appear eligible for listing in the National Register, an assessment of its integrity is not required. However, it may be noted that the exteriors are substantially unaltered. Alterations have been limited to the interior of the Executive Building. In 1980, Charles Kratka remodeled the third floor and in 1987, Stokes & Bojorquez remodeled the bank space on the first floor. The most substantial alterations occurred in 1997 with the first and second floors were seismically strengthened. While some of the furnishing and finishes on the sixth floor have been removed or replaced, the spaces themselves are intact. Therefore, the building retains all aspects of integrity.

California Register Evaluation

The California Register was modeled on the National Register; however, there are differences in the 50-year threshold. A property less than 50 years of age may be eligible for listing in the California Register if it can be demonstrated that sufficient time has passed to obtain scholarly perspective on the events and/or individuals associated with the property. In other words, a property less than 50 years of age does not need to be of exceptional importance to be eligible for listing in the California Register. The California Register statute allows CEQA Lead Agencies a fair amount of flexibility in justifying that a property is significant, even if that property is less than

[87] James Steele, "Chronology of Projects," in *William Pereira*, James Steele, ed. (Los Angeles: University of Southern California Architectural Guild Press, 2002), 192.

50 years old. In evaluating such properties for California Register eligibility, the focus is on the evidence for significance as opposed to the age of the property. The *Los Angeles Times*, Times Mirror Company, and Chandler family have received a fair amount of scholarly attention. The early history of the *Los Angeles Times* and its subsequent transformation was chronicled in the unauthorized history, *Thinking Big* in 1977, and was one of four papers profiled by David Halberstam in *The Powers That Be* in 1979. Halberstam also discusses the Chandler family in his book, but to a lesser extent the Times Mirror Company. The newspaper has also been the whole or partial subject of numerous dissertations and theses in communications or social science in the past four decades.[88] Dennis McDougal wrote a biography of Otis Chandler, *Privileged Son and the Rise and Fall of the Los Angeles Times Dynasty* in 2001 and Margaret Leslie Davis wrote a biography of Franklin Murphy, *The Culture Broker, Franklin D. Murphy and the Transformation of Los Angeles* in 2007. Both books place their subjects in the context of the newspaper and the company as well as national, state, and trends.

Based upon these scholarly sources, the Executive Building appears to be eligible under California Register Criterion 1 for its association with the Times Mirror Company. The Executive Building was the first building ever constructed specifically to house the company in its century-plus history. From the 1970s to the 1990s the company continued to grow. By 1990, Times Mirror had become the 12th-largest multiple cable system operator in the country and the *Los Angeles Times* reached the apex of its circulation. During the 1990s, the company, like all newspaper and publishing outlets in the country, began a steady decline as their customers and advertisers migrated to mobile networks and electronic books and magazines. When Times Mirror was purchased by Tribune in 2000, the Atlantic Richfield Company remained the only Fortune 500 Company in Downtown Los Angeles.[89] The period of significance under Criterion 1 is 1973, the year the building was completed, to 2000, the year the Tribune Company purchased the Times Mirror Company.

In addition, the Executive Building appears to be eligible under California Register Criterion 2 for its association with Otis Chandler. Chandler was the publisher of the *Los Angeles Times* for 20 years (1960 to 1980). He moved his office from the Times Building to the Executive Building when it was completed in 1973. From 1973 to 1980, Chandler continued to modernize the *Los Angeles Times* and to expand its reach. In 1979, there were 31 foreign and domestic bureaus and for the 25th consecutive year the paper published more advertising than any other in the world.[90] The period of significance under Criterion 2 is 1973 to 1985 when Chandler retained an office in the Executive Building.

The Parking Structure is ineligible for listing under Criteria 1 and 2 because it is a purely functional building and is not directly associated with the activities of the Times Mirror Company or Otis Chandler.

The Executive Building and Parking Structure do not appear to be eligible under California Register Criteria 3 and 4 for the same reasons noted in the National Register Criteria C, and D evaluations.

[88] ProQuest Dissertations & Theses Global.
[89] Kathryn Maese, "The Development Beat," *Los Angeles Downtown News*, October 29, 2001.
[90] Joe Mozingo, "A Brief History of the Los Angeles Times," http://www.latimes.com/local/california/la-me-los-angeles-times-history-20180617-story.html, accessed, June 29, 2018.

4.2.4 Times Mirror Square

As noted above, Times Mirror Square is occupied by five structurally distinct but internally connected buildings: the Times Building completed in 1935; the Plant Building constructed in three phases between 1935 and 1955; the Mirror Building completed in 1948; the Executive Building completed in 1973; and the Parking Structure completed in 1973. As the buildings are historically and functionally related, they qualify as a potential historic district. To be eligible, a historic district must be significant as well as being an identifiable entity. Thus, a historic district will usually meet the last portion of Criterion C "represent a significant and distinguishable entity whose components may lack individual distinction" plus Criterion A, Criterion B, other portions of Criterion C, and/or Criterion D.

Times Mirror Square appears eligible for listing in the National Register under Criteria A and C and California Criteria 1 and 3 for its association with the *Los Angeles Times* and the Times Mirror Company. Under Criterion A/1 it is significant in the Sub-Context Newspapers and Publishing for its association with important events that have made a significant contribution to broad patterns in our history, and under Criterion C/3 it represents a significant and distinguishable entity. The *Los Angeles Times* was first published in 1881 and the Times Mirror Company was founded in 1884. The first home of the *Los Angeles Times* was in the Downey Block at Temple and Spring Streets. By 1887, the company and the newspaper were located at the northeast corner of W. 1st Street and S. Broadway. After the building was bombed by labor union sympathizers, a new larger building rose on the same site. In 1931, the company expanded south of W. 1st Street and had constructed a printing and binding facility at 110 S. Broadway. After the Times-Plant Complex was completed in 1935, the building at W. 1st Street and S. Broadway was demolished. Although the Times Mirror Company did not own the entire block until the late 1960s when it began to develop plans for the Executive Building and Parking Structure, it was commonly referred to as Times Mirror Square. Times Mirror Square is historically significant as a reflection of the ascent of the *Los Angeles Times* to the front ranks of American journalism and the Times Mirror Company to a national media giant. The period of significance is 1935, the year the Times-Plant Complex was completed, to 2000, the year the Times Mirror Company was sold to the Tribune Company.

All of the buildings within the block are contributing to the significance of the potential historic district because they were constructed within the period of significance and retain sufficient integrity to convey their significance. Thus, the potential historic district also retains integrity as a whole. Although two of the five contributing buildings are less than 50 years of age, Criteria Consideration G is not required. *National Register Bulletin #15* states "a historic district in which a few properties are newer than 50 years old, but the majority of the properties and the most important period of significance are greater than 50 years old" do not need to meet Criteria Consideration G.[91] *National Register Bulletin #22* provides further guidance on evaluation of historic districts. "Properties less than 50 years old may be integral parts of a district when there is sufficient perspective to consider the properties as historic. This is accomplished by demonstrating that: (a) the district's period of significance is justified as a discrete period with a defined beginning and end; (b) the character of the district's historic resources is clearly defined and assessed; (c) specific resources in the district are demonstrated to date from that discrete era; and, (d) the majority of district properties are over 50 years old. In these instances it is not necessary to prove exceptional importance of either the district itself or of the less-than-50-year-old properties."[92]

[91] *National Register Bulletin #15*, 41.
[92] *National Register Bulleting #22: Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Past Fifty Years* (Washington D.C.: U.S. Department of the Interior, revised 1998), 10.

The criteria for eligibility for listing in the California Register are similar to the National Register criteria. Furthermore, the California Register statute treats properties less than 50 years of age differently than the National Register. A property less than 50 years of age may be eligible for listing in the California Register if it can be demonstrated that sufficient time has passed to obtain scholarly perspective on the events and/or individuals associated with the property. Therefore, Times Mirror Square appears to be eligible for listing in the California Register as a historic district for the same reasons noted above.

As previously stated, Times Mirror Square was nominated as a HCM by interested parties. OHR's staff report to the Cultural Heritage Commission concluded that the Times-Plant Complex and Mirror Building were architecturally significant but concluded that the Executive Building and Parking Structure were not architecturally significant. On September 20, 2018, the Cultural Heritage Commission recommended the designation of the entire block and found that the Executive Building and Parking Structure were significant for their association with the architect William L. Pereira. After a public hearing on November 27, 2018, the City Council's Planning and Land Use Management recommended that the designation exclude the Executive Building and Parking Structure. On December 5, 2018, the City Council concurred with this recommendation. As a result, only the Times-Plant Complex and Mirror Building are now collectively designated as a HCM.

4.2.5 Conclusions

There are four buildings constituting three individual historical resources on the block and five buildings contributing to a potential historic district. The Times-Plant Complex and Mirror Building were formally determined eligible for listing in the National Register and automatically included in the California Register. The Executive Building appears individually eligible for listing in the California Register. The Times-Plant Complex and Mirror Building are collectively designated as a HCM. Notwithstanding the City Council's action on the Times Mirror Square HCM nomination, all of the buildings within the block, including the Executive Building and Parking Structure, contribute to a potential historic district that appears eligible for listing in the National and California Registers. Therefore, all of the buildings qualify as historical resources subject to the CEQA. See Section 2.2 for an explanation of the Status Codes.

Table 8: Historical Resources on Project Site Subject to CEQA

No.	Name	Individual Eligibility			District Eligibility		Status Code
		NRHP	CRHR	HCM	NRHP	CRHR	
1	Times-Plant Complex (Times Building and Plant Building)	Yes	Yes	Yes	Yes	Yes	2S2 3D 3CB 5SI
2	Mirror Building	Yes	Yes	Yes	Yes	Yes	2S2 3D 3CB 5SI
3	Executive Building	No	Yes	No	Yes	Yes	3D 3CB
4	Parking Structure	No	No	No	Yes	Yes	3D 3CD



Figure 41: Times, Plant, and Mirror Buildings, circa 1950 view looking north on S. Spring Street (Water and Power Associates)



Figure 42: View looking east on W. 1st Street, 1956
(LAPL Photograph Collection)



Figure 43: Aerial view of Times, Plant, and Mirror Buildings looking south, 1967 (LAPL Photograph Collection)



Figure 44: Aerial view of Times Mirror Square looking south, 1980
(LAPL Photograph Collection)

5. PROJECT IMPACTS

5.1 Determining the Significance of Impacts on Historical Resources

The State CEQA Guidelines set the standard for determining the significance of impacts to historical resources in Title 14 California Code of Regulations Section 15064.5(b), which states:

> A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

Title 14 California Code of Regulations Section 15064.5(b)(1) further clarifies "substantial adverse change" as follows:

> Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

Title 14 California Code of Regulations Section 15064.5(b)(2) in turn explains that a historical resource is "materially impaired" when a project:

> Demolishes or materially alters in an adverse manner those physical characteristics that convey its significance and that justify its inclusion in or eligibility for inclusion in the California Register, local register, or its identification in a historic resources survey.

The following factors are set forth in the City of Los Angeles' "L.A. CEQA Thresholds Guide," which states that a project would normally have a significant impact on a historical resource if it would result in a substantial adverse change in the significance of the historical resource. A substantial adverse change in significance occurs if the project involves:

- Demolition of a significant resource;
- Relocation that does not maintain the integrity and (historical/architectural) significance of a significant resource;
- Conversion, rehabilitation, or alteration of a significant resource which does not conform to the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings; or
- Construction that reduces the integrity or significance of important resources on the site or in the vicinity.

As such, the test for determining whether or not a proposed project will have a significant impact on an identified historical resource is whether or not the project will alter in an adverse manner the physical integrity of the historical resource such that it would no longer be eligible for listing in the National or California Registers or other landmark programs such as the list of HCMs.

5.2 Secretary of the Interior's Standards

Projects that may affect historical resources are considered to be mitigated to a level of less than significant if they are consistent with the Secretary of the Interior's Standards for the

Treatment of Historic Properties (Standards).[93] Projects with no other potential impacts qualify for a Class 31 exemption under CEQA if they meet the Standards.[94] The Standards were issued by the National Park Service. The Standards are accompanied by Guidelines for four types of treatments for historical resources: Preservation, Rehabilitation, Restoration, and Reconstruction. The most common treatment is rehabilitation and is the treatment that applies to the proposed Project. The definition of rehabilitation assumes that at least some repair or alteration of the historic building will be needed in order to provide for an efficient contemporary use; however, these repairs and alterations must not damage or destroy materials, features, or finishes that are important in defining the building's historic character.

The Standards for Rehabilitation are as follows:

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

[93] 14 CCR Section 15126.4(b).
[94] 14 CCR Section 155331.

It is important to note that the Standards are not intended to be prescriptive, but instead provide general guidance. They are intended to be flexible and adaptable to specific project conditions to balance continuity and change, while retaining materials and features to the maximum extent feasible. Their interpretation requires exercising professional judgment and balancing the various opportunities and constraints of any given project. Not every Standard necessarily applies to every aspect of a project, nor is it necessary to comply with every Standard to achieve compliance.

5.3 Project Description

The proposed Project would involve the construction of two new mixed-use buildings along with the rehabilitation of three existing buildings, including the Times, Plant, and Mirror Buildings. These existing buildings, which are situated on the east half of the block, would be rehabilitated. These three buildings would provide approximately 376,105 square feet of offices and/or other retail and commercial uses. New development, consisting of the "North Tower" and "South Tower" would occur on the west half of the block. The existing Executive Building and Parking Structure would be demolished to allow for the development of the two new buildings.

A feature of the Project would be a Historic Structure Report (HSR) that would further document the history of the Times, Plant, and Mirror Buildings and guide their rehabilitation in compliance with the Secretary of the Interior's Standards for Rehabilitation. As such, the HSR would be completed prior to the development of architectural or engineering plans for the rehabilitation. The HSR would be prepared based upon the National Park Service's *Preservation Brief #43: The Preparation and Use of Historic Structure Reports.* The character-defining features of these three buildings are identified in Appendix C. The HSR would provide documentary, graphic, and physical information about the existing conditions of the character-defining features and make recommendations for both changes to the buildings to suit new uses and modern amenities as well as their on-going maintenance after Project completion. The HSR would specifically address the treatment of the west elevations with regard to the demolition of the Executive Building and Parking Structure as well as a new design that combines the rehabilitation of the lower stories and reconstruction of the upper stories.

The North and South Towers would be constructed above a five-story parking podium, an above ground structure forming the street front of the new development and base for the towers. The space below the podium would contain an additional nine levels of subterranean parking. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include approximately 34,572 square feet of retail uses, which would be located at ground level. With the addition of retail uses, total new construction would amount to 1,135,803 square feet. Inclusive of the existing buildings to be retained and rehabilitated, the project would include a total of 1,511,908 square feet of floor area for a resulting floor-area ratio (FAR) of approximately 9.42:1.

The Project would include a pedestrian paseo (Paseo) passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street and bisecting the block between the new buildings and Times, Plant, and Mirror Buildings, and would provide a visual connection to the First and Broadway Civic Center Park. Ground level retail uses would be located along the Paseo and the base of the parking podium facing W. 1st Street, S. Broadway, and W. 2nd Street. A 50,000 square foot grocery store would be accessed via the Paseo and the location of the original loading docks in the Plant Building on S. Spring Street.

5.4 Analysis of Project Impacts

The proposed Project involves three activities that have the potential to directly and indirectly impact the identified historical resources on the Project site: demolition, rehabilitation, and new construction. The Project also has the potential to indirectly impact the historical resources in the study area, but only with regard to new construction. Additionally, the Project and related projects in the vicinity could have the potential to cumulatively impact historical resources; therefore, cumulative impacts are also considered. The following discussion analyzes the potential impacts of the Project.

5.4 1 Potential Impacts from the Project on Historical Resources on Site

Demolition

The Project would involve the demolition of the Executive Building and Parking Structure, which are historical resources. The Executive Building is a historical resource because it appears to be individually eligible for listing in the California Register. Times Mirror Square as a whole is a historical resource because it appears to be eligible for listing as a historic district in the National and California Registers. The Executive Building and Parking Structure are contributing to the potential historic district, occupying the west half of the block.

In most circumstances, the demolition of a historical resource cannot be mitigated to a less than significant level. As explicitly defined by CEQA, a substantial adverse change to a historical resource means demolition, destruction, relocation, or alteration of the resource such that its significance is materially impaired.[95] The Executive Building would be materially impaired by the Project because it would no longer be eligible for listing in the California Register if it were demolished. Likewise, Times Mirror Square would be materially impaired by the Project because it would no longer be eligible for listing as a historic district in the National and California Registers if the Executive Building and Parking Structure were demolished. The historic district, which is already small with five contributing buildings, would be reduced to three contributing buildings, which represent a significant but earlier period in the history of the *Los Angeles Times* and Times Mirror Company. So, the breadth of history represented by Times Mirror Square would be lost. Therefore, the Project would have a significant adverse impact on historical resources. The only way of reducing the impact on the historical resources would be redesigning the Project to preserve the Executive Building and Parking Structure, the feasibility of which is addressed in the DEIR.

The demolition of the Executive Building and Parking Structure would have a less than significant impact on the Times, Plant, or Mirror Buildings. The latter three buildings are historical resources because they are formally determined eligible for listing in the National Register, listed in the California Register, and designated as a HCM. The significance of these buildings as individual historical resources is not predicated on the Executive Building or Parking Structure. As the buildings are physically connected along the middle of the block, the demolition of the Executive Building and Parking Structure would require alterations to the west elevations of the Times, Plant, and Mirror Buildings. In the case of the Plant Building, the west elevation is not visible in any of the available historic photographs. Based upon Sanborn maps and historic aerial photographs, the north half of the west elevation has always abutted an adjacent building while the south half was open to a surface parking lot, sometimes referred to as the Broadway Yard

[95] Public Resource Code Section 5020.1(q).

(see **Figure 45**). There is no reason to believe the demolition of the Executive Building and Parking Structure would negatively affect the integrity of the Plant Building. Prior to the construction of the Parking Structure, the Mirror Building shared a west elevation with a three-story commercial building. Thus, the first three stories were never visible. Therefore, the demolition of the Parking Structure would not negatively affect the integrity of the Mirror Building. Given the fact that the Executive Building physically imposes on the Times Building, its removal would improve the integrity of the Times Building with regard to design and setting in the context of its architectural significance. As discussed in greater detail below, the Project proposes to rehabilitate the west elevations of the Times, Plant, and Mirror Buildings, which would be visible along the proposed Paseo.

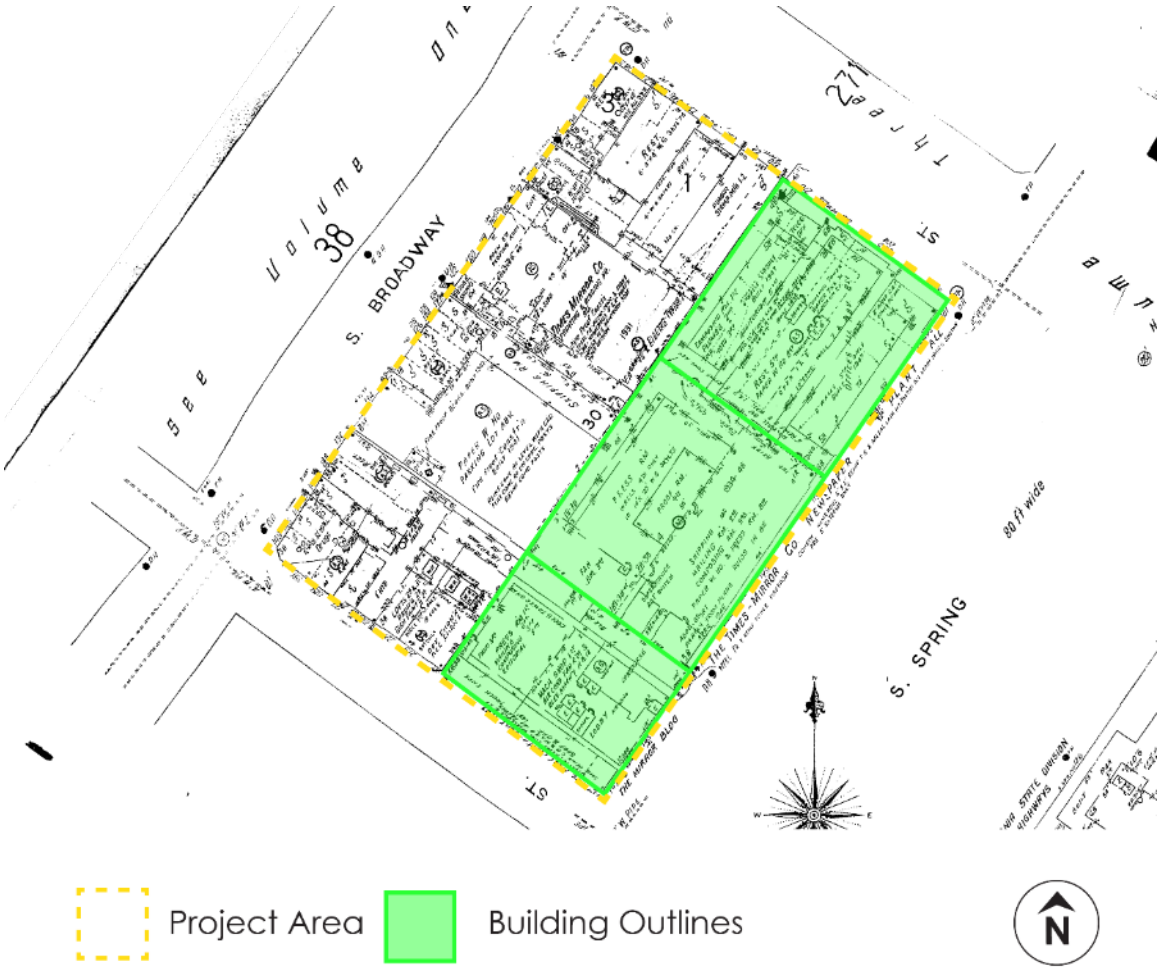

Figure 45: 1950 Sanborn Fire Insurance Map depicting non-extant buildings to the west of the Times, Plant, and Mirror Buildings (LAPL)

Significant adverse impacts from the demolition of the Executive Building and Parking Structure on the Times, Plant, and Mirror Buildings are not anticipated, because the rehabilitation of the west elevations would comply with the Standards as required in the mitigation measure below. Projects that comply with the Standards are considered mitigated to a less than significant level. An additional mitigation measure is recommended to ensure the Times, Plant, and Mirror

Buildings are protected from collateral damage as the Executive Building and Parking Structure are demolished.

Rehabilitation

Under the Project, the Times, Plant, and Mirror Buildings would be rehabilitated and adaptively re-used in accordance with the HSR and in compliance with the Standards to provide approximately 376,105 square feet of offices and/or other retail and commercial uses and an approximately 50,000-square-foot grocery store. The three buildings would be separated from the west side of the block by the Paseo. Each building to be preserved is described in Section 3.2 and the character-defining features are listed, described, and pictured in **Appendix C**.



Figure 46: Times Building, view looking east on W. 1st Street, 1949 (LAPL)

After the demolition of the Executive Building and Parking Structure, the lower stories of the west elevations would be designed in compliance with the Standards. Prior to the construction of the Executive Building and Parking Structure, the west half of the block was occupied by a surface parking lot and two, three, and eight-story buildings. The lower stories of the Times, Plant, and Mirror Buildings abutted these buildings on the west until they were demolished and replaced with the Executive Building and Parking Structure in 1973 (see **Figure 43**). Thus, it may be safely assumed that the lower stories of the west elevations of the three buildings were utilitarian party walls. The construction of the Executive Building; however, destroyed the upper stories of the Times Building that was originally exposed and mirrored the east elevation in design and

materials according to the original architectural plans (see **Figure 44**). The Project proposes to reconstruct the upper stories of the Times Building based upon the original architectural plans and extant physical evidence, if any.

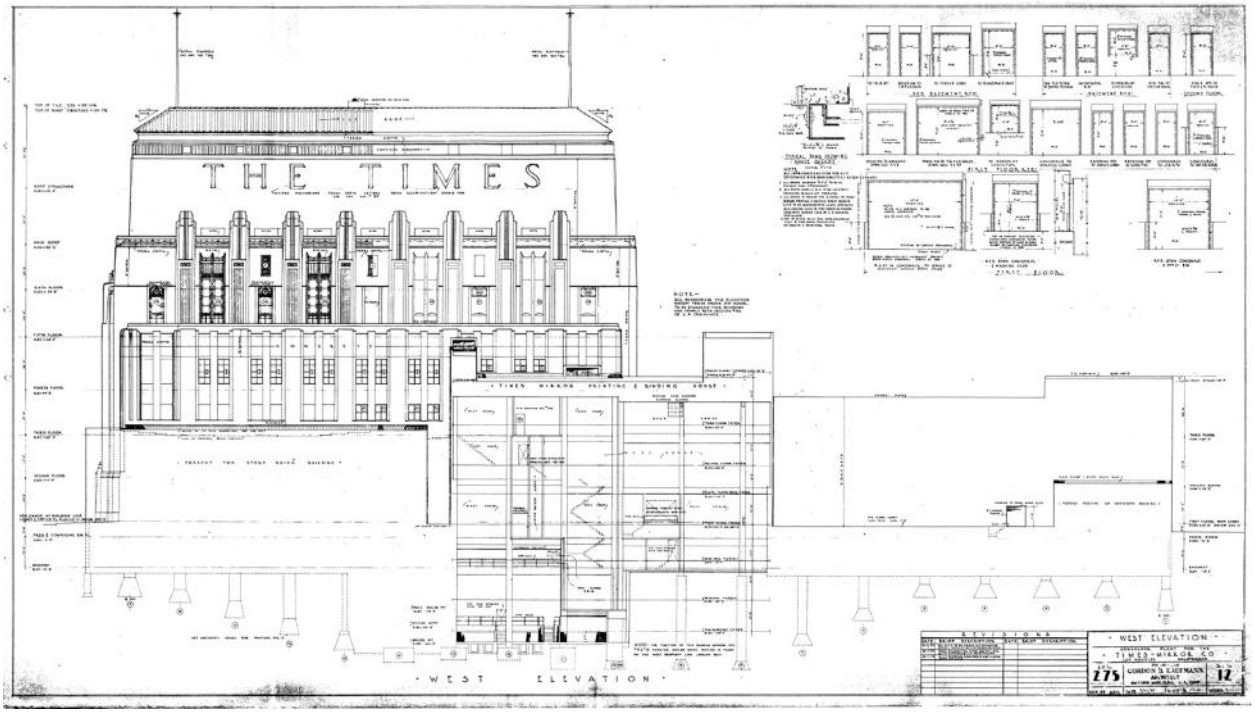

Figure 47: West elevation of Times Building, 1934 (Gordon B. Kaufmann, Architect)

The exteriors of all three buildings would be cleaned and repaired as necessary. The other proposed alterations to the exterior of the Times Building include the removal of the non-original rooftop additions on the fifth and sixth stories of the east elevation. The elevation would be reconstructed based upon the architectural plans and extant physical evidence, if any. On the ground level of the Plant Building, the original loading docks would be reopened for the proposed grocery store or other commercial use. The existing mechanical equipment on the roof of the Plant Building would be relocated and reconfigured for an office terrace, which would be used by office tenants. This area would provide conference/presentation areas and eating/break areas and would not be accessible to the general public. No major alterations to the Mirror Building are proposed, other than the aforementioned reconstruction of the west elevation after the Parking Structure is demolished.

The interiors of all three historic buildings have been heavily altered over time. The two original and architecturally distinctive interior spaces, the lobbies of the Times and Mirror Buildings, would be preserved. The upper floors contain little if any historic fabric, as it was removed as a result of past structural improvements and office modernizations. The upper floors would be reconfigured for office tenants, if required.

In summary, the Project would retain and rehabilitate the primary character-defining features of and remove the non-character defining additions to the Times, Plant, and Mirror Buildings. The rehabilitation portion of the Project would not materially impair the three buildings. As a whole, the appearance, condition, and integrity of all three buildings would be enhanced by the

rehabilitation portion of the Project. The potential impact on the integrity of setting of the three buildings from the new construction portion of the Project is analyzed below. The Times, Plant, and Mirror Buildings would continue to convey their significance. Each would remain eligible for listing in the National Register, listed in the California Register, and designated as a HCM.

Significant adverse impacts from the rehabilitation of the Times, Plant, and Mirror Buildings are not anticipated, because this aspect of the Project would comply with the Standards. Projects that comply with the Standards are considered mitigated to a less than significant level. However, mitigation measures are recommended to ensure conformance with the Standards during the design and development process.

New Construction

The direct impacts from the demolition of the Executive Building and Parking Structure and rehabilitation of the Times, Plant, and Mirror Buildings are discussed and analyzed above. The new construction has the potential to directly impact the Times, Plant, and Mirror Buildings. The buildings could be damaged as a result of excavation/shoring and construction vibration. Thus, mitigation measures are recommended to avoid these impacts. With regard to excavation/shoring, a mitigation measure is prescribed below. A mitigation measure regarding construction vibration is included in the noise section of the DEIR for the Project.

CEQA also requires the analysis of indirect impacts. A substantial adverse change in the significance of these historical resources would occur if the new construction reduced their integrity to the degree they would no longer qualify as historical resources. According to *National Register Bulletin #15*, there are seven aspects of integrity: feeling, association, workmanship, location, design, setting, and materials. The only relevant aspect with respect to the indirect impact of a new building on a historic building is setting. Setting refers to the character of the place in which the property played its historical role.

At the outset, it should be noted that setting is not identified as an essential factor of integrity in the eligibility standards for the contexts, sub-contexts, themes, and sub-themes for which the Times, Plant, and Mirror Buildings are significant (see tables in Section 4 above). The completion of the Executive Building and Parking Structure in 1973, diminished the integrity of setting of the Times, Plant, and Mirror Buildings in the context of their architectural significance, but not necessarily in the context of their historical significance because the period of significance under National Register Criterion A extends to 2000 when the ownership of the *Los Angeles Times* changed.

Prior to the completion of the Executive Building and Parking Structure in 1973, the west half of the block was occupied by two to eight-story buildings that predated the construction of the Times, Plant, and Mirror Buildings between 1935 and 1948. Up to the 1960s, the blocks to the east, west, and south were occupied by low-rise commercial buildings and the block to the north was occupied by a state office building (constructed in 1931 and demolished in 1976). Beginning in the 1960s, many of the small commercial buildings in the area were simply demolished and used as surface parking lots. West of Broadway, they were replaced by another state office building that was recently demolished for the 10-story Federal Courthouse.

The present setting of the Times, Plant, and Mirror Buildings includes the 10-story Los Angeles Police Department Headquarters Building located on the opposite side of S. Spring Street and the 29-story Los Angeles City Hall located diagonally across S. Spring Street and W. 1st Street. The

First and Broadway Civic Center Park is currently under development on the block across W. 1st Street. A surface parking lot and a seven-level enclosed parking structure are currently located across W. 2nd Street. A proposed development for the site includes the demolition of the existing parking structure for the construction of a 30-story mixed-use building.

The North and South Towers would be constructed on the west half of the block in the area currently occupied by the six-story Executive Building at the corner of W. 1st Street and S. Broadway and the six-story Parking Structure at the corner of W. 2nd Street and S. Broadway. The North Tower would be constructed near W. 1st Street and S. Broadway, and the South Tower would be constructed near W. 2nd Street and S. Broadway. The towers would be constructed over a five-story podium and, from street grade, the North Tower would rise 37 stories or approximately 495 feet above grade. The South Tower would rise 53 stories or approximately 665 feet above grade. The Paseo bisecting the middle of the block would physically and visually separate the Towers from the Times, Plant, and Mirror Buildings to the east.

At 37 and 53 stories in height, the North and South Towers would introduce new visual elements to the setting of the Times, Plant, and Mirror Buildings. The new buildings would not be compatible with the size or scale of the historic buildings that range from four to 12-stories in height. Notwithstanding the obvious differences in the height between the new and historic buildings, one of the goals of the Project is to create a visually cohesive design that uses the architecture of Times, Plant, and Mirror Buildings as a reference. The scale of the podium supporting the towers would be articulated with a contemporary base, body, and rooftop. The podium would incorporate solid and transparent glazed materials and strong compositional features, punched and vertical articulation, and massing to complement the architecture of the Times, Plant, and Mirror Buildings. The solid portions of the podium base would incorporate similar materials, textures, and color values to the historic buildings to visually link the entire development.

Even if the integrity of setting of the Times, Plant, and Mirror Buildings was lost as a result of the proposed new construction, they would continue to possess the other aspects of integrity, including feeling, association, workmanship, location, design, and materials. Accordingly, they would continue to convey their significance. Each would remain eligible for listing in the National Register, listed in the California Register, and designated as a HCM.

While the North and South Towers could be considered "related new construction" to the Times, Plant, and Mirror Buildings, the Standards for Rehabilitation are not directly applicable. To that end Standards #9 and #10 are relevant but not determinative in analyzing indirect impacts of new construction on adjacent historic buildings. Standards #9 and #10 primarily address additions to historic buildings or new construction within the boundaries of a historic property or district, which is not the case with the Project as Times Mirror Square would no longer remain eligible as a historic district if the Executive Building and Parking Structure were demolished. Nevertheless compliance with Standards #9 and #10 are discussed below.

Standard #9 states: "New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment."

As the North and South Towers would be physically separated from of the Times, Plant, and Mirror Buildings by the Paseo, the new buildings would not destroy historic materials, features, and spatial relationships that characterize the historic buildings. Compliance with this aspect of Standard #9 with regard to the demolition of the Executive Building and Parking Structure and rehabilitation and reconstruction of the west elevations Times, Plant, and Mirror Buildings is analyzed above. Additionally, the west elevations would be addressed in the HSR and monitored by a mitigation measure in Section 5.5. The spatial relationship between the Times, Plant, and Mirror Buildings and their immediate environment would remain intact. These three buildings are oriented towards Spring Street on the east. Notably, the Times Building faces W. 1st Street and is cater-corner to Los Angeles City Hall indicating its position of influence in the city. This spatial relationship would not be affected by the new construction. As previously stated, the size and scale of the North and South Towers are not compatible with the size and scale of the Times, Plant, and Mirror Buildings. However, the podium supporting the towers is designed to relate to the materials, features, size, scale, and proportion, and massing of the historic buildings as described above. In conclusion, the Project complies with Standard #9 to the extent appropriate for this area of Downtown Los Angeles.

Standard #10 states: "New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired."

The Project complies with Standard #10. The North and South Towers would be separated from the Times, Plant, and Mirror Buildings by the Paseo. If the new buildings were removed in the future, the adjacent historical resources would not be materially affected. The essential form and integrity of the historical resources and their environment would be unimpaired.

Thus, the indirect impact of the new construction on the remaining historical resources on the Project site would be less than significant and no mitigation is required or recommended.

5.4.2 Potential Impacts from the Project on Historical Resources in the Study Area

The new construction component of the Project would have no impact on the historical resources in the study area. The historical resources in the study area are the Los Angeles Civic Center Historic District (which includes 18 contributors), Los Angeles City Hall, and Higgins Building (see **Figure 48**). The physical characteristics that convey their significance would not be altered in any way by the Project. With regard to the Civic Center, the parcel directly across W. 1st Street between S. Broadway and S. Spring Street is not contributing to the Historic District. The closest contributing building to the Project site is the County Law Library, which would be cater-corner from the North Tower. The immediate setting of the County Law Library has already been altered by the construction of the new Federal Courthouse. Furthermore, the North Tower would not block the view of the County Law Library from within the Civic Center Historic District. Therefore, there is no significant impact on the County Law Library. City Hall is a contributing building to the Civic Center Historic District as well as being a designated HCM. It would be visually separated from the new construction by the Times, Plant, and Mirror Buildings as well as the intersection of W. 1st and S. Spring Streets and City Hall Park. Thus, the contrast between the heights of the North and South Towers and the height of City Hall has been reduced by the physical distance and intervening buildings and features.

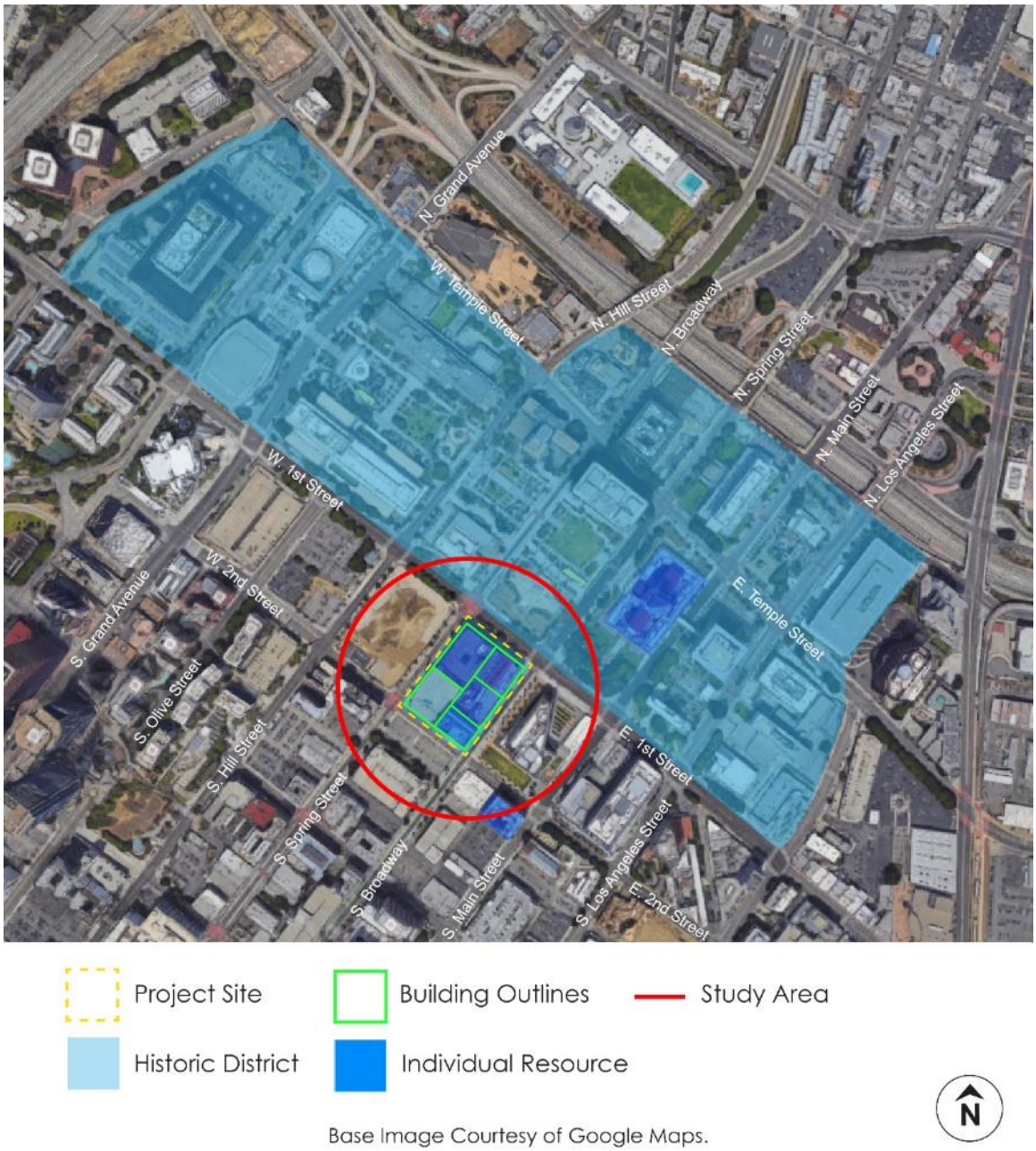

Figure 48: Historical Resources in Study Area

Until 1964, City Hall was the tallest building in Los Angeles and the most prominent element of the Downtown skyline. The Wilshire Grand Center is now the tallest building in Downtown at 1,100 feet and there are 28 other buildings in Downtown that are taller than City Hall. However, City Hall is still the tallest building in the Civic Center Historic District. Therefore, there is no significant impact on City Hall. The North and South Towers would not block the view of City Hall from within the Civic Center Historic District. The other contributing buildings in the Civic Center Historic District are more distant than the County Law Library and City Hall. Therefore, there is no significant impact on the remainder of the contributing buildings or features. As none of the contributors are significantly impacted, there is no significant impact on the Civic Center Historic

District as a whole. The Higgins Building is a designated HCM. The South Tower at the corner of W. 2nd and Broadway would be two blocks away from the Higgins Building at W. 2nd Street and S. Main Street. The two buildings would also be visually separated from each other by the Mirror Building as well as other buildings on the south side of W. 2nd Street. Furthermore, the setting of the Higgins Building has already been altered by the construction of the new LAPD Headquarters. Therefore there is no significant impact on the Higgins Building.

5.4.3. Potential Cumulative Impacts

Cumulative impacts refer to impacts of the Project and related projects in the vicinity, when taken as a whole, that substantially diminish the number of historical resources within the same or similar context or property type. Impacts to historical resources, if any, tend to be site specific. However, cumulative impacts would occur if the Project and related projects cumulatively affect historical resources in the immediate vicinity, contribute to changes within the same historic district, or involve resources that are examples of the same property type as those within the Project site.

There are 170 related projects, four of which are located within 550 feet of the Project site. The four related projects include two development projects located at 201 S. Broadway and 222 W. 2nd Street as well as two infrastructure projects, the Regional Connector Project and Broadway Civic Center Park. These four related projects would not materially impair any historical resources, and as discussed above, the Project would have no indirect impacts on historical resources in the study area. Therefore, there would be no potential for cumulative impact to historical resources in the immediate vicinity.

Cumulative impacts to historical resources must also consider changes within the same historic district. The direct and indirect impacts of the Project on the potential Times Mirror Square historic district are discussed above. As the Project site encompasses the entire historic district, there are no other projects located within the boundaries of the potential Times Mirror Square historic district.

Additionally, cumulative impacts to historical resources must consider whether a project substantially diminishes the number of historical resources of the same property type, even if such other structures are not otherwise on the related projects list. The Executive Building appears to be significant under California Register Criterion 1 within the Sub-Context of Newspapers and Publishing for its association with the Times Mirror Company. Other properties that share the Newspapers and Publishing property type include the 1930 Hollywood Citizen News Building at 1545 Wilcox Avenue, the 1914 Herald Examiner Building at 1111 South Broadway, and the 1937 Hollywood Reporter Building at 6713 Sunset Boulevard. The Hollywood Citizen News Building was identified as eligible for listing in the National Register in the Historic Resources Survey of the Hollywood Redevelopment Area in March 2009 and is currently under consideration for designation as an HCM as of the date of this report, the Herald Examiner Building is a designated HCM and is listed on the National Register, and the Hollywood Reporter Building is a designated HCM and was found eligible for listing in the California Register in the Historic Resources Survey of the Hollywood Redevelopment Area in March 2009.

There is currently a project related to the Herald Examiner Building and a project related to the Hollywood Reporter Building, both of which are not otherwise on the related projects list. According to the Herald Examiner Project Final EIR published in July 2006, the Herald Examiner Building would be rehabilitated in compliance with the Standards to include 20,000 square feet

of retail space, 9,000 square feet of indoor amenities, and 39,725 square feet of office space.[96] It concludes that the impact of the project on the Herald Examiner Building would be less than significant. According to the Crossroads Hollywood Project Final EIR published in May 2017, the Hollywood Reporter Building would be rehabilitated in compliance with the Standards to include 18,000 square feet of retail/restaurant space. [97] The EIR also concludes that the impact of the Crossroads Hollywood Project on the Hollywood Reporter Building would be less than significant. There are no projects proposed with the potential to impact the Hollywood Citizen News Building.

The Executive Building also appears significant under California Register Criterion 2 for its association with Otis Chandler. Besides the Times-Plant Complex, there are no other properties that have been identified as significant for their association with Otis Chandler. The Parking Structure is not significant under California Register Criteria 1 and 2 because it is a purely functional building and is not directly associated with the activities of the Times Mirror Company or Otis Chandler.

Furthermore, the Executive Building's significance is unique to its association with the Times Mirror Company and the career of Otis Chandler. It does not have a relationship to other properties within the Newspapers and Publishing Sub-Context that is relevant to its significance. An analysis of cumulative impacts of the Project and related projects on historical resources of the same property type is more appropriate for historical resources that have a relationship that is relevant to their significance, such as being designed by the same architect or being an example of the same architectural style. Therefore, there are no cumulative impacts on historical resources that are examples of the same property type as those within the Project site.

5.4.4 Conclusions

The Project as proposed involves three activities: demolition, rehabilitation, and new construction. The demolition of the Executive Building and Parking Structure would result in a significant adverse impact on the Executive Building as an individual historical resource as well as Times Mirror Square as a historic district. These resources would be materially impaired by the demolition component of the Project. These resources would no longer be able to convey their significance that justified their eligibility for listing in the National and/or California Registers. Mitigation measures are prescribed below; however, they would not reduce the impact to less than significant. The demolition, rehabilitation, and new construction activities would have a less than significant impact on the Times, Plant, and Mirror Buildings because they would not be materially impaired. While the demolition and rehabilitation components of the Project would require alterations to the Times, Plant, and Mirror Buildings, they would retain sufficient integrity to convey their significance. Indeed, it is more likely that the integrity would be improved rather than diminished by the alterations. Thus, they would remain eligible for listing in the National Register, listed in the California Register, and designated as a HCM. Nevertheless, mitigation measures are recommended below to minimize the already less than significant impact and to promote the highest level of preservation standards. The potential impacts on the historic buildings from excavation and grading and the use of vibratory equipment during the

[96] City of Los Angeles Department of City Planning, Herald Examiner Project, Final Environmental Impact Report: Herald Examiner Project, https://planning.lacity.org/eir/HeraldExaminer/FEIR/index.html. Accessed March 7, 2018.
[97] City of Los Angeles Department of City Planning, Crossroads Hollywood Project, Final Environmental Impact Report, https://planning.lacity.org/eir/CrossroadsHwd/deir/index.html. Accessed March 7, 2018.

construction of the new buildings can be avoided by mitigation measures. One is recommended below and the other is in the noise section of the Project DEIR. The new construction would diminish the integrity of the setting of the Times, Plant, and Mirror Buildings, but not to the degree that they would not remain eligible for listing in the National Register, listed in the California Register, and designated as a HCM. The new construction would also not negatively affect the integrity of the historical resources in the study area. All would continue to convey their significance that justified their listing or evaluation as eligible for listing under national, state, or local landmark or historic district programs. Therefore, the impact of the new construction component of the Project is less than significant and no mitigation is required or recommended. Furthermore, there would be no potential for cumulative impacts as a result of the Project and related projects, when taken as a whole, that substantially diminish the number of historic resources within the same or similar context or property type.

5.5 Mitigation Measures

The Project as currently proposed would have a significant adverse impact on the Executive Building and Parking Structure as well as Times Mirror Square. It would have a less than significant impact on the Times, Plant, and Mirror Buildings. For compliance with CEQA, the lead agency–in this case, the City of Los Angeles–is required to identify potentially feasible measures to mitigate significant impacts and to ensure that any adopted measures are fully enforceable through permit conditions, agreements, or other measures. The intent of the measures is to avoid or minimize impacts to historical resources through feasible, enforceable means while achieving the Project goals and objectives. The following sections summarize the recommended mitigation measures for the Project.

Historic American Building Survey (HABS)

Prior to the issuance of a demolition permit, the Applicant shall have prepared HABS Level II documentation for the Executive Building and Parking Structure according to the *Secretary of the Interior's Standards and Guidelines for Architectural and Engineering Documentation.* The HABS report shall:

1. Be prepared by historic preservation professionals meeting the Secretary of the Interior's Professional Qualifications Standards with demonstrated experience in creating HABS Level II documentation.
2. Include photographs taken with large format (4 X 5), black and white film.
    a. Photographs shall include a minimum of 40 views of the following:
        i. setting of Times Mirror Square from various oblique and cardinal angles,
        ii. exterior views of each elevation of the Executive Building and Parking Structure as well as an assortment of significant architectural features and details, and
        iii. interior views of significant spaces and details.
    b. Photographs or a high-resolution digital scan of original drawings, if available
3. Include written historical descriptive data, index to photographs, and photo key plan.

4. Include copies of historic photographs, if available.

5. Be distributed to the following repositories for use by future researchers and educators. Before submitting any documents, each repository must be contacted to ensure that they are willing and able to accept the items:

    a. Library of Congress - One unbound archival copy including all of the above and one set of negatives.

    b. Los Angeles Public Library - One bound archival copy including all of the above and one set of negatives.

    c. OHR - One high-quality bound copy with digitally printed photographs per HABS guidelines.

Secretary of the Interior's Standards for the Rehabilitation

The Times, Plant, and Mirror Buildings shall be rehabilitated in accordance with the HSR and Secretary of the Interior's Standards for Rehabilitation. The rehabilitation plans shall be:

1. Created by a licensed architect meeting the Secretary of the Interior's Professional Qualifications Standards for historic architecture with at least five years of demonstrated experience in the rehabilitation of historic buildings.

2. Reviewed for compliance with the Standards by a historic preservation professional meeting the Secretary of the Interior's Professional Qualifications Standards for historic architecture with at least five years of demonstrated experience in applying the Standards to such projects.

    a. Reviewer shall create a technical memorandum at each phase (schematic, design and development, and construction documents) of the architectural design process. In the event, the plans do not comply with the Standards, the memorandum shall make recommendations for changes to bring them into compliance.

    b. Reviewer shall submit the memoranda to OHR for concurrence. Building permits may be issued after OHR has concurred the plans comply with the Standards.

Compliance with the Standards shall be disclosed in the lease agreements, agreed upon in writing, and mutually enforced by the Applicant and the City. The tenants shall not be permitted to conduct work that does not comply with the Standards.

Construction Monitoring (Structural)

The Project as it relates to the demolition of the Executive Building and Parking Structure and construction of the North and South Towers shall be monitored to minimize damage to the Times, Plant, and Mirror Buildings. The construction monitoring shall:

1. Be performed by a licensed structural engineer with at least five years of demonstrated experience in rehabilitating historic buildings of similar size.

2. Include a survey the existing foundations and other structural aspects of the Times, Plant, and Mirror Buildings to establish baseline conditions and provide a shoring design to

protect the historical resources from potential damage.

a. Survey shall take place prior to any construction activities.

b. Pot holing or other destructive testing of the below grade conditions on the Project Site and immediately adjacent to the Times, Plant, and Mirror Buildings may be necessary to establish baseline conditions and prepare the shoring design.

c. Monitor shall submit to OHR a pre-construction survey that establishes baseline conditions to be monitored during construction, prior to issuance of any building permit for the Project.

3. Include a meeting with the Project contractor prior to the demolition of the Executive Building and Parking Structure to discuss minimizing collateral damage to the Times, Plant, and Mirror Buildings.

Construction Monitoring (Architectural)

The construction of the Project as it relates to the rehabilitation of the Times, Plant, and Mirror Buildings shall be monitored for compliance with the Standards. The construction monitoring shall:

1. Be performed by a professional meeting the Secretary of the Interior's Professional Qualifications Standards for historic architecture with at least five years of demonstrated experience in rehabilitating historic buildings of similar size.

2. Be performed by the professional at regular intervals during the rehabilitation of the Times, Plant, and Mirror Buildings. The intervals shall include, but not necessarily limited to 50%, 90%, and 100% construction.

a. Monitor shall create a technical memorandum at each interval summarizing the findings, making recommendations as necessary to ensure compliance with the Standards, and documenting construction with digital photographs. Compliance with the Standards shall include the review specifications, tests, and mock-ups for the treatment of historic building materials.

b. Monitor shall submit the memoranda to OHR for concurrence. In the event OHR does not concur, all activities shall cease until compliance with the Standards is resolved and concurrence is obtained.

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Appendix A: Résumés



TERESA GRIMES is a Principal Architectural Historian at GPA. She has over 25 years of experience in the field of historic preservation in the private, public, and non-profit sectors. Teresa is widely recognized as an expert in the identification and evaluation of historical resources having successfully prepared dozens of landmark and historic district applications for a wide variety of property types. Her many projects have included historic context statements for Riverside, Calabasas, Glendale, and Carmel-by-the-Sea, and historic resource surveys in Riverside, Whittier, Calabasas, Pasadena, Whittier, and Los Angeles. Teresa has also completed numerous environmental compliance documents involving major landmarks; examples include the United Artist Theater, Cinerama Dome, Dodger Stadium, Los Angeles Sports Arena, Beverly Hills Post Office, and Baldwin Hills Shopping Center.

Educational Background:

- M.A., Architecture, University of California, Los Angeles, 1992
- B.A., Political Science, University of California, Los Angeles, 1986

Professional Experience:

- GPA Consulting, Principal Architectural Historian, 2009-Present
- Christopher A. Joseph & Associates, Senior Architectural Historian, 2006-2009
- Teresa Grimes/Historic Preservation, Principal, 1999-2005, 1993-1994, 1991-1992
- Historic Resources Group, Project Manager/Architectural Historian, 1994-1998
- Getty Conservation Institute, Research Associate, 1992-1993
- Los Angeles Conservancy, Preservation Officer, 1988-1991

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for history and architectural history pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.

Professional Activities:

- Pasadena Heritage Board Member, 2008-2012
- Highland Park Heritage Trust, Board Member, 1996-1998
- West Hollywood Cultural Heritage Advisory Board, 1990-1994

Selected Projects:

- Los Angeles County Museum of Art Master Plan, Los Angeles County, CEQA Historical Resource Report, 2018
- Vine/Afton/DeLongpre, Los Angeles CEQA Historical Resource Report, 2018
- Times Mirror Square, Los Angeles, CEQA Historical Resource Report, 2018
- Figueroa & Flower, Los Angeles, CEQA Historical Resource Report, 2018
- 913 S. Figueroa, Los Angeles, CEQA Historical Resource Report, 2017
- 1129 E. 5th Street, Los Angeles, CEQA Historical Resource Report, 2017
- Olympic & Hill, Los Angeles, CEQA Historical Resource Report, 2017
- City of Hope Master Plan, Duarte, CEQA Historical Resource Report, 2015-2016
- Farmers Insurance Building, Los Angeles, CEQA Historical Resource Report, 2016
- John Anson Ford Theatres, Los Angeles County, CEQA Historical Resource Report, 2011-2015
- LA Biomed Master Plan, Torrance, CEQA Historical Resource Report, 2014
- May Company, Laurel Plaza, Los Angeles, CEQA Historical Resource Report, 2014
- United Artist Theater, Los Angeles, CEQA Historical Resource Report, 2013
- Claremont Graduate University Master Plan, CEQA Historical Resource Report, 2013
- Hillcrest Motors Building, Hollywood, CEQA Historical Resource Report, 2013
- Max Factor Building, Hollywood, CEQA Historical Resource Report, 2012
- Claremont McKenna College Master Plan, CEQA Historical Resource Report, 2008



LAURA O'NEILL is a Senior Architectural Historian and Designer at GPA. She has been professionally involved in the field of historic preservation since 2006. Laura's experience with GPA has included the preparation of CEQA and Section 106 reports for numerous projects throughout the state. These have ranged from co-authoring the CEQA report for the Nelles Correctional Facility Specific Plan to managing the Section 106 documents for the SR91 West Bound Widening Project. Laura has managed and contributed to a variety of historic context statements and MPD forms including the Latinos in Twentieth Century California MPD, San Diego LGBTQ Historic Context Statement, Late Nineteenth and Early Twentieth Century Development and Architecture in Pasadena MPD, and Postwar Development and Architecture in Fremont Historic Context Statement. Laura uses her educational background in architecture to assist clients in rehabilitating historic buildings in compliance with the Standards. Her recent projects have included assisting the City of Los Angeles with the Mills Act inspection program, completing the Federal Rehabilitation Tax Credit application for the Hotel Rosslyn Annex, preparing a Historic Structure Report for the John Anson Ford Theatres, and consulting on the adaptive reuse of the Spruce Goose Hangar.

Educational Background:

- M.Arch. I, California State Polytechnic University, Pomona, 2009
- B.A., Political Science, Lehigh University, 2002

Professional Experience:

- GPA Consulting, Senior Architectural Historian and Designer, 2008-Present
- Philadelphia Historical Commission, Graduate Intern, 2008
- California State Polytechnic University, Graduate Assistant, 2007-2008

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for history, architectural history, and historic architecture pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.

Professional Activities:

- Santa Monica Landmarks Commissioner, 2014-Present

Selected Projects:

- Los Angeles County Museum of Art Master Plan, Los Angeles County, CEQA Historical Resource Report, 2018
- 1718 N. Vine Street, Los Angeles, CEQA Historical Resource Report, 2018
- Villa Carlotta, Los Angeles, CEQA Historical Resource Report, 2016
- Mira Loma Detention Center Women's Facility, Los Angeles County, CEQA Historical Resource Report, 2016
- Nelles Correctional Facility Specific Plan, Whittier, CEQA Historical Resource Report, 2015
- Evanston Inn, Pasadena, CEQA Historical Resource Report, 2013
- 500 Broadway, Santa Monica, Historical Resource Evaluation Report, 2013
- 21200 Victory Boulevard, Los Angeles, Historical Resource Evaluation Report, 2013
- 1318 2nd Street, Santa Monica, CEQA Historical Resource Report, 2012
- 213 Pomona Avenue, Fullerton, CEQA Historical Resource Report, 2012
- House of Hope, Duarte, CEQA Historical Resource Report, 2010
- Moore House, Palos Verdes Estates, CEQA Historical Resource Report, 2010
- Hollywood Center Studios, Los Angeles, Historical Resources Evaluation Report, 2010
- Wilshire Grand Hotel, Los Angeles, Historical Resource Evaluation Report, 2009



AMANDA YODER is an Associate Architectural Historian at GPA. She has been professionally involved in the field of historic preservation since 2011. Amanda's experience with GPA has included the preparation of CEQA and Section 106 reports for numerous projects throughout the state; design guidelines for historic districts in the City of Long Beach; several architectural and cultural themes for the Los Angeles Citywide Historic Context Statement; Historic American Buildings Survey/Historic American Engineering Record reports for numerous properties including Orange Coast College; National Register of Historic Places and Los Angeles Historic-Cultural Monument nominations for a variety of property types; and Part I Federal Rehabilitation Tax Credit applications for several buildings in downtown Los Angeles. Amanda has also contributed to several large-scale historic resources surveys including the East San Fernando Valley Transit Corridor, High-Speed Rail from Los Angeles to Burbank, I-710 from Los Angeles to Long Beach, Whittier Non-Residential Historic Resources Survey, and SurveyLA.

Educational Background:

- B.F.A, Historic Preservation, Savannah College of Art and Design, 2011

Professional Experience:

- GPA Consulting, Associate Architectural Historian, 2012-Present
- Architectural Resources Group, Intern, 2012
- City of Los Angles, Office of Historic Resources, Intern, 2011-2012

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for architectural history pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.
- National Preservation Institute, Section 106: An Introduction

Professional Activities:

- California Preservation Foundation Conference Programs Committee, 2017

Selected Projects:

- High Speed Rail, Los Angeles to Burbank, CEQA/NEPA Historical Resource Report, 2016-2018
- Rose Hill Courts, Los Angeles, Historical Resource Report, 2015-2017
- Oakwood School Master Plan, Los Angeles, Historical Resource Report, 2016
- Villa Carlotta, Los Angeles, CEQA Historical Resource Report, 2016
- Mira Loma Detention Center Women's Facility, Los Angeles County, CEQA Historical Resource Report, 2016
- Commonwealth Nursery, Los Angeles, CEQA Historical Resource Report, 2016
- Coca-Cola Building, Los Angeles, CEQA Historical Resource Report, 2014
- City Market of Los Angeles, CEQA Historical Resource Report, 2015
- 732 S. Spring Street, Los Angeles, CEQA Historical Resource Report, 2015
- Hollywood and Cherokee, Los Angeles, CEQA Historical Resource Report, 2014
- LA Biomed, Torrance, CEQA Historical Resource Report, 2014
- Willys Knight Building, Los Angeles, CEQA Historical Resource Report, 2013
- 8899 Beverly Boulevard, West Hollywood, CEQA Historical Resource Report, 2013
- High Desert Corridor, Los Angeles County, Historical Resource Evaluation Report, Section 106 Review, 2013
- Claremont Graduate University Master Plan, CEQA Historical Resource Report, 2013



EMILY RINALDI is an Associate Architectural Historian at GPA. She has been involved in the field of historic preservation since 2011. Emily's experience with GPA has included the preparation of CEQA and Section 106 reports for numerous projects throughout the state. She has completed architectural surveys for several buildings in Los Angeles, including the Los Angeles Stock Exchange Building, Musicians Union Local 47 Building, Hollywood Sears, Roebuck and Company Department Store, and Barker Brothers Building.

Prior to joining GPA, Emily worked with Building Conservation Associates (BCA) in New York City. At BCA, she prepared Federal Rehabilitation Tax Credit and New York City Landmark applications and assisted with the preparation of the Township Master Plan for Montclair, New Jersey.

Educational Background:

- M.S., Historic Preservation, Columbia University, 2013
- B.A., History, New York University, 2009
- B.A., Political Science, New York University, 2009

Professional Experience:

- GPA Consulting, Associate Architectural Historian, 2017-Present
- Building Conservation Associates, Inc., Historic Preservationist, 2015-2017
- Avery Drawings & Archives, Columbia University, Graduate Intern, 2012-2013
- Docomomo, US, Intern, 2012

Qualifications:

- Meets the Secretary of the Interior's Professional Qualifications Standards for history and architectural history pursuant to the Code of Federal Regulations, 36 CFR Part 61, Appendix A.

Professional Activities:

- Vernacular Architecture Forum, Image Editor for *Buildings & Landscapes*, 2014-Present

Selected Projects:

- Shoemaker Bridge, Long Beach, Section 106 Historical Resources Evaluation Report, 2018
- 1100 E. 5th Street, Los Angeles, CEQA Historical Resource Report, 2017
- 676 Mateo Street, Los Angeles, CEQA Historical Resource Report, 2017
- 314-18 Firmin Street, Los Angeles, Historical Resource Evaluation Report, 2017
- 401 S. Hewitt Street, Los Angeles CEQA Historical Resource Report, 2017
- Stock Exchange, Los Angeles, Preservation Plan, Interior, 2017
- 800 Traction Avenue, Los Angeles, Historic-Cultural Monument Application, 2017
- 91/605, Los Angeles County, Section 106, Historical Resources Evaluation Report, 2017
- Truxtun/Oak Intersection Operational Improvements, Bakersfield, Section 106 Historical Resources Evaluation Report, 2017
- Southington Historic Inventory Survey, Southington, Connecticut, 2016-2017
- Windsor Locks Readiness Center, Windsor Locks, Connecticut, Exhibit Sign, 2016
- Historic Preservation Element of the Township Master Plan for Montclair, New Jersey, 2016
- Edward Ridley & Sons Department Store, New York, Federal Rehabilitation Tax Credit Application, 2015-2016
- Historic Resource Inventory Survey of Midtown Manhattan, New York, 2015-2016
- Washington Union Station, Washington, D.C., Historic Preservation Plan, 2015
- *Threatened by History: The Problems in Preserving the Postbellum Commemorative Landscape*, Master's Thesis, 2013

Appendix B: State Inventory Forms (DPR 523)

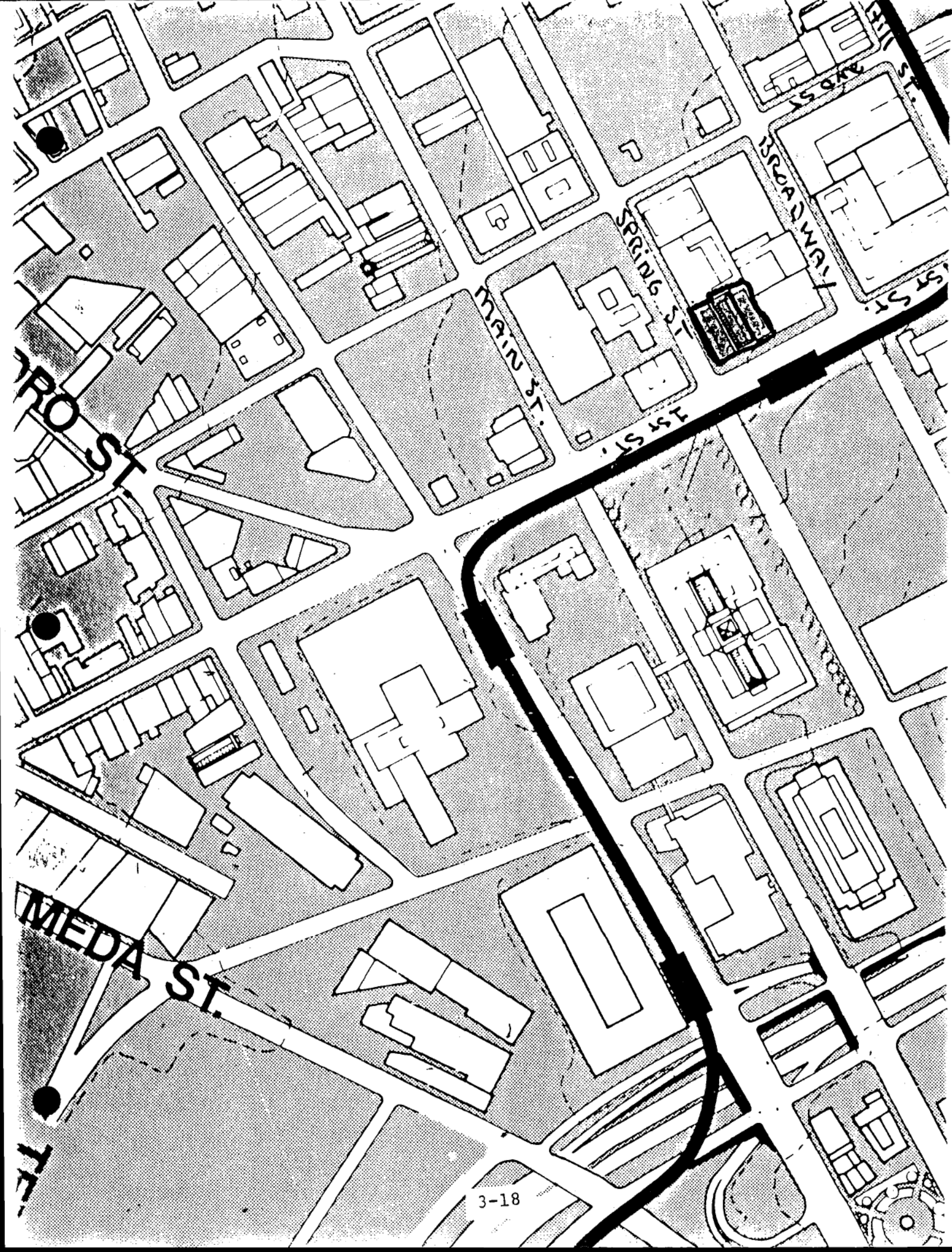
The format and content of state inventory forms have changed over time. Attached are the previous forms for the Times, Plant, and Mirror Buildings. GPA prepared a District Record set for Times Mirror Square. Also attached are the previous forms for the Los Angeles Civic Center Historic District.

Los Angeles Downtown People Mover Program
Historic Resources Inventory Form

UMTA781024A
19-173080
Prop# 027/21
Hist. Res. DVE-19-79-0004-0000

IDENTIFICATION

1. Common name: Los Angeles Times Building.
2. Historic name, if known: Los Angeles Times Building.
3. Street or rural address 202 W. First Street. 201 W First St
   City: Los Angeles ZIP: 90012 County: Los Angeles
4. Present owner, if known: Times Mirror Co. Address: Times Mirror Square
   City: Los Angeles ZIP: 90012 Ownership is: Public [ ] Private [X]
5. Present Use: Publishing Co. Original Use: Publishing Co.
   Other past uses:
6. Classification Building
7. Approximate property size:
   Lot size (in feet) Frontage 164.7'
   Depth 364.36'
   or approx. acreage 1.392
8. Condition: (Check one)
   a. Excellent [X] b. Good [ ] c. Fair [ ]
   d. Deteriorated [ ] e. No longer in existence [ ]
9. Is the feature a. Altered? [X]
   b. Unaltered? [ ]
10. Surroundings: (Check more than one if necessa
    a. Open land [ ] b. Scattered buildings [ ]
    c. Densely built-up [X] d. Residential [ ]
    e. Commercial [X] f. Industrial [ ]
    g. Other [X] City Government Building
11. Threats to site:
    a. None known [ ] b. Private development [ ]
    c. Zoning [ ] d. Public Works project [ ]
    e. Vandalism [ ] f. Other [X] See Attached Technical Report
12. Date(s) of enclosed photograph(s) Nov. 1978
13. Primary exterior building material: a. Stone [X] b. Brick [ ] c. Stucco [ ] d. Adobe [ ]
    e. Wood [ ] f. Other [X] Concrete
14. Is the structure: a. On its original site? [X] b. Moved? [ ] c. Unknown? [ ]
15. Year of initial construction 1933 This date is: a. Factual [X] b. Estimated [ ]
16. Architect (if known): Gordon B. Kaufmann
17. Builder (if known): P.J. Walker
18. Related features: a. Barn [ ] b. Carriage house [ ] c. Outhouse [ ] d. Shed(s) [ ]
    e. Formal garden(s) [ ] f. Windmill [ ] g. Watertower/tankhouse [ ] h. Other [X] Several
    i. None [ ] Additions to Structure (See Sections 21 and 22)
19. Main theme of the historic resource: (Check only one): a. Architecture
    b. Arts & Leisure [ ] c. Economic/Industrial [X] d. Exploration/Settlement [ ]
    e. Government [ ] f. Military [ ] g. Religion [ ] h. Social/Education [ ]
20. Date form prepared: Dec. 1978 By (name): Roger G. Hatheway
    Address: 727 W. 7th St. City Los Angeles ZIP: 90017
    Phone: 688-7520 Organization: C.R.A.


MAIN ST.
SPRING ST.
BROADWAY
1ST ST.
MEDA ST.

21. DESCRIPTION

The building is a monitor shaped, multi-story structure ranging from five to eight stories in height with a basement and sub-basement. The building is of Class A fireproof construction , with skeleton steel frame, and reinforced concrete filler walls, floors and roof slabs. Granite and Indiana limestone are the primary facing materials. Exterior spandrel are of deplated aluminum and the showcase windows are set in bronze. The form of the building is stepped in a symmetrical and pyramidal manner with a central entrance on First Street. The facade is articulated throug the use of grooved vertical ribs dividing the window bays. Ornamentation is confined primarily to spandrel panels although there is some decorative detail surrounding the showcase windows, a repeating eagle motiff in stone and three carved figures above the central entrance. The building is designed in the Moderne style, representing the importance of structural form and utility in design rather than ornamentation.

There have been several additions to the Kaufmann designed Times Structure These additions now comprise the Times Mirror Square

(Continued on following page)

22. SIGNIFICANCE

The structure was designed by the prominent Southern California Architect, Gordon B. Kaufmann. This structure is perhaps the best example of what has come to be known as the WPA moderne in the downtown area.

When it was built the Times Building was the largest structure in the west designed for and occupied entirely by a daily newspaper. It embodied the latest ideas in planning, construction and equipment and was a symbol of the growth and progress of the Los Angeles Times.

Two of the most outstanding construction features were the earthquake resistant design and the building air-conditioning plant. The building was actually designed as two separate structural units. A space of six inches separates the two units and they are connected by slip joints of metal. This insured that the building components would have two different periods of oscillation, and would be safer in the event of a severe earthquake. The air-conditioning system was then the most extensive and comple of any in the west. It included special humidity controls designed to maintain the proper moisture level in the mechanical and printing departments.

The building itself must also be viewed as part of growth of the Times Mirror Company. The first issue of the T imes appeared on December 4, 18 Six months later the orginal publishers sold an interest in the paper to

(Continued on following page)

23. REPRESENTATION IN EXISTING SURVEYS

The Times Building is not represented in any survey other than the initial Los Angeles Downtown People Mover Historical Resources inventory. A form does, however exist for the Butterfield Stage Station which was locat at the site of the present Times Complex, the form is California Historica Resources Inventory #466.

21. DESCRIPTION (Continued)

a complex of structures devoted entirely to the publishing industry. The most notable addition is located at the corner of Broadway and First Street and is directly adjacent to the older Kaufmann designed building. This newer building was erected in 1973 and is in a form influenced by the corporate international style. All of the addition are compatible with the original.

The interior of the building has been remodeled to accommodate the growth of the newspaper. The lobby remains, however much in its original condition. Floors are of inlaid marble with bronze relief; panels surround a large, centrally located globe. The elevator waiting area is ornamented in a mixture of deco and streamline modern motifs. The only major alteration to the lobby area consists of the covering up of a large circular painted mural with metal screening.

22. SIGNIFICANCE (Continued)

Harrison Gray Otis, a prominent and influential citizen. As the majo stockholder Otis moved the paper to the Broadway and First Street location in downtown Los Angeles.

This structure was destroyed by a bombing in 1910, but a new building was erected on the same site. This structure served as the Times office until the Kaufmann designed building was erected.

The Times building must therefore, be considered as significant not only for its design and structural characteristics, but as a symbol of the growth of the Times Mirror Company.

24. BIOGRAPHICAL NOTES ON THE ARCHITECT

Kaufmann, Gordon B. (1888 - 3/1/1949)

Kaufmann was born in London, England. He was educated at the London Polytechnic Institute, and graduated at the age of twenty. He moved to and established residence in Los Angeles, California in 1914 and, in 1920 formed a partnership with Reginald Johnson and Roland Coate.

The partnership produced a considerable number of residential and public buildings, perhaps the most notable of which is St. Pauls Cathedral.

continued on next page

25. ADDITIONAL HISTORICAL NOTES

Leadership of the Times passed to Harry Chandler in 1917, upon the death of his father-in-law Otis. The Times has since remained under the guidance of the Chandler family. Today the Times is the third ranked newspaper in the nation according to a publishers survey.

26. BIBLIOGRAPHY

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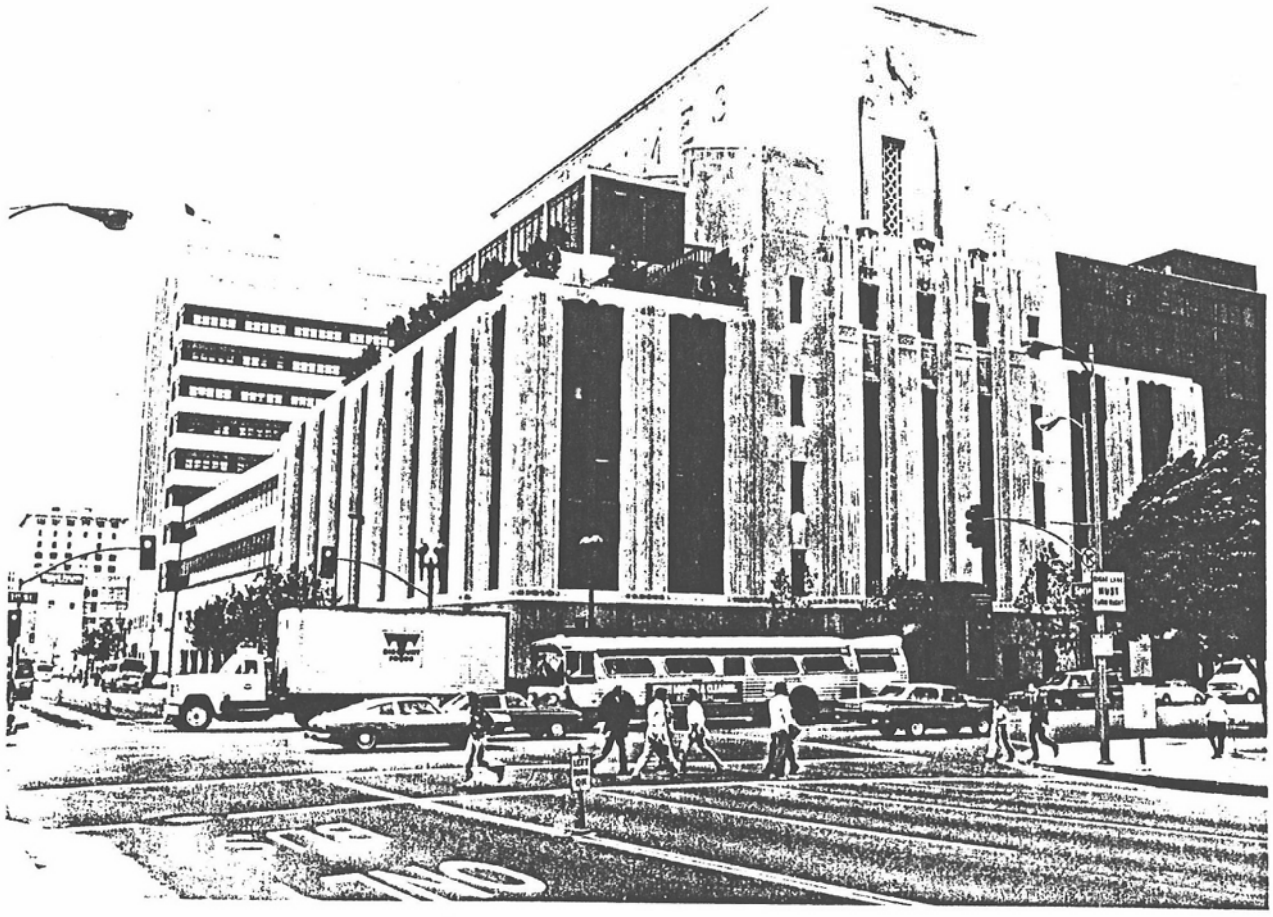
City of Los Angeles, City Hall.

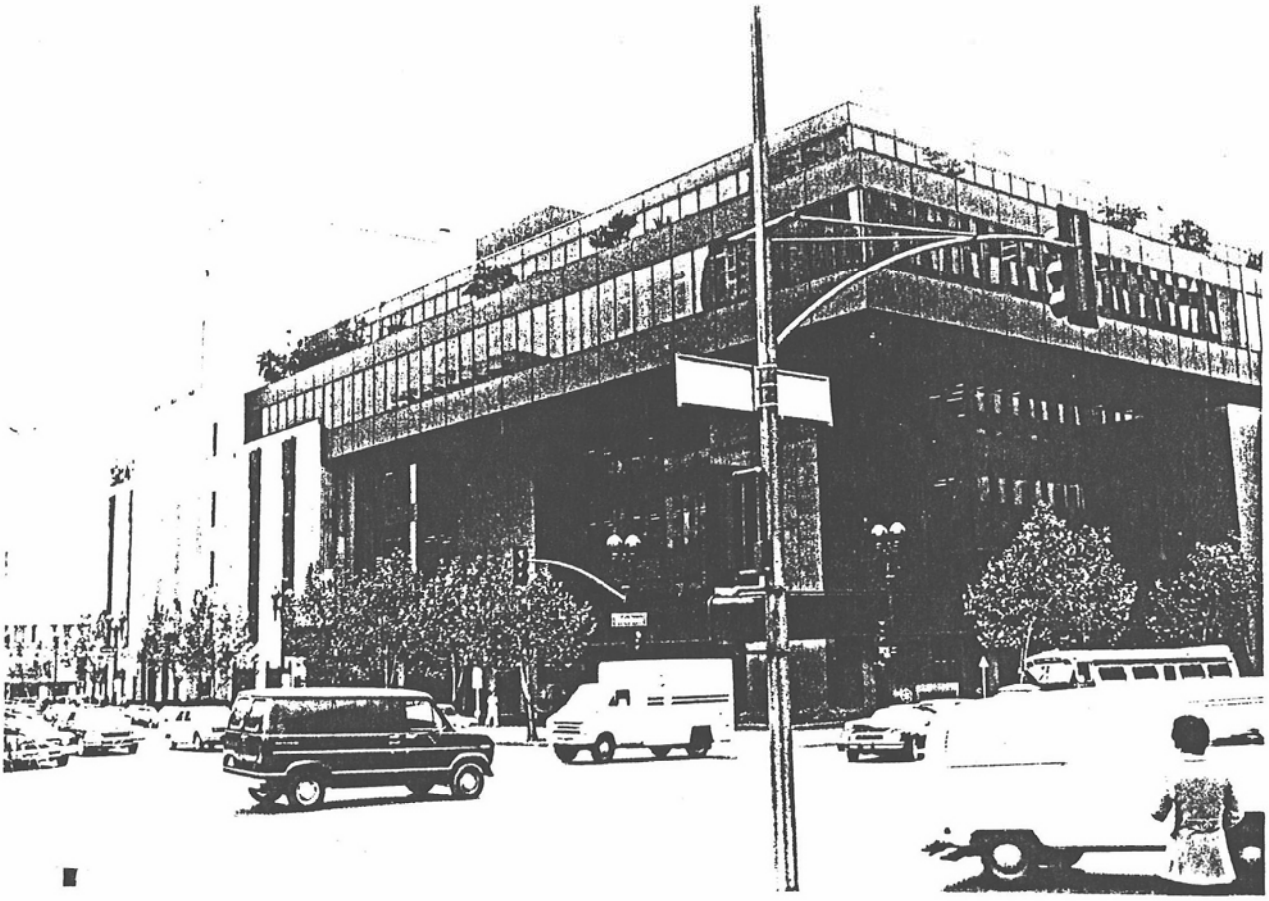
24. BIOGRAPHICAL NOTES ON THE ARCHITECT cont....

Kaufmann designed the Times building as an independent project and it is generally regarded as the outstanding example of his architectural creativity, although he was equally familiar with a number of other styles including Italian, Spanish, French, English, and Old World Renaissance.

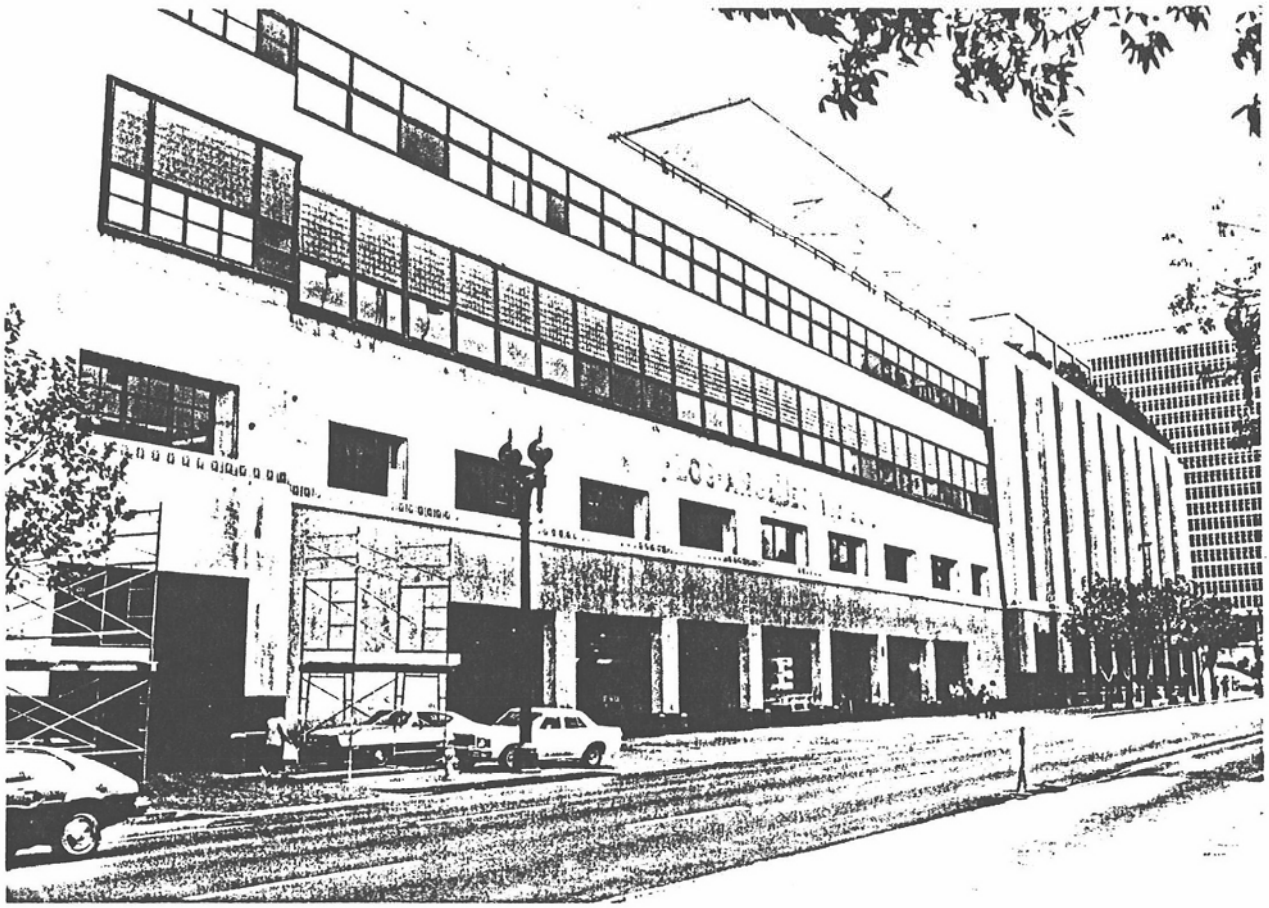
Kaufmann designed structures throughout Southern California, and was a well known and respected member of the American Institute of Architects.



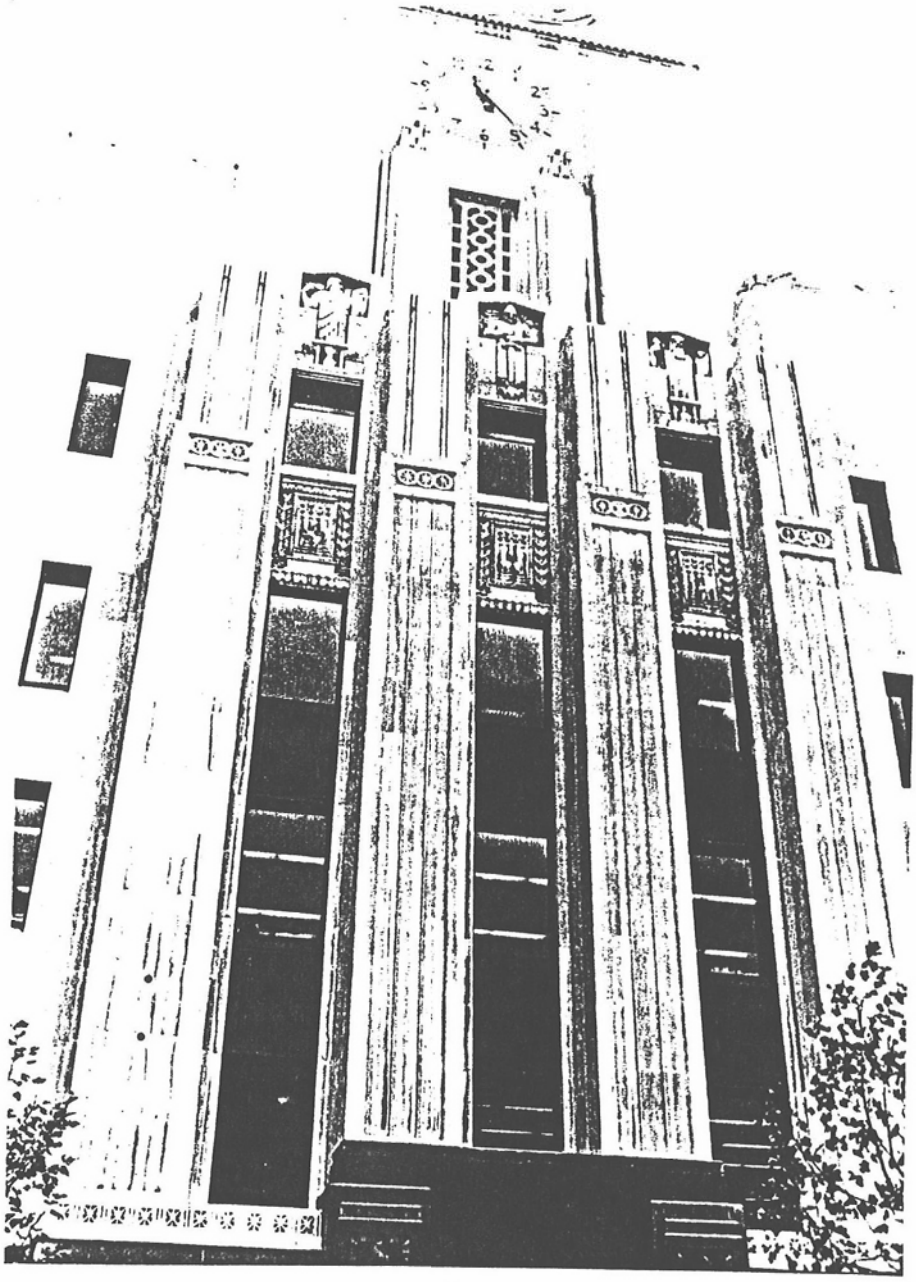
LOS ANGELES TIMES BLDG.
FROM N.E. CORNER OF FIRST
AND SPRING STREETS



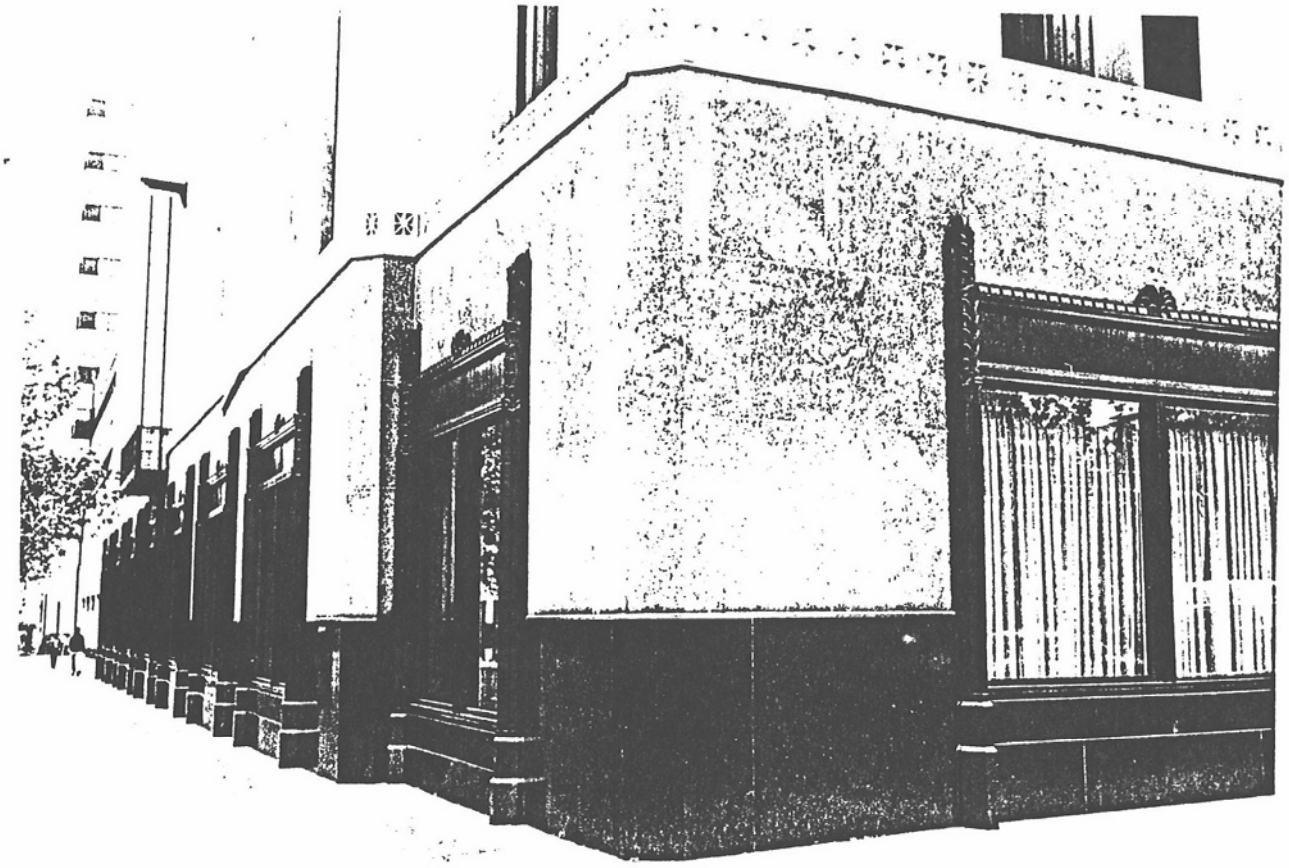
LOS ANGELES TIMES BUILDING
FROM THE N.W. CORNER OF
FIRST AND BROADWAY



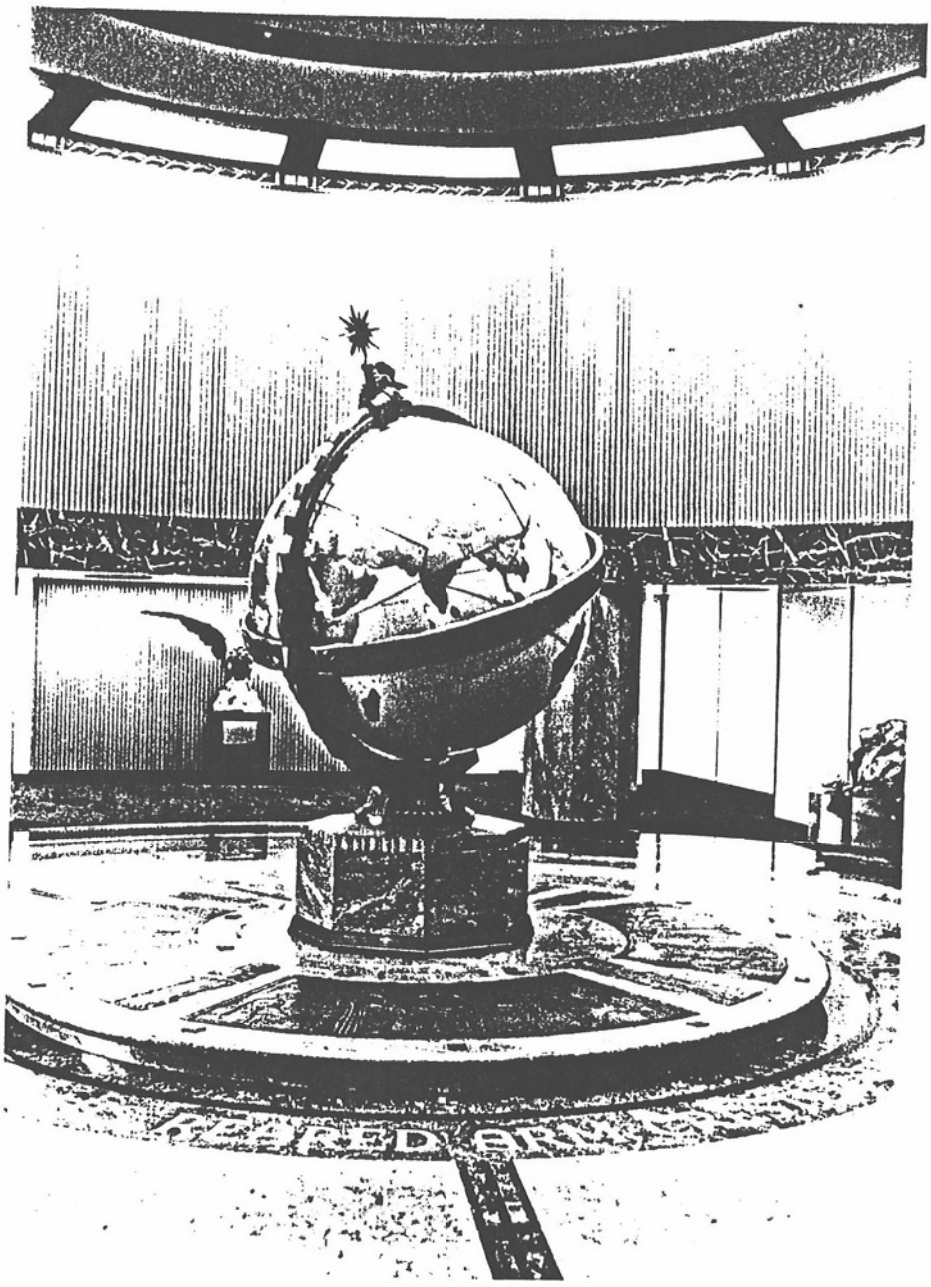
LOS ANGELES TIMES BLDG.
FROM THE S.E. CORNER OF
SECOND AND SPRING STS.



DETAIL OF FACADE OF THE
LOS ANGELES TIMES BLDG.



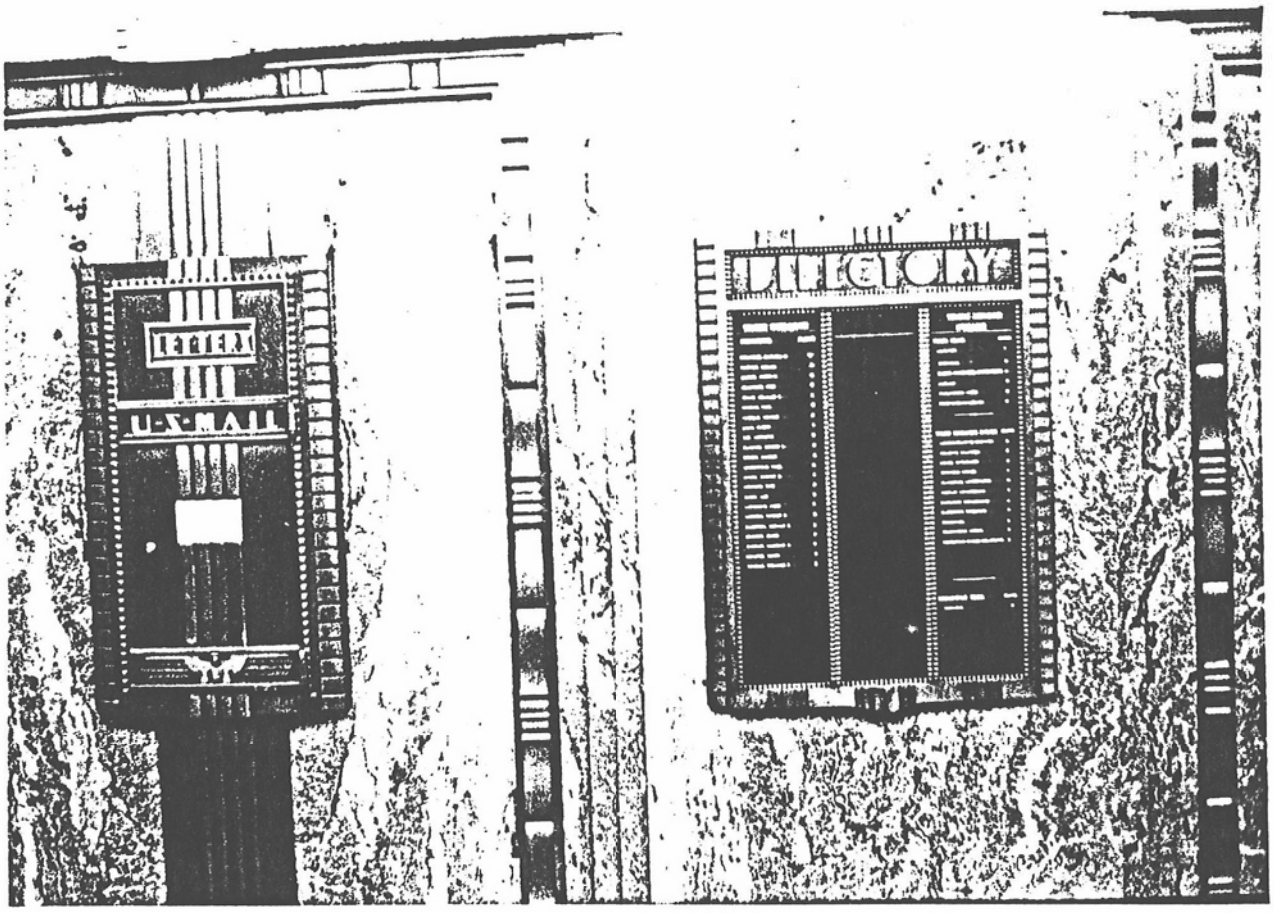
DETAIL OF SHOWCASE WINDOWS - LOS ANGELES TIMES BUILDING



L. A. TIMES BUILDING
LOBBY



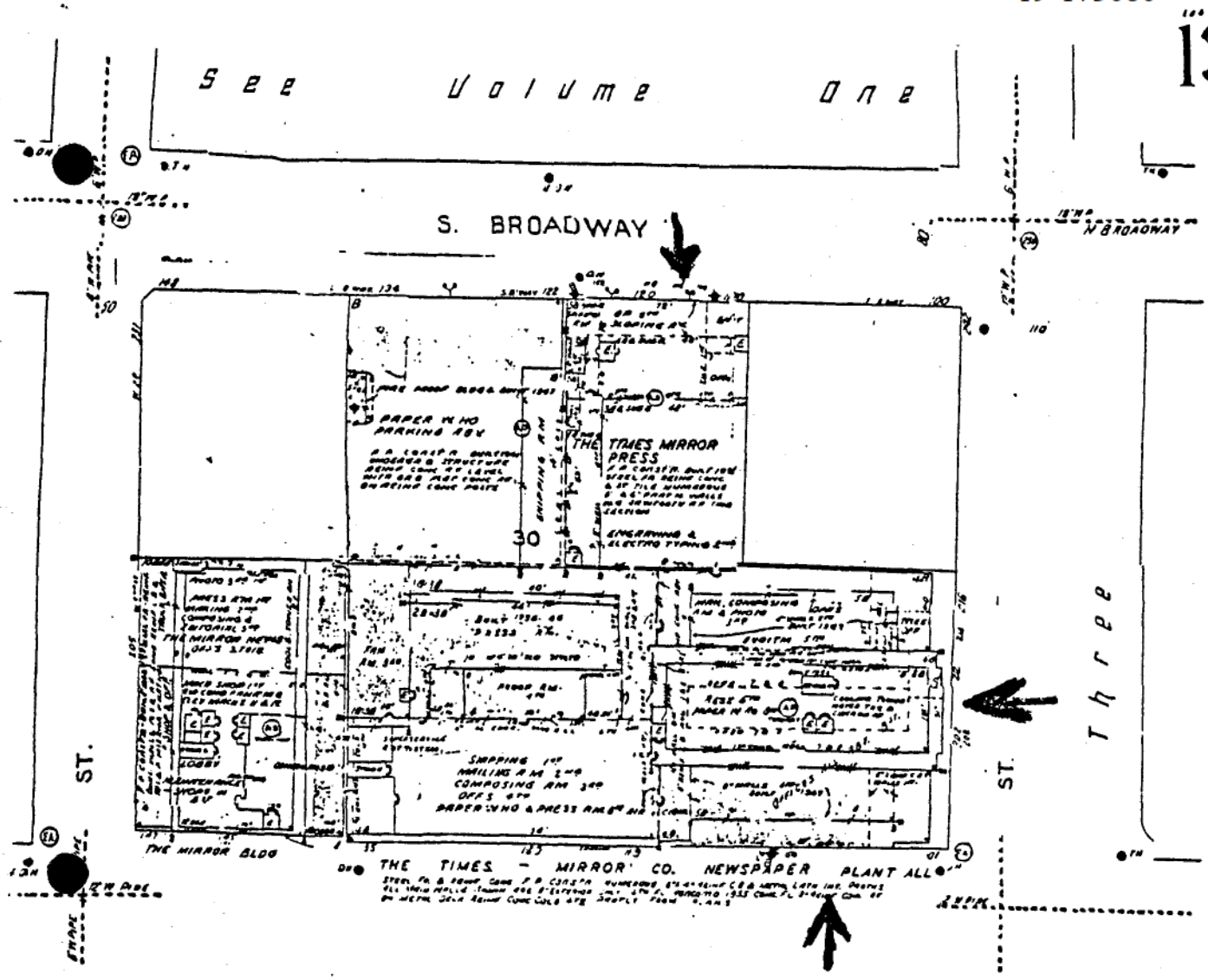
ELEVATOR LOBBY
LOS ANGELES TIMES BLDG.

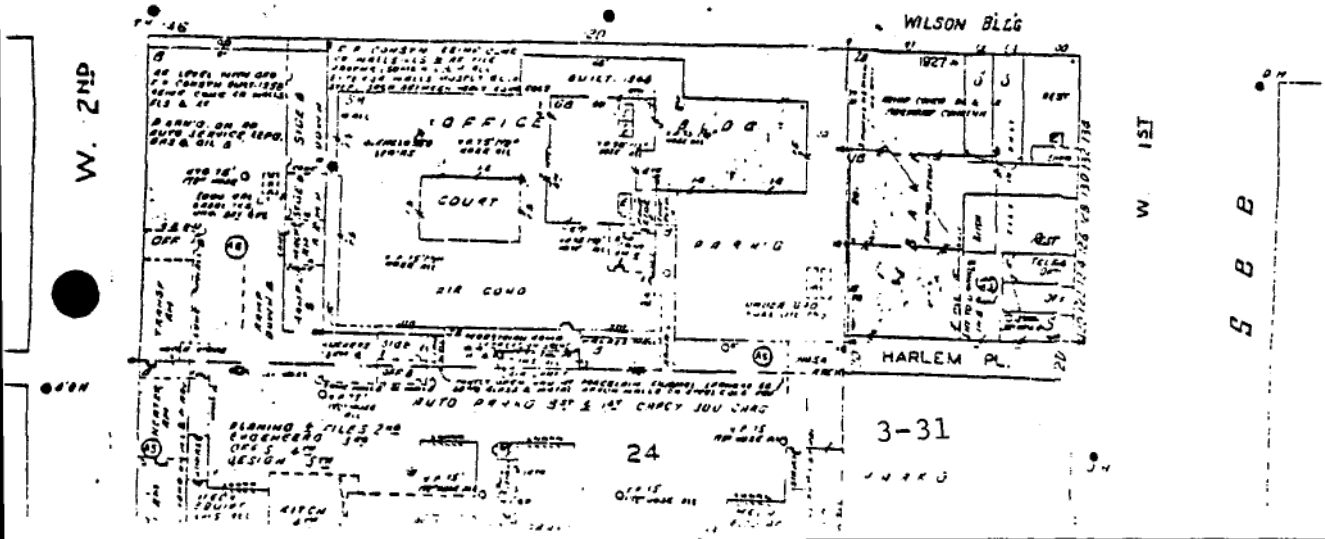


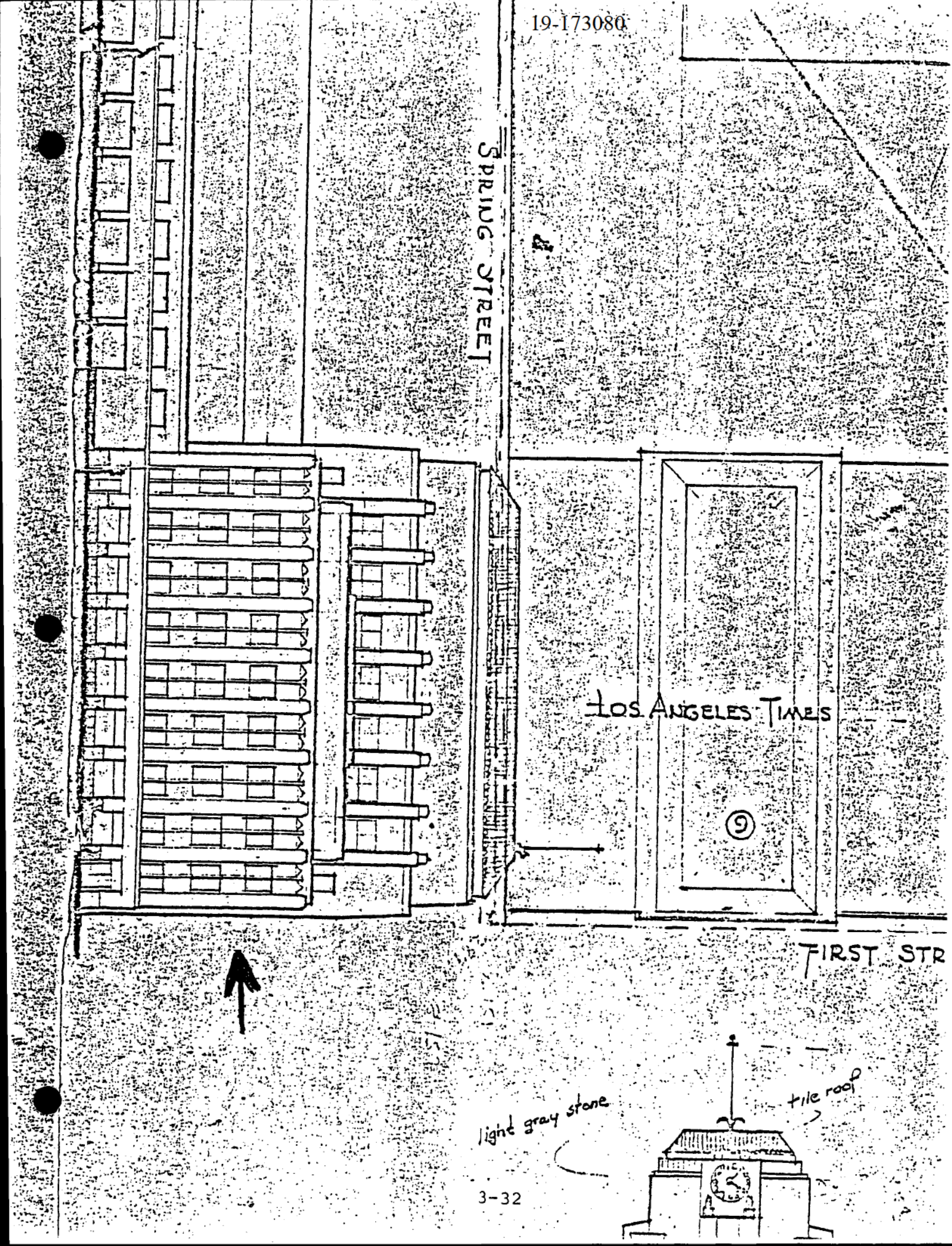
LOBBY DETAIL OF
LOS ANGELES TIMES BLDG.

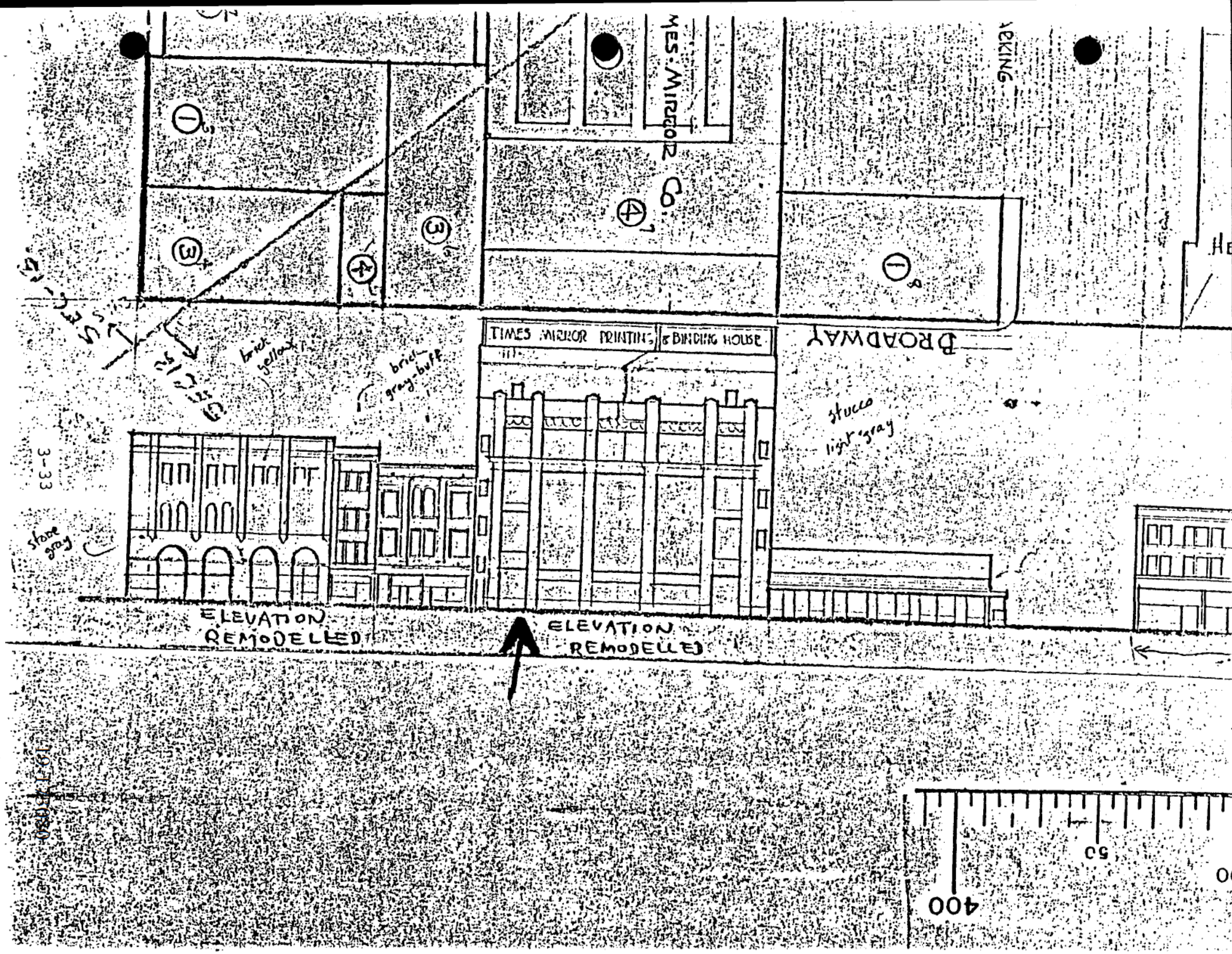
19-173080

132






SPRING STREET
LOS ANGELES TIMES
9
FIRST STR
light gray stone
tile roof



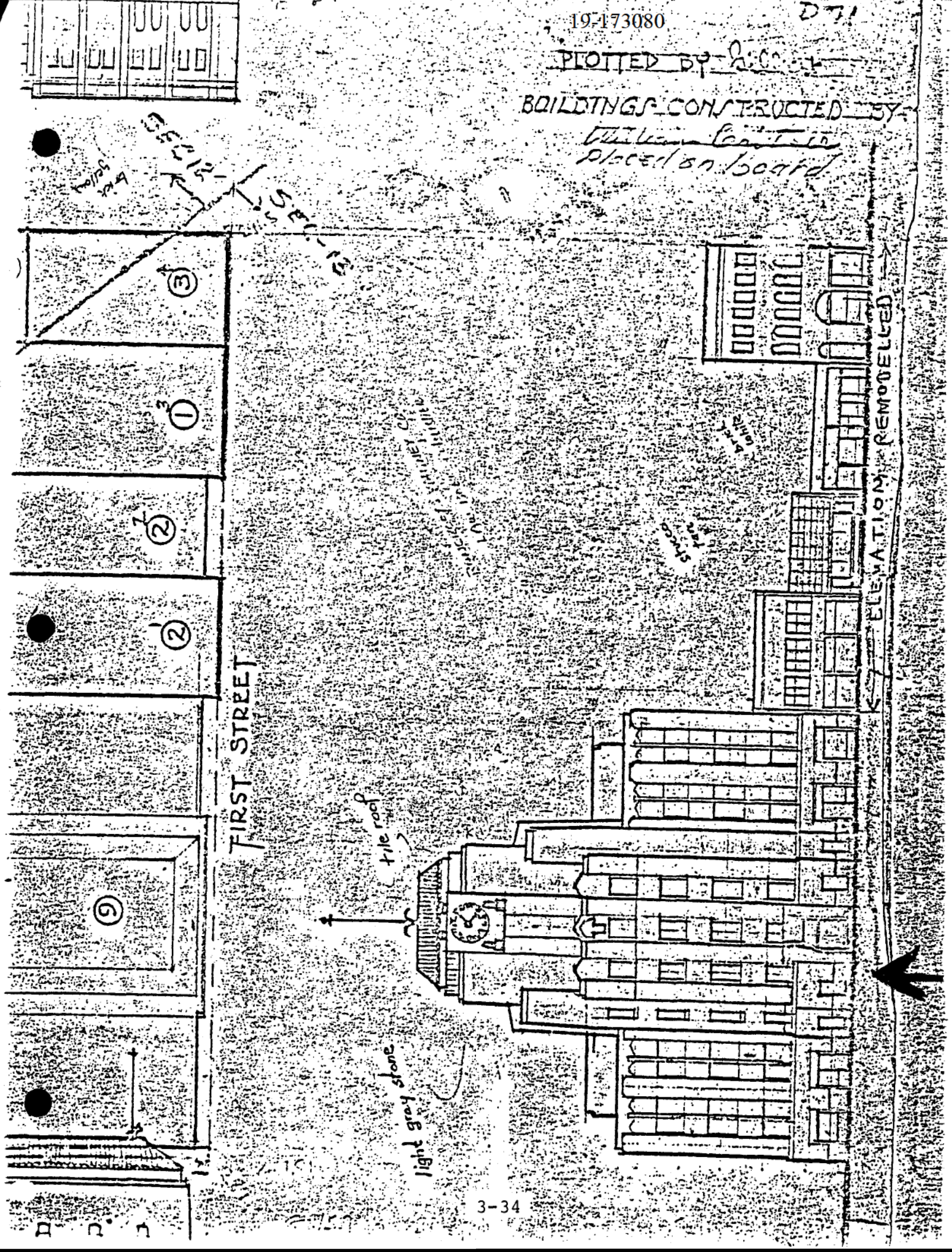
TIMES MIRROR PRINTING & BINDING HOUSE
BROADWAY
MES. MIRROR Co.
ARKING
brick yellow
brick gray-buff
stucco light gray
stone gray
ELEVATION REMODELLED
ELEVATION REMODELLED
400
50

D71

PLOTTED BY [illegible]

BUILDINGS CONSTRUCTED BY [illegible]

Placed on board



State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary # 19-174925 (Update)
HRI #
Trinomial
NRHP Status Code 3S, 5S1, 7L
Other Listings California Historical Landmark #744
Review Code **Reviewer** **Date**

***Resource Name or #:** 145 South Spring Street building (No. 8-3)

P1. Other Identifier: The *Mirror* Building (Site of Butterfield Stage Station), *Los Angeles Times-Mirror* Annex, *Times* Building South, Mirror-News Building, *Times* Building South

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Los Angeles, CA **Date:** 1966 (photorevised 1981, minor revision 1994) **T** 1S **R** 13W **Sec.** Unsectioned **B.M.** San Bernardino

c. Address: 145-147 South Spring Street, 208 West 2nd Street **City:** Los Angeles **Zip:** 90012

d. UTM: Zone: ; mE/ mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation:
APN: 5149-001-003

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The subject property building was described in the *Architectural Guidebook to Los Angeles*: "In 1948, Rowland H. Crawford designed a ten-story addition [to the main *Times-Mirror* Building,]…. It too …(like the main building) is PWA [Public Works Administration] Moderne, but in this case the classical monumentality has mellowed quite a bit. Nevertheless… the sculptured central parapet… helps the building… read with authority."

The three-bay-wide, ten story building is finished in smooth concrete, with Indiana limestone, granite and bronze features and is rectangular in plan. The base features a black watertable, with continuous, low exhibit windows, storefront and glass block, all framed in bronze, and with granite above. The deeply inset entrance is beyond a simply detailed, central opening on the Spring Street elevation. The lower level terminates in simple, Roman grille motif at the beltcourse. Set on the beltcourse, wide, deeply punched windows unique to that level suggest fortification. In the tall, central bay, recessed windows are arranged vertically, with embossed, bronze spandrel panels punctuating interstitial areas.

(See Continuation Sheet.)

***P3b. Resource Attributes:** (List attributes and codes) HP7. 3+ story commercial building

***P4. Resources Present:** ☒Building ☐ Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)



P5b. Description of Photo: (View, date, accession #)
View southwest, March 16, 2009,
Photograph # DSC0187.jpg

***P6. Date Constructed/Age and Sources:**
☒ Historic ☐Prehistoric ☐Both
1948, Los Angeles County Office of the Assessor

***P7. Owner and Address:**

***P8. Recorded by:** (Name, affiliation, and address)
S. Murray, S. Carmack, K. Harper and F. Smith
SWCA Environmental Consultants
625 Fair Oaks Avenue, Suite 190
South Pasadena, CA 91030

***P9. Date Recorded:** March 16, 2009

***P10. Survey Type:** (Describe) Intensive

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
Built Environment Resources Technical Report, Regional Connector Transit Corridor Project, Los Angeles County, California (SWCA Environmental Consultants 2009)

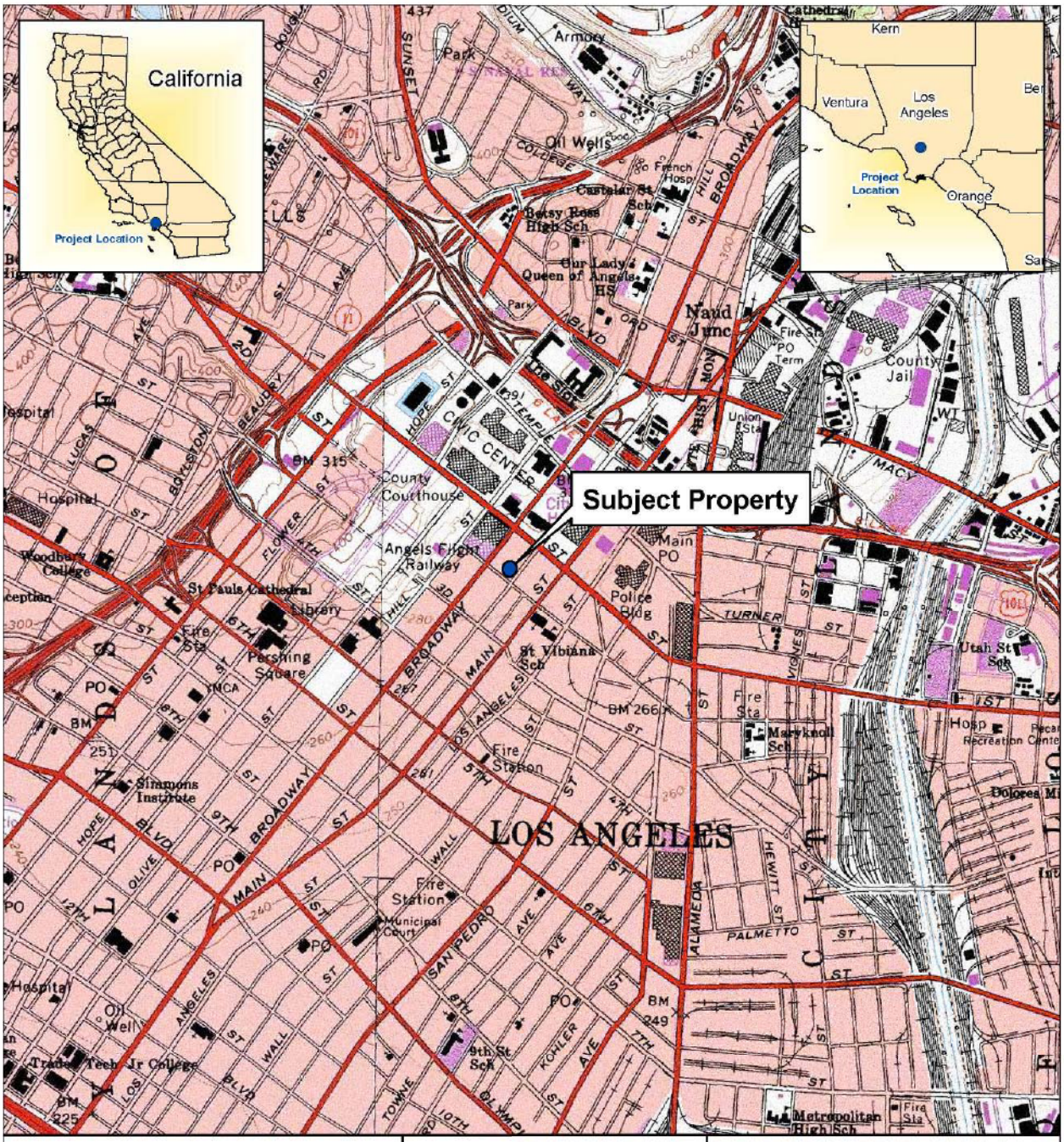
***Attachments:** ☐NONE ☒ Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐ Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # 19-174925 (Update)
HRI#
Trinomial

*Resource Name or #: 145 South Spring Street building (No. 8-3)

*Map Name: Los Angeles, CA *Scale: 1:24,000 *Date of Map: 1966 (Photorevised 1981, Minor revision 1994)



USGS 7.5' Quadrangle:
Los Angeles, CA 1966
(Photorevised 1981, Minor revision 1994)
Township: 1S, Range: 13W, Unsectioned

*Required information

BUILDING, STRUCTURE, AND OBJECT RECORD

*NRHP Status Code 3S, 5S1, 7L

*Resource Name or # (Assigned by recorder) 145 South Spring Street building (No. 8-3)

B1. Historic Name: The *Mirror* Building, Mirror-News Building

B2. Common Name: (Site of Butterfield Stage Station), *Los Angeles Times-Mirror* Annex

B3. Original Use: commercial/office building B4. Present Use: commercial/office building

*B5. Architectural Style: PWA Moderne

*B6. Construction History: (Construction date, alterations, and date of alterations) Built in 1948 (City of Los Angeles, Building Permit, BP #23383). Alterations: minor alterations and windows tinted, loading docks infilled (dates unknown).

*B7. Moved? ☒ No ☐Yes ☐Unknown Date: N/A Original Location: N/A

*B8. Related Features: *Los Angeles Times* Building, 202 West 1st Street

B9a. Architect: Rowland H. Crawford b. Builder: P.J. Walker Company

*B10. Significance: Theme: Commercial Development in Los Angeles, 20th Century Area: Los Angeles region

Period of Significance: 1948-1959 Property Type: commercial building Applicable Criteria: A/1, C/3, D/4

The subject property "office building and plant extension" was designed by prominent local architect Rowland Crawford and completed in 1948. It was built for the *Times Mirror* Company as an addition to the more monumentally scaled, PWA Moderne main Los Angeles *Times* building (see page 1). PWA Moderne was a classically influenced version of the Moderne style, also known as Stripped Classicism. The building's PWA characteristics are its heroic scale, rich imagery and civic-themed sculpture. Moderne elements include the sleek, abbreviated lines and subtle interplay among exposed concrete planes. Like the main building, symbolism in the annex building's details, include use of eagles and the impressive masthead in backlit lettering, intended to conjure images of power, influence and authority. Described as "serious art" embellishments were intended to be didactic, "to inspire, to promote faith in the American way, in American history, [and] in the virture of work" (Gebhard and von Bretton). The location of the complex, directly across the street from City Hall complements the government-related inference.

The history of the venerable *Los Angeles Times* parallels the development of the community. Established as the *Los Angeles Daily Times* in 1881, the irregularly published periodical quickly failed. The printer, Mirror Company, placed General Harrison Gray Otis in charge. Otis (1837-1917) quickly made the fledgling paper a success. The paper and community grew as railroads spurred exponential growth in what had been a tiny pueblo. The *Times-Mirror* Company was established in 1884, merging the printing company with the daily paper. Otis was fiercely opposed to organized labor, he invested heavily in real estate and transit, notoriously supported the region's water rights over those of others, shaping and promoting his ideal community with unmatched fervor. The *Times* was the site of a particularly vicious bombing during a labor dispute in 1910. The crime resulted in loss of lives, conviction of union organizers and their celebrity lawyer was unsuccessfully tried for bribing a juror.

(See Continuation Sheet)

B11. Additional Resource Attributes: (List attributes and codes)

*B12. References:

City of Los Angeles, Building Permit # 23383, date illegible, c. 1948.

Gebhard, David and Hariette von Bretton. *Los Angeles In the Thirties: 1931-1941.* Los Angeles: Hennessy & Ingalls, Inc. 1989; 77.

Gebhard, David and Robert Winter. *Architectural Guidebook To Los Angeles.* Salt Lake City: Gibbs Smith, 2003: 251.

"Retrospect- L.A." *Los Angeles Times*, May 14, 1984: H24.

"Rowland H. Crawford. Architect-Artist, Dies" *Los Angeles Times*, February 23, 1973: C4.

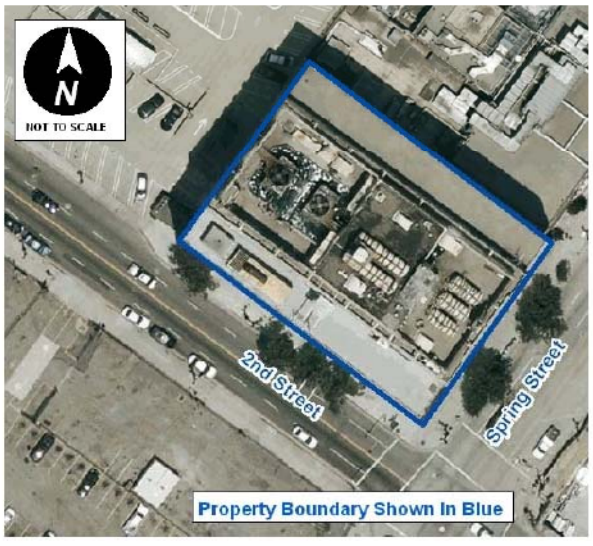
B13. Remarks:

*B14. Evaluator: F. Smith

*Date of Evaluation: 3/26/09

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***P3a. Description:** (continued from page 1)

Although the bronze panels read horizontally, the windows are vertically oriented. Side bays feature bronze-framed, continuous, fixed and double-hung ribbon-type windows, which elegantly wrap around neatly chamfered corners. Continuous glass block transoms follow the window arrangements including the clipped corner detail. Tension between horizontal and vertical elements is articulated in the shaft details: in varying fenestration on the central and side bays. Floor and window heights are subtly differentiated, higher at lower levels and window arrangements vary in restrained compositions. Sculpted eagles at the cornice frame the main decorative elements. An understated, stepped cornice features vertically interposed central human figures in *bas-relief*, above which, a continuous step leads to the central flagpole. The figures represent abstractions of tenets of American principals, including the scales of justice. The building is at the northeast corner of 2nd and Spring streets, and occupies the entire parcel, in the densely built-up Central Business District, and is surrounded by other mid- and high-rise commercial and institutional buildings. The building abuts the *Los Angeles Times* Central Plant (completed 1935) and Executive Parking Structure (1972).

***B10. Significance:** (continued from page 3)

During the twentieth century, the paper evolved from being overtly conservative to non-partisan, which increased its international coverage and overtook its rivals. The corporation was recently sold out of Otis family descendants' ownership. The paper continues to publish and is currently the second largest in the U.S. Despite its achievements over the past 130 years, like its peers, the company is struggling to stay profitable.

The architect, Rowland Henry Crawford (1902- 1973) attended University of Southern California (USC) and Stanford before graduating from the University of Pennsylvania in 1925. Crawford was a partner of Gordon B. Kaufmann, architect of the main *Times* building, beginning in 1930 for about three years. In that position, he served as chief architect for both the original *Times* Building and the Santa Anita Racetrack. In 1938, Crawford established his own firm. His independent works include Brown Derby, East Hollywood (1941), Town & Country Market (1942, no longer extant), Sears (Santa Monica, 1947), Hills Brother Coffee Co. and Brentwood Country Market (1948), USC, Harris School of Architecture building, and additions to the Fine Arts Building (both 1949), El Rancho Shopping Center (Arcadia, 1955) and Beverly Hills High School plant and library (c. 1967). The designer became Supervising Architect for the *Times-Mirror* Company (1945-1956), and served as an advisor to Janss Investment Corporation (1938 -1955), Brown Derby Restaurant Corporation (c. 1938-1956) and Union Federal Savings & Loan Corporation. In his *Times* role, the architect designed their Operations Building, Telephone Directory Plant and Boys Club ("Rowland H. Crawford"). Crawford oversaw minor alterations to the subject property until about 1956. The *Times* Annex was executed using faultless interpretation of the style and a keen eye for proportion, scale and detail. It is his finest individual work, and is a noteworthy example of PWA Moderne design in the region.

Alterations to the subject property building have included the application of reflective tint to windows and recent conversion of Spring Street-fronting loading docks to storefronts (dates unknown). The site is California Historical Landmark #744, because of its former use as the Butterfield Stagecoach Station. Despite described alterations, the building retains sufficient integrity to be recognizable to its original appearance, and is a significant example of the Moderne style. The building is eligible for listing in the National and California Registers under Criteria A/1,C/3, and perhaps D/4. It is directly associated with events that made significant contributions to the broad patterns of our history, the *Los Angeles Times* has undeniably influenced the development and popular opinion of Los Angeles, as its most successful and influential newspaper (Criteria A/1). The building embodies the distinctive characteristics of the PWA Moderne style, the late 1940s period, the reinforced concrete method of construction, and it represents the work of a master architect (Criteria C/3). The building does not represent a significant and distinguishable entity whose components lack individual distinction to be considered a contributor to a large historic district. Because the site was once the Butterfield Stage station, it may yield important information about prehistory or history (Criteria D/4). Because of its association with development of the community and region, as a fine example of PWA Moderne design, use of Portland cement, as the work of a master and as it may provide consequential archaeological information, the *Los Angeles Times* Annex is eligible for listing in the California and National registers at the state level of significance.

DEPARTMENT OF PARKS AND RECREATION

HISTORIC RESOURCES INVENTORY

(State use only)
UTM ____ Q ____ NR 2 ST SHL ____
Lat ____ Lon ____ Era ____ Sig ____ 69
Adm ____ T2 ____ T3 ____ Cat ____ HABS ____ HAER ____ Fed ____
5149-01-06

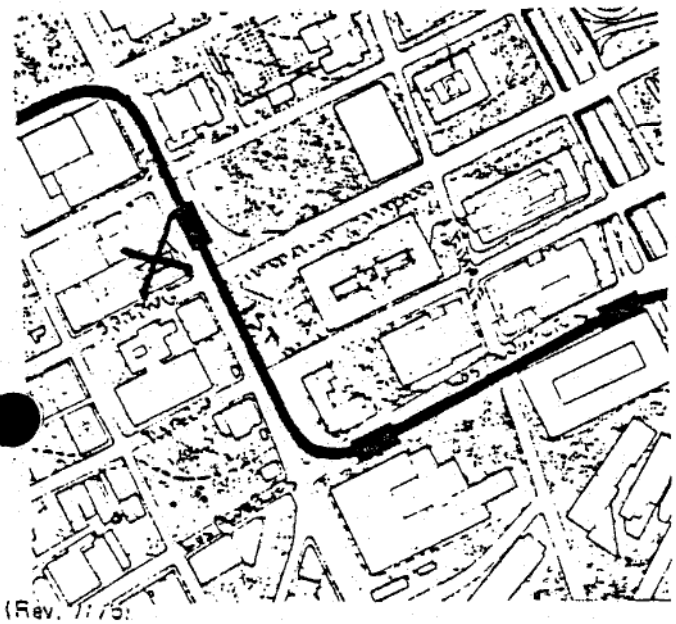
IDENTIFICATION

1. Common name: L. A. Times Complex 19-173080 4435 4380
2. Historic name, if known: L. A. Times
3. Street or rural address 202 West First Street
   City: Los Angeles ZIP: 90012 County: Los Angeles
4. Present owner, if known: Times Mirror Company Address: Times Mirror Square
   City: Los Angeles ZIP: 90012 Ownership is: Public ☐ Private ☒
1706 5. Present Use: Office Bldg., Newspaper Original Use: Newspaper
   Other past uses: ____

DESCRIPTION

6. Briefly describe the present physical appearance of the site or structure and describe any major alterations from its original condition: The building consists of a multi-story structure ranging up to ight stories with basement. The structure is built of steel frame construction ith reinforced concrete, metal lath, and reinforced concrete floors and decking. e exterior facade is of marble at the base, and stone facing with spandrel anels capped by a tile roof above the central clock tower. The form of the uilding is stepped in a symmetrical and pyramidal manner with a central entranc ne building is articulated through the use of grooved vertical ribs dividing ne window base. Ornamentation is confined to spandrel panels and tops of piers. e uilding shows a simplicity of detailing and massiveness of form characterist: WPA moderne. The Times Mirror complex consists of several associated and djacent structures including a press, warehouse, mailing room, machine shops, anc ffices. The most notable addition is located at the corner of Broadway and First is addition consists of metal panels and stone facing in a form influenced by th corporate international style.

7. Locational sketch map (draw and label site and surrounding streets, roads, and prominent landmarks):



8. Approximate property size:
   Lot size (in feet) Frontage 164.7'
   Depth 364.36'
   or approx. acreage 1.392.

9. Condition: (check one)
   a. Excellent ☒ b. Good ☐ c. Fair ☐
   d. Deteriorated ☐ e. No longer in existence ☐

10. Is the feature a. Altered? ☒ b. Unaltered? ☐

11. Surroundings: (Check more than one if necessary)
   a. Open land ☐ b. Scattered buildings ☐
   c. Densely built-up ☐ d. Residential ☐
   e. Commercial ☒ f. Industrial ☐
   g. Other ☐ ____

12. Threats to site:
   a. None known ☐ b. Private development ☐
   c. Zoning ☐ d. Public Works project ☐
   e. Vandalism ☐ f. Other ☐ ____

13. Date(s) of enclosed photograph(s): May 1978

523 (Rev. 7/75)

NOTE: The following (Items 14-19) are for structures only.

19-173080

70

14. Primary exterior building material: a. Stone ☐ b. Brick ☐ c. Stucco ☐ d. Adobe ☐ e. Wood ☐
f. Other ☒ Concrete and metal

15. Is the structure: a. On its original site? ☒ b. Moved? ☐ c. Unknown? ☐

16. Year of initial construction 1934 This date is: a. Factual ca ☒ b. Estimated ☐

17. Architect (if known): Gordon B. Kaufmann

18. Builder (if known): P. J. Walker

19. Related features: a. Barn ☐ b. Carriage house ☐ c. Outhouse ☐ d. Shed(s) ☐ e. Formal garden(s) ☐
f. Windmill ☐ g. Watertower/tankhouse ☐ h. Other ☒ Additions to structure None ☐

SIGNIFICANCE

20. Briefly state historical and/or architectural importance (include dates, events, and persons associated with the site when known):

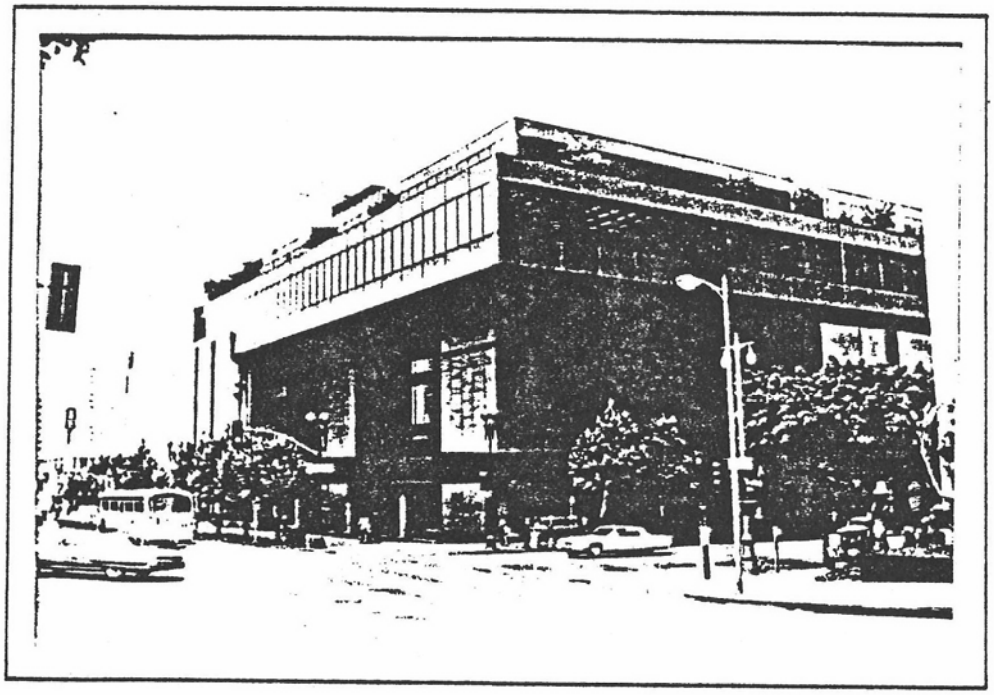
The structure was designed by the prominent architect Gordan B. Kaufmann. The original structure is perhaps the best example of what has come to be known as WPA modeme architecture in the downtown area. The entire Times Mirror Company is an impressive architectural and industrial achievement. The additions to the original have been well integrated into a structural whole. The building is the home of a major American newspaper which has long been an important business enterprise in the City of Los Angeles.

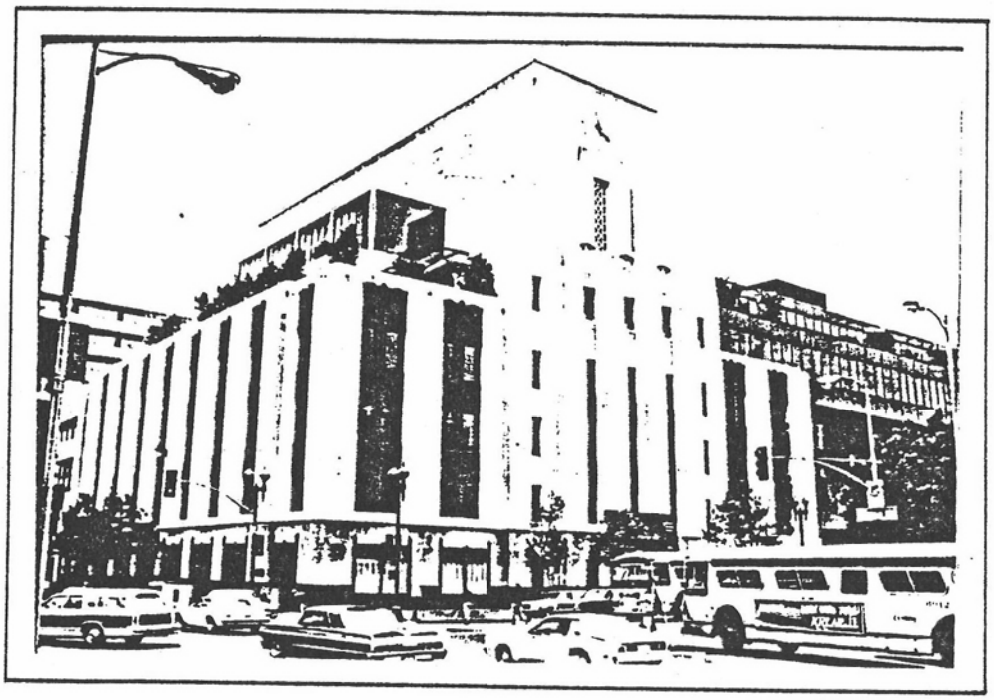
21. Main theme of the historic resource: (Check only one): a. Architecture ☐ b. Arts & Leisure ☐
c. Economic/Industrial ☒ d. Exploration/Settlement ☐ e. Government ☐ f. Military ☐
g. Religion ☐ h. Social/Education ☐

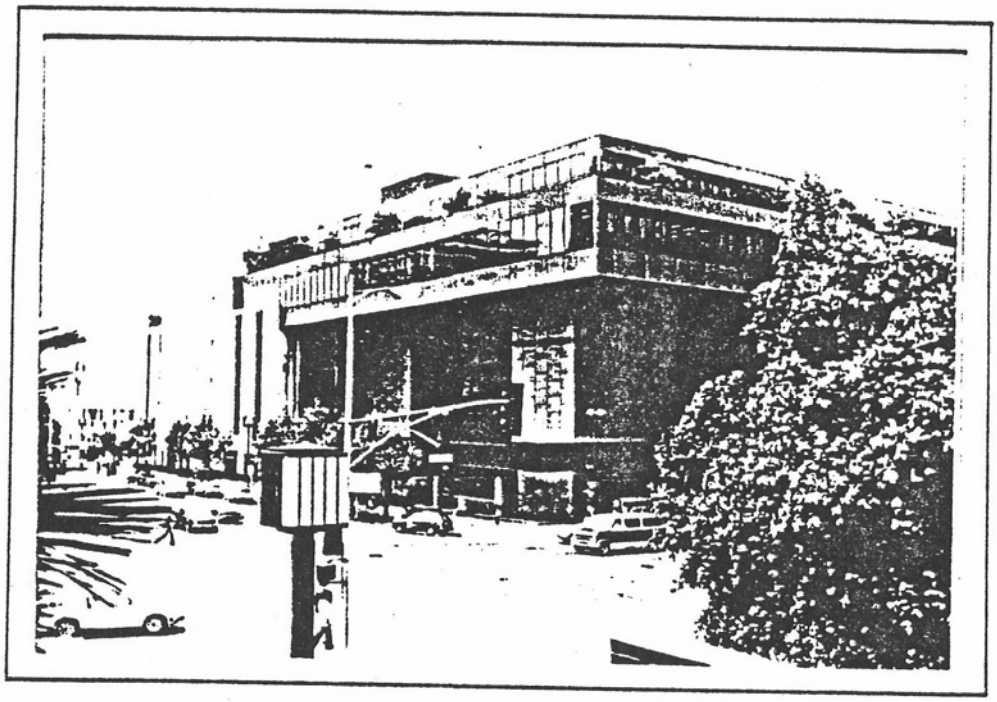
22. Sources: List books, documents, surveys, personal interviews, and their dates: LUPAMS; Sanborn Maps, Baist's Atlas, WPA drawings, Building permit cards, Southwest Builder & Contractor 4-13-34, pp 18-20, L. A. City Directories 1933-34.

23. Date form prepared: June, 1978 By (name): Roger Hatheway - John Chase
Address: 727 West 7th Street City Los Angeles, California ZIP: 90017
Phone: 688-7520 Organization: Community Redevelopment Agency of the City of Los Angeles

(State Use Only)







State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3S, 3CS

Other Listings
Review Code _____ Reviewer _____ Date _____

Page 1 **of** 25 ***Resource Name or #:** (Assigned by recorder) Times Mirror Square
P1. Other Identifier: _____

*__P2.__ **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Los Angeles **Date** 2015 **T** __; **R** __; __ ☐ **of** __ ☐ **of Sec** __; ____ **B.M.**
c. Address Various (see Page 2) City Los Angeles Zip 90012
d. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-003, 5149-001-004, 5149-001-005, 5149-001-006, and 5149-001-007

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

See District Record.

***P3b. Resource Attributes:** (List attributes and codes) HP7. Commercial Building, over 3 stories
***P4.Resources Present:** ☐ Building ☐ Structure ☐ Object ☐ Site ☒ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Times Mirror Square, looking southwest, GPA 2017

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
Various; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
202 W. 1st Street
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/2018

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation**: (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☒ Location Map ☒Continuation Sheet ☐Building, Structure, and Object Record
☐Archaeological Record ☒District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List): _____

***D3. Detailed Description**:

Times Mirror Square is located in the densely developed heart of downtown Los Angeles. The surrounding area consists primarily of civic buildings, such as the Los Angeles Civic Center, U.S. Courthouse, and Los Angeles Police Department Headquarters. North of W. 1st Street, this part of downtown has a slight grade, making Times Mirror Square topographically lower than the buildings to the north. The buildings around Times Mirror Square were constructed at various dates; some date from the early twentieth century, while others are as recent as the 2000s.

The district consists of five buildings (see table below) that were developed over time by the Times Mirror Company. The buildings are described in more detail in the attached Primary Records. Each of the buildings abut each other and the sidewalk and take up the entire city block. There is no greenspace around the buildings, nor passageways between them. Each of the five buildings contributes to the significance of the historic district; some district contributors are also individually significant.

No.	Name	Address/Location	Date	Description	Status Code(s)
1	Times Building	202 W. 1st Street	1935	Eight-story PWA Moderne building designed by Gordon B. Kaufmann	2S2 3D 3CB 5S1
2	Plant Building	121 S. Spring Street	1935-55	Four-story PWA Moderne building designed by Gordon B. Kaufmann; addition designed by Rowland H. Crawford	2S2 3D 3CB 5S1
3	Mirror Building	145 S. Spring Street	1948	Twelve-story Late Moderne building designed by Rowland H. Crawford	3B 3CB 5S1
4	Executive Building	234 W. 1st Street	1973	Six-story International Style building designed by William L. Pereira & Associates	3D 3CB
5	Parking Structure	142 S. Broadway	1973	Six-story parking structure designed by William L. Pereira & Associates	3D 3CD

***D4. Boundary Description**:

The district takes up the Los Angeles city block that is bounded by W. 1st Street to the north, S. Spring Street to the east, W. 2nd Street to the south and S. Broadway to the west.

***D5. Boundary Justification:**

The boundaries comprise the five historically, geographically, and functionally related buildings that were constructed for the *Los Angeles Times* and Times Mirror Company.

D6. Significance: Theme Newspapers and Publishing **Area** Los Angeles
Period of Significance 1935-2000 **Applicable Criteria** A/1; C/3

See Continuation Sheet.

***D7. References**
See Continuation Sheet.

***D8. Evaluator:** Teresa Grimes
Date: 12/5/18
Affiliation and Address:
GPA Consulting
617 S. Olive Street, Suite 910, Los Angeles, CA 90014

D6. Significance (Continued from page 2).

Times Mirror Square appears eligible for listing in the National Register as a historic district under Criteria A and C and California Criteria 1 and 3 for its association with the *Los Angeles Times* and the Times Mirror Company. Under Criterion A it is significant in the Sub-Context Newspapers and Publishing for its association with important events that have made a significant contribution to broad patterns in our history, and under Criterion C it represents a significant and distinguishable entity. The *Los Angeles Times* was first published in 1881 and the Times Mirror Company was founded in 1884. The first home of the *Los Angeles Times* was in the Downey Block at Temple and Spring Streets. By 1887, the company and the newspaper were located at the northeast corner of W. 1st Street and S. Broadway. After the building was bombed by labor union sympathizers, a new larger building rose on the same site. In 1931, the company expanded south of W. 1st Street and had constructed a printing and binding facility at 110 S. Broadway. After the Times-Plant Complex was completed in 1935, the building at W. 1st Street and S. Broadway was demolished. Although the Times Mirror Company did not own the entire block until the late 1960s when it began to develop plans for the Executive Building and Parking Structure, it was commonly referred to as Times Mirror Square. Times Mirror Square is historically significant as a reflection of the ascent of the *Los Angeles Times* to the front ranks of American journalism and the Times Mirror Company to a national media giant. The period of significance is 1935, the year the Times-Plant Complex was completed, to 2000, the year the Times Mirror Company was sold to the Tribune Company.

All of the buildings within the block are contributing to the significance of the historic district because they were constructed within the period of significance and retain sufficient integrity to convey their significance. Thus, the historic district also retains integrity as a whole. Although two of the five contributing buildings are less than 50 years of age, Criteria Consideration G is not required. *National Register Bulletin #15* states "a historic district in which a few properties are newer than 50 years old, but the majority of the properties and the most important period of significance are greater than 50 years old" do not need to meet Criteria Consideration G. *National Register Bulletin #22* provides further guidance on evaluation of historic districts. "Properties less than 50 years old may be integral parts of a district when there is sufficient perspective to consider the properties as historic. This is accomplished by demonstrating that: (a) the district's period of significance is justified as a discrete period with a defined beginning and end; (b) the character of the district's historic resources is clearly defined and assessed; (c) specific resources in the district are demonstrated to date from that discrete era; and, (d) the majority of district properties are over 50 years old. In these instances it is not necessary to prove exceptional importance of either the district itself or of the less-than-50-year-old properties."

The criteria for eligibility for listing in the California Register are similar to the National Register criteria. Furthermore, the California Register statute treats properties less than 50 years of age differently than the National Register. A property less than 50 years of age may be eligible for listing in the California Register if it can be demonstrated that sufficient time has passed to obtain scholarly perspective on the events and/or individuals associated with the property. Therefore, Times Mirror Square appears to be eligible for listing in the California Register as a historic district for the same reasons noted above.

***D7. References**

Berges, Marshall. *The Life and Times of Los Angeles*. New York, NY: Atheneum, 1984.

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Kandell, Jonathan. "Otis Chandler, Publisher Who Transformed Los Angeles Times, Dies at 78." *New York Times,* February 2, 2006.

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Los Angeles Times, various dates.

McDougal, Dennis. *Privileged Son: Otis Chandler and the Rise and Fall of the L.A. Times Dynasty*. Cambridge, MA: Perseus Publishing, 2001.

Muntz, Jan Furey. "Gordon B. Kaufmann: California Classicism." In *Johnson, Kaufmann, Coate: Partners in the California Style*. 29-41. Claremont, CA: Scripps College, 1992.

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National Register Bulletin #16: How to Complete the National Register Registration Form. Washington D.C.: U.S. Department of the Interior, revised 1997.

National Register Preservation Brief #17: Architectural Character—Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character. Washington D.C.: U.S. Department of the Interior, 1988.

National Register Bulleting #22: Guidelines for Evaluating and Nominating Properties That Have Achieved Significance Within the Past Fifty Years. Washington D.C.: U.S. Department of the Interior, revised 1998.

"New Building for Los Angeles Times Ready in Fall," *Architectural Record*, June 1948. 32-1.

"New Building for New Paper," *Architectural Record*, April 1949. 32- 34.

"The Los Angeles Times Building," *California Arts and Architecture*. Vol. 48. October 1935. 20-23.

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State of California - Natural Resources Agency
DEPARTMENT OF PARKS AND RECREATION

LOCATION MAP

Primary #
HRI#
Trinomial

Page 6 **of** 25 ***Resource Name or #** (Assigned by recorder) Times Mirror Square
***Map Name:** Los Angeles Quadrangle ***Scale:** 1:24000 ***Date of map:** 2015



State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 2S2, 3D, 3CB, 5B

Other Listings
Review Code Reviewer Date

 ***Resource Name or #:** (Assigned by recorder) Times Building
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
*a. **County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. **USGS 7.5' Quad** Los Angeles **Date** 2015 **T** __; **R** __; __ ☐ **of** __ ☐ **of Sec** __; ____ **B.M.**
e. Address 202 W. 1st Street City Los Angeles Zip 90012 UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-006

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Times Building was constructed between 1933 to 1935 as the new headquarters of the Times Mirror Company, the parent company of the *Los Angeles Times*. The architect Gordon B. Kaufmann designed the Times Building, along with the first two stories of the Plant Building in the PWA Moderne style. The Times Building is located in the northeast corner of Times Mirror Square and faces north toward W. 1st Street. It has a steel frame structural system and a rectangular plan. The walls are made of reinforced concrete and clad with marble, granite, and limestone. (Continued on Page 7.)

***P3b. Resource Attributes:** (List attributes and codes) HP7. Commercial Building, over 3 stories
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Times Building, looking southwest, GPA 2017

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
1933-1935; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
202 W. 1st Street
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/18

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

P3a. Description (Continued from Page 7):

The building originally had a symmetrical massing which stepped down from approximately eight stories at its tallest central tower to six stories and then four stories at its east and west extents. Rooftop additions east and west of the center tower constructed in the 1940s, 1960s, and 1970s altered the purity of the original massing somewhat, yet the design intent remains evident. The roof over the central tower is hipped and clad with clay tiles. The roof over the east wing is flat, while the roof over the west wing is comprised of the 5th and 6th floors of the Executive Building.

The building's north elevation exhibits a strong emphasis on verticality. It is divided into nine bays divided by fluted limestone pilasters and changes in wall plane. The pilasters begin above a decorative band between the first and second stories and travel to varying heights that step down from the tallest, flanking the center bay, to the shortest, flanking the east and west bays. The pilasters framing the three central bays exhibit more ornamentation than the outer pilasters.

The window openings on the north elevation are original, while the window sashes are all non-original replacements. Counting from east to west, the windows in bays 1, 2, 8, and 9 include pairs of fixed metal-sash windows divided vertically by bronze spandrels. The spandrels exhibit fluting similar to the pilasters. Windows in bays 3 and 7 include single recessed fixed metal-sash windows with no frames or surrounds. Windows in bays 4, 5, and 6 include single fixed metal-sash windows. On the lower stories the windows are divided by bronze spandrels; the fourth and fifth story windows are separated by bas-relief terra cotta panels, and the fifth story windows are topped with sculptures by artist Merrell Gage. There are three sculptures in total and each represents a different journalism-related theme. The titles of the sculptures are "Father Time," "Spirit of the Times," and "Gutenberg." Above the sculptures, at the sixth story, the center bay features a carved terra cotta vent. Above the vent is a large clock. The numbers and ticks are carved into the limestone and illuminated by neon backlights. The hands are metal.

The north elevation's first story is separated from the upper stories by a decorative band of sunbursts and a change in wall material from limestone to granite. Windows on the first story consist of pairs of fixed metal-sash windows with decorative bronze frames in bays 1, 2, 8, and 9, and single recessed fixed metal-sash windows with carved, chamfered frames in bays 3, 4, 6, and 7. Bay 5 consists of the main entrance.

The building's main entrance is located in the center of the north elevation's first story. It is recessed and framed with marble and two different kinds of granite. The entry doors are four side-by-side doors. Bronze crests, sculpted by Merrell Gage, atop the entry doors are dedicated to the themes of "Liberty under the Law" and "True Industrial Freedom."

The east elevation has nine vertical bays. Like the north elevation, the window openings on the east elevation are original, while the window sashes are all non-original replacements. The first four stories of the bays repeat the same motif evident in bays 1, 2, 8, and 9 on the north elevation. Bays 1 and 9 on the east elevation, counted from south to north, are recessed slightly from the rest of the elevation's bays. The fifth and sixth stories have been altered by rooftop additions dating from 1946 and 1965. The 1946 addition was designed by the architect Rowland H. Crawford. There was an identical addition on the west elevation that was removed for the construction of the Executive Building, described below. The 1965 addition, designed by the firm William L. Pereira & Associates, sits on top of the 1946 addition. The additions block some of the building's original design features, including canted bay windows, metal doors, decorative metalwork, terra cotta vents, and five of the eight thin buttresses that span from the fourth story roof to above the sixth story roof. Above the buttresses the words "THE TIMES" appear in recessed, neon-lit lettering. Above the lettering is a band of dentils.

Due to the presence of the Plant Building, the south elevation of the Times Building is only visible above the fourth story. On the west elevation of the Times Building, only the central tower is visible due to the presence of the Executive Building. The third through sixth stories appear to have originally been identical to those on the east elevations. All of the original buttresses along the west elevation were demolished in 1971 for the construction of the adjoining Executive Building.

The Times Building and the Plant Building were considered jointly as one historical resource with two contributing buildings, instead of two individual resources, for the following reasons: both buildings were built at the same time and designed by the same architect, and while their structures are separated by a 6-inch seismic joint, they have always been internally connected and used for purposes directly related to publishing the Los Angeles Times newspaper.

See the DPR 523 B Form on Page 11

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 2S2, 3D, 3CB, 5S1

Other Listings
Review Code Reviewer Date

Page 9 **of** 25 ***Resource Name or #:** (Assigned by recorder) Plant Building
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
*a. **County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. **USGS 7.5' Quad** Los Angeles **Date** 2015 **T** __; **R** __; __ ☐ **of** __ ☐ **of Sec** __; ____ **B.M.**
f. Address 202 W. 1st Street City Los Angeles Zip 90012
g. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-006

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Plant Building is located directly south of the Times Building on S. Spring Street between W. 1st Street and W. 2nd Street. It exhibits three distinct phases of construction. The first phase occurred in 1935 in conjunction with the Times Building. It included the first two stories and was designed by Gordon B. Kaufmann in the PWA Moderne style. The second phase occurred in 1946 and included the addition of a third story. The third story was designed by Rowland H. Crawford who worked for Kaufmann and would later design the Mirror Building. The third phase occurred in 1955, also designed by Crawford, and consisted of the addition of a fourth story that connected to the Times and Mirror Buildings. (Continued on Page 10.)

***P3b. Resource Attributes:** (List attributes and codes) HP7. Commercial Building, over 3 stories
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Plant Building, looking southwest, GPA 2014

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
1935-1955; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
202 W. 1st Street
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/18

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

P3a. Description (Continued from Page 9):

After the two additions in 1946 and 1955, the Plant Building is currently four stories tall and rectangular in plan. It faces east onto S. Spring Street. The building has a steel frame structural system and reinforced concrete walls clad with granite and limestone. It abuts buildings to the north, south, and west, leaving only the east elevation visible. The first story of the east elevation is clad with the same granite as the first story of the Times Building and is divided into nine bays. It originally featured seven large openings for loading docks. The openings remain, but they have been altered. The most recent alterations occurred in 2000. Five of the seven loading dock openings were infilled with curved, butt-glazed storefront windows with marble tile bulkheads and thick aluminum trim. The opening in the seventh bay, when counted from south to north, has been infilled with a flat, glazed storefront with a frameless glass door, butt-glazed sidelights, a marble tile bulkhead, and thick aluminum trim. The eighth bay has a non-original metal roll-up door.

The second story is divided from the first by a decorative band of sunbursts identical to the one on the Times Building. The wall surface changes from granite to limestone above the band. Windows on the second story include recessed non-original fixed metal-sash windows with chamfered openings. In the center above the windows, the words "LOS ANGELES TIMES" and the paper's insignia are carved into the limestone. The third and fourth stories consist of continuous bands of non-original fixed metal windows with original prismatic glass block transoms.

The Times Building and the Plant Building were considered jointly as one historical resource with two contributing buildings, instead of two individual resources, for the following reasons: both buildings were built at the same time and designed by the same architect, and while their structures are separated by a 6-inch seismic joint, they have always been internally connected and used for purposes directly related to publishing the Los Angeles Times newspaper.

See the DPR 523 B Form on Page 11.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** Times-Plant Complex ***NRHP Status Code** 2S2, 3D, 3CB, 5B
Page 11 **of** 25

B1. Historic Name: Times-Plant Complex
B2. Common Name: Same B3.
Original Use: Offices B4. Present Use: Same
***B5. Architectural Style:** PWA Moderne
***B6. Construction History:** (Construction date, alterations, and date of alterations): Constructed 1935. Additions to Times Building in 1946, 1965, and 1971. Additions to Plant Building in 1956 and 1955.

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** **Original Location:**
***B8. Related Features:** None.

B9a. Architect: Gordon B. Kaufmann b. Builder: PJ Walker Co.
***B10. Significance: Theme** Newspapers and Publishing/PWA Moderne Architecture **Area** Los Angeles

Period of Significance 1935-2000 (A); 1935-1944, 1936-1968, 1960-1972 (B), 1935 (C) **Property Type** Commercial
Applicable Criteria A/1, B/2, C/3

The Times-Plant Complex, consisting of the Times and Plant Buildings, was formally determined eligible for listing in the National Register in 1978. Properties that are formally determined eligible for listing in the National Register through the Section 106 process are automatically listed in the California Register. Thus, the complex is listed in the California Register. Additionally, the complex is designated a Los Angeles Historic-Cultural Monument (HCM) along with the Mirror Building. The significance and integrity of the complex under the National Historic Preservation Act are summarized below.

National Register Evaluation

Criterion A

In order to qualify under Criterion A of the National Register, a property must be associated with events or trends that have made a significant contribution to the broad patterns of our history. The Times-Plant Complex is significant in the context of newspapers and publishing for its direct association with the Times Mirror Company and *Los Angeles Times*. The Times-Plant Complex is the oldest extant headquarters of the company and newspaper. The original location was a small brick building located at the corner of Temple and New High (now Spring) Streets. The second location was at the northeast corner of W. 1st Street and S. Broadway. Union leaders bombed this location in 1910 in response to the paper's anti-union stance. (Continued on page 12.)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**

See Page 3.

B13. Remarks:

None.

***B14. Evaluator:** GPA Consulting
***Date of Evaluation:** 12/5/18

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



***B10: Significance** (Continued from Page 11):

In 1911, construction began on a new headquarters building on the same site. In 1934, Harry Chandler initiated the construction of the current Times and Plant Buildings, designed by Gordon B. Kaufmann and completed in 1935. The complex remains the center of the *Los Angeles Times* newspaper operations to the present day, despite the change in parent company ownership in 2000. As the longest running and at various times most prominent newspaper in Los Angeles, the *Los Angeles Times* is undoubtedly significant within the history of the city's press. The period of significance under Criterion A begins in 1935, the year the buildings were constructed, and extends to 2000, the year the Tribune Company purchased the Times Mirror Company and by extension the *Los Angeles Times*.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past. As the Times-Plant Complex has continuously functioned as the headquarters of the *Los Angeles Times* for almost 80 years, it was the workplace for numerous journalists, editors, and publishers over time. Of these, three stand out as potentially significant individuals: the three Chandler publishers Harry, Norman, and Otis. All three had offices in the Times Building for several years during their tenures: Harry from 1935 to 1944, Norman from 1936 to 1960, and Otis from 1960 to 1972.

Harry Chandler is more significant for his contribution to the commercial development of Southern California than the history of newspapers and publishing. The productive period of his life for which he is significant began in 1905 with the aqueduct project and continued until his death in 1944, although his influence waned in the late 1930s and 1940s when both his health and public approval declined. Harry commissioned the construction of the Times and Plant Buildings. They represent one of his last major real estate deals and housed his personal office from 1935 to 1944.

Norman Chandler is significant in the context of newspapers and publishing. His business acumen propelled the Times Mirror Company from a local business with one newspaper, the *Los Angeles Times*, to a national enterprise with a variety publishing and media companies. His period of significant work began in 1936, when he took on a leadership role as general manager of the *Times*, and lasted until 1968, when he retired as the chairman of Times Mirror. Norman's office was located in the Times Building throughout this period.

Otis Chandler is widely recognized as one of the most important newspaper publishers in the U.S., along with Henry Luce and Katherine Graham. As his *New York Times* obituary in 2006 explained, he transformed the *Los Angeles Times* into "one of the most respected, widely read and profitable newspapers in the United States," and he accomplished this in a very short period of time, considering the paper had eight decades of partisan history behind it. In 1980, at the age of 52, Otis stepped down as publisher and appointed an outsider, not a family member, to the post for the first time in the paper's history. Otis worked out of the Times Building for 12 of the 20 years he was publisher

Criterion C

To be significant under National Register Criterion C, a property must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.

The Times-Plant Complex is significant as an excellent example of PWA Moderne architecture from the 1930s. The Times Building is the more ornate and stylized of the two buildings. It possesses many of PWA Moderne's character-defining features, including a symmetrical façade, strong vertical emphasis, thick walls clad with smooth stone and granite, a band of sunbursts, sculptures and carved details, decorative spandrels, and a stepped massing with a central tower. The features are employed with expertise and rendered in beautiful, rich materials. Overall, the Times Building exhibits very high quality of design. The Plant Building exhibits the same basic materials and symmetry as the Times Building, and although it does not have the same elaborate details, it complements the Times Building while reflecting its original industrial use.

Additionally, the complex is eligible under Criterion C as a representative work of master architect Gordon B. Kaufmann. The Times Building represents Kaufmann's most impressive PWA Moderne design before he transitioned into the curved edges and glass block synonymous with the Streamline Moderne. It is a striking composition that stands out as an important example of his work in the 1930s. The Plant Building, though not one of Kaufmann's most important buildings individually, complements the Times Building and contributes to the design of the resource as a whole.

And finally, the Times Building is eligible under Criterion C for possessing high artistic value. The lobby includes sculptures, murals, and other decorative features, which constitute a cohesive work of art. The intricate, detailed pieces created by Merrell Gage and Hugo Ballin are truly outstanding, as are the marble columns, walls, and floors.

The period of significance under these components of Criterion C is 1935, the date of the design.

Criterion D

Criterion D was not considered in this evaluation, as it generally applies to archaeological resources.

Integrity

To be eligible for listing in the National Register, properties must retain their physical integrity from the period in which they gained significance. In the case of architecturally significant properties, the period of significance is normally the date of construction. For historically significant properties, the period of significance is usually measured by the length of the associations. The Times-Plant Complex has multiple periods of significance: under Criterion A the period of significance is 1935 to 2000; under Criterion B there are three periods of significance is 1935 to 1944, 1936 to 1968, and 1960 to 1972 for the first three publishers; and under Criterion C the period of significance is 1935. While some factors of integrity are more important than others depending on the property, a majority of the seven recognized factors should be retained. The Times-Plant Complex retains its integrity of location, workmanship, feeling, and association for each period of significance.

Its integrity of design and materials has been diminished by the construction of the roof top additions on the Plant Building and interior alterations to both buildings with regard to Criterion B and Criterion C, but not Criterion A. The immediate setting of the Times Building in particular changed dramatically with the construction of the Executive Building. The Executive Building replaced one and two-story buildings on W. 1st Street and enveloped an eight-story building on S. Broadway. While the scale of the two buildings is similar, the design of the Executive Building is physically imposing on the Times Building. The broader setting of the Times-Plant Complex also changed with the redevelopment of the surrounding blocks. Integrity of setting, however, is not essential for eligibility under Criterion B and C. Despite the alterations and additions, the Times-Plant Complex retains integrity as a whole under Criteria A, B, and C for each period of significance.

California Register Evaluation

The Times-Plant Complex was automatically included in the California Register when it was signed into law in 1992. The California Register was modeled on the National Register. The criteria for eligibility for listing in the California Register are virtually the same as the National Register. Therefore, the Times-Plant Complex remains eligible for listing in the California Register for the same reasons noted above.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 2S2, 3D, 3CB, 5S1

Other Listings
Review Code Reviewer Date

Page 14 **of** 25 ***Resource Name or #:** (Assigned by recorder) Mirror Building
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Los Angeles **Date** 2015 **T** __; **R** __; __ ☐ **of** __ ☐ **of Sec** __; ____ **B.M.**
h. Address 145 S. Spring Street City Los Angeles Zip 90012
i. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-003

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Mirror Building was constructed between 1947 and 1948 for the Times Mirror Company and was designed by Rowland H. Crawford. It is located in the corner of S. Spring Street and W. 2nd Street, and faces east toward S. Spring Street. It has a rectangular plan, a flat roof, and is ten stories tall with a two-story penthouse. The building has a steel-frame structural system and exterior walls clad with Indiana limestone and granite. (Continued on Page 15.)

***P3b. Resource Attributes:** (List attributes and codes) HP7. Commercial Building, over 3 stories
***P4.Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☒ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Mirror Building, looking northwest, GPA 2014

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
1947-1948; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
145 S. Spring
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/18

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

P3a. Description (Continued from Page 14):

The east elevation is symmetrical. Above the second story, it is organized into three vertical sections. The center section has seven bays; the end sections have horizontal bands of ribbon windows. The center section is taller than the end sections. The seven vertical bays of the center section are recessed and consist of metal windows separated by sculpted bronze spandrels. The windows on the third and fourth stories are fixed single-light replacement windows. The windows on the upper stories are multi-light casements. The five middle bays extend to the parapet and are topped with sculpted figures that were designed by Crawford and represent culture, justice, faith, progress, and equality. The two end bays are shorter and topped with sculpted panels.

The ribbon windows on the two end sections consist of metal windows with prismatic glass block transoms. As in the center section, the windows on the third and fourth stories are non-original. They are fixed single-light windows with metal sashes. The windows on the upper stories are two-light metal-sash awning windows. The window bands wrap around to the north and south elevations.

The east elevation's first story consists of the main entrance and six windows. The main entrance is located in the center of the elevation and surrounded with granite. There are four side-by-side entry doors recessed in an entrance vestibule. The doors are fully glazed with bronze frames and push-bars. The doors are topped with tall single-light transoms. The side walls of the vestibule feature bronze doors flanked and topped with decorative cast bronze panels.

The rest of the first story consists of the following: four recessed single-light fixed metal windows with decorative metal surrounds, a large, non-original, butt-glazed window at the north end with a bronze surround and a granite bulkhead, a large, 11-light window with prismatic glass block in the top three lights and a decorative, coated metal frame, and a granite base.

The east elevation's second story is separated from the first by a decorative band similar to those on the Plant and Times buildings. Above the band there are nine recessed openings. Some are infilled with vents; others include metal-sash windows.

The south elevation repeats many of the features from the south end of the east elevation, including the ribbon windows on the upper stories, recessed windows on the second story, decorative band between the first and second stories, and the granite base on the first story. The first story of the south elevation also includes a band of multi-light windows with glass block top lights and decorative coated metal frames, similar to the one at the south end of the east elevation. Other openings on the first story include large vents, a non-original storefront window, and a vehicular opening with a metal roll-up door.

Most of the west elevation is blocked by the adjacent Parking Structure. The upper stories visible above the Structure exhibit seven vertical bays similar to those on the east elevation, but much simpler in detail. The bays consist of multi-light metal casement windows and limestone spandrels. The north elevation consists of six stories above the adjoining Plant Building. The ribbon windows from the north end of the east elevation wrap the corner of the building on all of the visible stories.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Mirror Building ***NRHP Status Code** 2S2, 3D, 3CB, 5B
Page 16 **of** 25

B1. Historic Name: Mirror Building B2. Common Name: Same
B3. Original Use: Offices B4. Present Use: Offices
***B5. Architectural Style:** Late Moderne
***B6. Construction History:** (Construction date, alterations, and date of alterations): Constructed 1947-1948, seismic retrofit in 1990s.

***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** None.

B9a. Architect: Rowland H. Crawford b. Builder: PJ Walker Co.
***B10. Significance: Theme** Newspapers and Publishing/Late Moderne Architecture **Area** Los Angeles
Period of Significance 1948-1962 (A); 1948 (C) **Property Type** Commercial **Applicable Criteria** A/1, C/3

The Mirror Building was evaluated by SWCA Environmental Consultants in 2009 as part of the Regional Connector Transit Corridor Project. The evaluation concluded that the building was eligible for listing in the National Register under Criteria A, C, and D. As such, it is a historical resource subject to CEQA. Additionally, the building is designated a Los Angeles Historic-Cultural Monument (HCM) along with the Times-Plant Complex. The following paragraphs summarize the 2009 evaluation and provide some suggestions for minor revisions.

National Register Evaluation

Criterion A

The Mirror Building is eligible under Criterion A for its direct association with the *Los Angeles Times* and the history of the press in Los Angeles. The period of significance identified on the 2009 inventory form for this criterion extends from 1948 to 1959. While the 1948 start date is accurate as it relates to the year of construction, a more appropriate end date would be 1962 when the Times Mirror Company ceased publication of the *Times*' afternoon edition, the *Los Angeles Mirror*. The building was constructed to house the *Mirror*'s offices, and as a result, its significance is most accurately reflected by the time period associated with the *Mirror's* publication. (Continued on Page 17.)

B11. Additional Resource Attributes: (List attributes and codes) _____

***B12. References:**

See Page 3.

B13. Remarks:

None.

***B14. Evaluator:** GPA Consulting
***Date of Evaluation:** 12/5/2018

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



B10. Significance (Continued from Page 16):

Criterion C

The Mirror Building is eligible under Criterion C for embodying the distinctive characteristics of the Late Moderne style of architecture. The 2009 evaluation classifies the building as PWA Moderne, but Late Moderne is a more appropriate classification due to the building's 1948 construction date and design details. The building is also eligible under Criterion C as the work of master architect Rowland H. Crawford. The period of significance under Criterion C is 1948, the date of construction.

Criterion D

The 2009 evaluation concluded that the site on which the Mirror Building is located is eligible under Criterion D, because of its CHL designation as the location of the Butterfield Stage Station. As the site of an important historical place, it has the potential to yield important information about the prehistory or history of the area. However, it should be noted that because the Mirror Building has multiple floors below grade, it is likely that any intact archaeological resources were disturbed or removed during its 1948 construction.

Integrity

For a resource to be eligible for the National Register, it must reflect its appearance from its period of significance. The 2009 inventory form did not provide a detailed assessment of integrity but concluded that the Mirror Building is able to convey its significance. The Mirror Building has multiple periods of significance and it reflects its appearance from each of them: under Criterion A the period of significance is 1948 to 1962 and under Criterion C the period of significance is 1948. Although the interior has been substantially altered, the exterior is essentially intact. The integrity of setting has changed with the construction of the Parking Structure and the redevelopment of the surrounding blocks. Integrity of setting, however, is not essential to eligibility under Criterion C.

California Register Evaluation

The Mirror Building was automatically included in the California Register when it was determined eligible for listing in the National Register in 2010. The California Register was modeled on the National Register. The criteria for eligibility for listing in the California Register are virtually the same as the National Register. Therefore, the Mirror Buildings remains eligible for listing in the California Register for the same reasons noted above.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D, 3CB

Other Listings
Review Code Reviewer Date

Page 18 **of** 25 ***Resource Name or #:** (Assigned by recorder) Executive Building
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** Los Angeles **Date** 2015 **T** __; **R** __; __ ☐ **of** __ ☐ **of Sec** __; ____ **B.M.**
j. Address 234 W. 1st Street City Los Angeles Zip 90012
k. UTM: (Give more than one for large and/or linear resources) Zone __, _____ mE/ _____ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-007 & 5149-001-005

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Executive Building is located on the corner of W. 1st Street and S. Broadway. It was designed by William L. Pereira & Associates for the Times Mirror Company and constructed between 1970 and 1973. The Corporate International Style Executive Building faces north onto W. 1st Street. It is six stories in height and has a rectangular plan and a flat roof. The building has a steel frame structural system. The walls are clad with a combination of Norwegian granite and metal coated with a dark bronze silicon copolymer finish. (Continued on Page 18)

***P3b. Resource Attributes:** (List attributes and codes) HP7. Commercial Building, over 3 stories
***P4. Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Executive Building, looking southeast, GPA 2017

***P6. Date Constructed/Age and Source:** ☒ Historic ☐ Prehistoric ☐ Both
1972-1973; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
234 W. 1st Street
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/2018

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

P3a. Description (Continued from Page 18):

The building's massing consists of large boxy horizontal volumes supported by boxy vertical volumes. The horizontal volumes feature bands of fixed coated aluminum windows with coated spandrels and coated metal paneling, so they have a visually lighter appearance than the granite-clad vertical boxes. The boxes are arranged to create a deep recess at the street level which feature landscaping. The recess wraps the northwest corner of the building. The largest horizontal box protrudes beyond the rest of the building at the fifth story, creating a high overhang for the recessed space below.

The building's main entrance is located at the east end of the north elevation. It is deeply recessed from the street and consists of coated aluminum storefront doors with large sidelights and transoms. An additional exterior entrance is located near the center of the west elevation. This entrance consists of a pair of aluminum and glass doors with a fixed aluminum transom. An exterior walkway at the second story extends from the adjacent Parking Structure to the south along the Executive Building's west elevation and onto the north elevation.

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code 3D, 3CD

Other Listings
Review Code Reviewer Date

Page 20 **of** 25 ***Resource Name or #:** (Assigned by recorder) Parking Structure
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
*a. **County** Los Angeles **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
*b. **USGS 7.5' Quad** Los Angeles **Date** 2015 **T** ; **R** ; ☐ **of** ☐ **of Sec** ; **B.M.**
l. Address 140 S. Broadway City Los Angeles Zip 90012
m. UTM: (Give more than one for large and/or linear resources) Zone , mE/ mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN: 5149-001-004

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The Parking Structure is located at the northeast corner of S. Broadway and W. 2nd Street. It was designed by William L. Pereira & Associates in conjunction with the Executive Building, located directly north of the Parking Structure, and completed in 1973. It has a rectangular plan and a steel-frame structural system. The building's massing consists of a solid, vertical core with open, horizontal parking decks. The core is clad with the same granite as the vertical elements of the Executive Building. The low walls of the parking decks are clad with the same coated metal. Railings along the parking deck walls are also made of coated aluminum. Entrances to the Parking Structure consist of large vehicular gates on the first story of both the south and west elevations. Most of the first story is enclosed with metal slat vents.

***P3b. Resource Attributes:** (List attributes and codes) HP4. Ancillary Building
***P4.Resources Present:** ☒ Building ☐ Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)

P5a. Photograph or Drawing (Photograph required for buildings, structures, and objects.)



P5b. Description of Photo: (view, date, accession #) Parking Structure, looking northeast, GPA 2017

***P6. Date Constructed/Age and Source:**
☒ Historic ☐ Prehistoric ☐ Both
1972-1973; City of Los Angeles Department of Building and Safety

***P7. Owner and Address:**
Onni Times Square LP
140 S. Broadway
Los Angeles, CA 90012

***P8. Recorded by:** (Name, affiliation, and address)
GPA Consulting
617 S. Olive Street, Suite 910
Los Angeles, CA 90014

***P9. Date Recorded:** 12/5/2018

***P10. Survey Type:** (Describe)
Intensive Survey

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
GPA Consulting, "Historical Resource Technical Report for Times Mirror Square, Los Angeles, California," December 2018

***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) Executive Building & Parking Structure
***NRHP Status Code** 3D, 3CB, 5B (Executive Building) 3D, 3CD, 5D (Parking Structure)

B1. Historic Name: Executive Building
B2. Common Name: Same
B3. Original Use: Offices
B4. Present Use: Same
***B5. Architectural Style:** Corporate International
***B6. Construction History:** Constructed 1970-1973.
***B7. Moved?** ☒ **No** ☐ **Yes** ☐ **Unknown** **Date:** _____ **Original Location:** _____
***B8. Related Features:** None.

B9a. Architect: William L. Pereira & Associates
b. Builder: C.L. Peck
***B10. Significance: Theme** Newspapers & Publishing **Area** Los Angeles
Period of Significance 1973-2000 **Property Type** Commercial **Applicable Criteria** 1/2

The Executive Building is ineligible for the listing in the National Register because it is not of exceptional significance, which is required for properties less than 50 years of age. The following paragraphs provide a detailed evaluation under each criterion, as well as an analysis of integrity.

National Register Evaluation

Criterion A

The Executive Building was constructed between 1970 and 1973 to house the executive offices of the Times Mirror Company, as well as office rental and bank space under the direction of Dorothy Chandler. Times Mirror was an American newspaper and print media publisher that grew to include television stations. It had its roots in the Mirror Printing and Binding House, established in 1873 primarily for commercial printing. In 1881, the Mirror Printing and Binding House agreed to print a new daily newspaper called the *Los Angeles Daily Times*, soon renamed the *Los Angeles Times*. (Continued Page 22.)

B11. Additional Resource Attributes: (List attributes and codes) _____

***B12. References:**

See Page 3.

B13. Remarks:

None.

***B14. Evaluator:** GPA Consulting
***Date of Evaluation:** 12/5/2018

(This space reserved for official comments.)

(Sketch Map with north arrow required.)



B10. Significance (Continued from Page 20):

During the twentieth century, through a series of acquisitions including publishing companies, broadcasting stations, and magazines the Times Mirror Company became a media empire with nearly $4 billion in revenue during the 1990s. The Times Mirror Company is undoubtedly significant in the Sub-Context Newspapers and Publishing. It was one of the oldest and largest companies in Los Angeles before it was sold in 2000. However, properties like the Executive Building that have achieved significance within the past 50 years, must meet Criteria Consideration G to be eligible for listing in the National Register. Criteria Consideration G states "a property achieving significance within the last 50 years is eligible if it is of exceptional importance." For a variety of reasons, the Executive Building is not of exceptional importance for its association with the Times Mirror Company. First, it is not the founding location of the company. The original and earlier buildings have been demolished. Between 1935 and 1972 the company was located in the extant Times Building to the east. In its 116-year history, the company was located in the Executive Building for 27 years, 1973 to 2000. Second, no information was found to indicate that events of exceptional importance occurred during this period. The growth of the company into a media giant began in the 1950s and continued in the 1960s when it was located in the Times Building, not the Executive Building.

Criterion B

To be eligible for listing in the National Register under Criterion B, a property must be associated with the lives of persons significant in our past. As the headquarters of the Times Mirror Company for the last 27 years of its history, it was the workplace for numerous executives and directors. However, the three most closely associated with the building were Otis Chandler, Franklin Murphy, and Dorothy Chandler. All three are undeniably significant in the history of Los Angeles, and their many accomplishments are well documented. Other individuals that could be significant include, but are not discussed below, Albert Casey and Robert Erburu. As National Register Bulletin #15 explains, “For properties associated with several community leaders…, it is necessary to identify specific individuals and to explain their significant accomplishments.” The bulletin further explains that for a property associated with numerous individuals to be significant, “the significance of one or more specific [individuals must be] explicitly justified.” It goes on to clarify that if the significance of the historic property is related to “the cumulative importance of prominent [persons],” then the property would not be eligible under Criterion B; but rather, it might be eligible under Criterion A. As noted above, however, the Executive Building and Parking Structure do not meet Criterion A.

The significance of the Executive Building rests in the cumulative contributions of the important individuals who were instrumental in the management of the Times Mirror Company, rather than the specific contributions of one, or even a few, individuals. Otis Chandler, Franklin Murphy, and Dorothy Chandler[1] all played important roles in the company, and are associated with the Executive Building; however, the individual association of each is not particularly strong. From 1960 to 1972, Otis Chandler's office was located in the Times Building. During that period, he had already transformed the *Times* from a local publication to a national newspaper with a reputation for excellence. He moved his office to the Executive Building in 1973. From 1973 to 1980, he continued to serve as the publisher of the *Los Angeles Times* and the vice president for newspapers at Times Mirror. He stepped down as the publisher in 1980 and became the chairman of Times Mirror, but the position of chief executive officer was filled by Robert Erburu. Chandler kept an office in the Executive Building but reduced his role in the day-to-day operations of the company to focus on other interests. He was ousted as chairman of Times Mirror in 1985. Murphy was influential in the educational, political, and cultural development of Los Angeles, if not the United States.[2] The length of his association with the Executive Building is not long enough to be considered significant. In the 116-year history of the company, Murphy was the chairman and chief executive officer of Times Mirror for 12 years (1968 to 1980) and his office was in the building for seven years (1973 to 1980). Furthermore, his specific accomplishments at the company during this period are not well documented. While Dorothy Chandler by all accounts had more to do with construction of the Executive Building than any other individual, she only maintained an office in the building until 1976. From 1974 to 1976 she was relegated to emeritus director and it is unclear how much time she spent in the building. Arguably, Chandler would consider her life's work to be the Los Angeles Music Center.

[1] Others could include Albert Casey and Robert Erburu.
[2] Davis, 119-37.

Therefore, the Executive Building does not appear to be eligible for listing in the National Register under Criterion B and in any event is not of exceptional importance.

Criterion C

To be significant under Criterion C, a resource must embody the distinctive characteristics of a type, period, or method of construction, represent the work of a master, possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. The Executive Building and Parking Structure were designed in 1970 in the Corporate International Style of architecture by William L. Pereira & Associates.

The Los Angeles region has countless examples of Corporate International Style buildings, many of which are considered extremely significant. These include everything from office buildings like the American Cement Building (1961, Los Angeles) by DMJM, hotels like the Century Plaza Hotel (1966, Los Angeles) by Minoru Yamasaki, hospitals like the Century City Medical Plaza (1969, Los Angeles) by Cesar Pelli and Anthony Lumsden for DMJM, and numerous banks buildings like Great Western Savings (1972, Beverly Hills, renamed the Flynt Building) by William L. Pereira & Associates and Bank of America Plaza (1974, Los Angeles) by A.C. Martin and Associates as well as campuses for new technology firms like Xerox (Craig Ellwood, 1966, El Segundo) and TRW (A.C. Martin and Associates, 1967, El Segundo).

For the Executive Building and Parking Structure to be significant under Criterion C for their Corporate International design, they must not just be examples of the style; they must also be important examples. This is not the case with either building. While the Executive Building employs several elements of the Corporate International Style such as box-shaped forms, horizontal bands of windows and stone panels, and a landscaped plaza, it is clear that it is not a significant example when compared with the landmark examples noted above and numerous others. Rather, the building is a late, average example of the style applied to a mid-rise corporate building. Additionally, research on the building in architectural periodicals and books did not yield any results indicating that it was considered an important work during its time or in subsequent decades. The only mentions of the building were in the Los Angeles Times, which gave it glowing reviews, for obvious, promotional reasons. While the Parking Structure was designed in conjunction with the Executive Building, it was not referred to in the article. Furthermore, it does not exhibit the elements of the Corporate International Style, or any other styles within the Modern movement. As the Executive Building and Parking Structure are not significant examples of an architectural style, the buildings do not appear to be significant for embodying the distinctive characteristics of its type or period of construction. Additionally, they did not involve any novel or noteworthy construction techniques, so they do not appear to be significant for embodying the distinctive characteristics of a method of construction.

As the product of the William L. Pereira & Associates firm, the Executive Building and Parking Structure have been presumed to be the product of master architect William Pereira; however, the identity of the designer is unclear. Only the name of the firm appears on the drawings and permits, and there is conflicting information in the *Los Angeles Times* about the partner in charge of the project. A 1972 article stated that Pereira was the partner in charge with John C. Knight as the project director and Shreve Babcock as deputy project director. That team was apparently replaced as a 1973 article stated that Gin Wong was the partner in charge, and that Roy G. Schmidt was the project director. Pereira & Associates was responsible for the interior of the bank on the ground floor, and Sue Wilson acted as the designer. The interiors of the fifth and sixth floors, which were the executive offices of the Times Mirror Company, were designed by Charles Kratka Interior Planning and Design. Jan Hornbeck was in charge of the project for Kratka. As so many individuals apparently contributed to the design, the extent of Pereira's involvement in the design of the Executive Building and Parking Structure is uncertain. Additionally, the buildings are not included in the extensive chronology of projects provided in Steele's book. Steele explains that his list is "selective in the sense that it only includes projects with clear provenance."

Even if Pereira designed the Executive Building and Parking Structure, they are not important or distinctive examples of his work. In order to be eligible under Criterion C as the work of a master, the buildings would have to express a particular phase in the development of Pereira's career, an aspect of his work, or a particular idea or theme in his craft. By the early 1970s, when the Executive Building and Parking Structure were constructed, Pereira's work on singular buildings had shifted away from the minimalist toward more expressive, monumental forms often rendered in concrete, and his practice in general had shifted from individual buildings to large-scale master plans. Thus, his work from the period is better represented by buildings like the Pacific Life Building

(1972) and Marriot Hotel (1973) in Newport Beach (1975) Transamerica Tower (1972) in San Francisco and his numerous master plans, especially those for airports and college campuses. In short, the Executive Building and Parking Structure do not appear to be eligible under Criterion C as a representative work of master architect William L. Pereira.

The last two aspects of Criterion C, possessing high artistic values, or representing a significant and distinguishable entity whose components may lack individual distinction, apply to works of art and historic districts, respectively. The Executive Building and Parking Structure are neither. Therefore, for all of the reasons described above, they do not appear to be significant under Criterion C and in any event are not of exceptional importance.

Criterion D

Criterion D was not considered in this evaluation, as it generally applies to archaeological resources.

Integrity

As the Executive Building and Parking Structure do not appear eligible for listing in the National Register, an assessment of its integrity is not required. However, it may be noted that the exteriors are substantially unaltered. Alterations have been limited to the interior of the Executive Building. In 1980, Charles Kratka remodeled the third floor and in 1987, Stokes & Bojorquez remodeled the bank space on the first floor. The most substantial alterations occurred in 1997 with the first and second floors were seismically strengthened. While some of the furnishing and finishes on the sixth floor have been removed or replaced, the spaces themselves are intact. Therefore, the building retains all aspects of integrity.

California Register Evaluation

The California Register was modeled on the National Register; however, there are differences in the 50-year threshold. A property less than 50 years of age may be eligible for listing in the California Register if it can be demonstrated that sufficient time has passed to obtain scholarly perspective on the events and/or individuals associated with the property. In other words, a property less than 50 years of age does not need to be of exceptional importance to be eligible for listing in the California Register. The California Register statute allows CEQA Lead Agencies a fair amount of flexibility in justifying that a property is significant, even if that property is less than 50 years old. In evaluating such properties for California Register eligibility, the focus is on the evidence for significance as opposed to the age of the property. The *Los Angeles Times*, Times Mirror Company, and Chandler family have received a fair amount of scholarly attention. The early history of the *Los Angeles Times* and its subsequent transformation was chronicled in the unauthorized history, *Thinking Big* in 1977, and was one of four papers profiled by David Halberstam in *The Powers That Be* in 1979. Halberstam also discusses the Chandler family in his book, but to a lesser extent the Times Mirror Company. The newspaper has also been the whole or partial subject of numerous dissertations and theses in communications or social science in the past four decades. Dennis McDougal wrote a biography of Otis Chandler, *Privileged Son and the Rise and Fall of the Los Angeles Times Dynasty* in 2001 and Margaret Leslie Davis wrote a biography of Franklin Murphy, *The Culture Broker, Franklin D. Murphy and the Transformation of Los Angeles* in 2007. Both books place their subjects in the context of the newspaper and the company as well as national, state, and trends.

Based upon these scholarly sources, the Executive Building appears to be eligible under California Register Criterion 1 for its association with the Times Mirror Company. The Executive Building was the first building ever constructed specifically to house the company in its century-plus history. From the 1970s to the 1990s the company continued to grow. By 1990, Times Mirror had become the 12th-largest multiple cable system operator in the country and the *Los Angeles Times* reached the apex of its circulation. During the 1990s, the company, like all newspaper and publishing outlets in the country, began a steady decline as their customers and advertisers migrated to mobile networks and electronic books and magazines. When Times Mirror was purchased by Tribune in 2000, the Atlantic Richfield Company remained the only Fortune 500 Company in Downtown Los Angeles. The period of significance under Criterion 1 is 1973, the year the building was completed, to 2000, the year the Tribune Company purchased the Times Mirror Company.

In addition, the Executive Building appears to be eligible under California Register Criterion 2 for its association with Otis Chandler. Chandler was the publisher of the Los Angeles Times for 20 years (1960 to 1980). He moved his office from the Times Building to the Executive Building when it was completed in 1973. From 1973 to 1980, Chandler continued to modernize the Los Angeles Times and to expand its reach. In 1979, there were 31foreign and domestic bureaus and for the 25th consecutive year the paper published

more advertising than any other in the world. The period of significance under Criterion 2 is 1973 to 1985 when Chandler retained an office in the Executive Building.

The building does not appear to be eligible under California Register Criteria 3 and 4 for the same reasons noted in the National Register Criteria C, and D evaluations.

Appendix C: Character-Defining Features Tables

Character-defining features are the architectural components that contribute to a building's sense of time and place. *Preservation Brief #17: Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving Their Character* notes:

> A complete understanding of any property may require documentary research about its style, construction, function, its furnishings or contents; knowledge about the original builder, owners, and later occupants; and knowledge about the evolutionary history of the building. Even though buildings may be of historic, rather than architectural significance, it is their tangible elements that embody its significance for association with specific events or persons and it is those tangible elements both on the exterior and interior that should be preserved.[98]

The character-defining features of buildings can be generally grouped into three categories: the overall visual character of a building, the exterior materials and craftsmanship, and the interior spaces, features, and finishes. The relative importance of character-defining features depends on the level of craftsmanship, visibility, and integrity. In addition, some character-defining features are more important than others in conveying the significance of the building. Thus, the character-defining features listed in the tables on the following pages are described as either "primary" or "secondary." Primary character-defining features are considered the most important elements contributing to the significance of the building, while secondary features are considered less important.

[98] *National Register Preservation Brief #17,* p. 1.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Immediate Setting • Setback from street abutting sidewalk		X			Highly visible, retains integrity.
	General Setting • Surrounding neighborhood • Streetscape				X	The surrounding area has been altered since the end of the period of significance, primarily in the form of modern infill.
	Original Massing • Rectangular plan • Four-eight stories • Hipped roof • Symmetrical massing • Tripartite		X			Original and highly visible. While the building has experienced a few additions, the original massing remains evident and intact.

[99] Photographs are of representative examples of the character-defining features outlined in the table. Every instance of every feature was not photographed or included in this table.

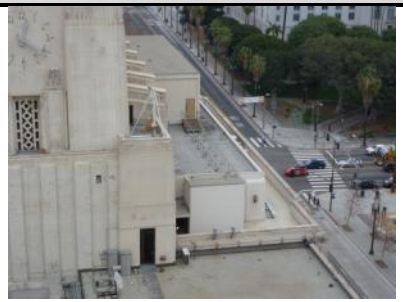
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Addition on North End of East Elevation • One story • 1946				X	The 1946 addition is not a character-defining feature because its doors, windows, and exterior wall materials were replaced, likely in 1973; therefore, the addition no longer retains physical integrity.
	Addition on North End of East Elevation • One story • 1965			X		Although not original to the building, the addition is directly associated with William L. Pereira & Associates as well as the period of significance associated with Otis Chandler (1960-1972).
	Roof Design • Hipped with flush eaves • Flat with raced parapet, forming outer decks			X		The roof design dates from within the period of significance; however, it is not highly visible from the public right-of-way. The pitch and form of the hipped roof is highly intact, but the 1946, 1965, and 1972 additions have altered the roof decks. The hipped roof originally had an eagle sculpture at the north end, likely the 1887 Los Angeles Times Eagle displayed in the elevator lobby, and flag poles to the north and south. Roofs to the east and west of the

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
						central tower originally had skylights and tile flooring.
Overall Visual Character	Roof Material • Clay tile			X		Original and intact, but not highly visible from the public right-of-way.
	North Elevation • Primary street-facing elevation • 4-8 stories • Symmetrical design • Central entrance		X			Original, highly visible, and retains integrity.

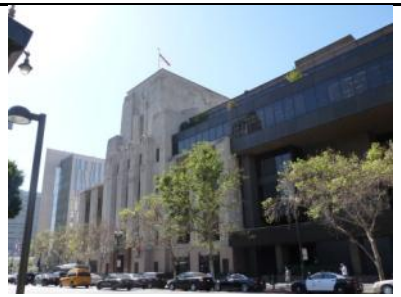
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	East Elevation • Street-facing elevation • 4-8 stories • Symmetrical design		X			Original, highly visible, and retains overall integrity. While additions have been constructed, the original design and massing remain evident.
	South Elevation • 8 stories • Symmetrical design			X		This elevation, while at least partially intact, is obscured from view by third and fourth story additions to the Plant Building and is not clearly visible from the public-right-of way.
	West Elevation • 4-8 stories				X	Much of the west elevation was demolished in 1971 for the construction of the Executive Building. Portions of the original west elevation remain intact above the fifth floor.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
	Main Entrance • Centralized • Recessed • Double door • Full-height transom • Decorative surround		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.
Overall Visual Character	First Story Windows (Large) • Symmetrically-arranged • Fixed • Decorative surround		X			The window openings and surrounds are original, highly visible, retain integrity and are directly related to the PWA Moderne style of the building. The window sashes are non-original, and therefore, are not character-defining features.
	First Story Windows (Small) • Symmetrically-arranged • Fixed metal panels • Decorative surround		X			The window openings and surrounds are original, highly visible, retain integrity and are directly related to the PWA Moderne style of the building. The fixed metal panels are non-original, and therefore, are not character-defining features.

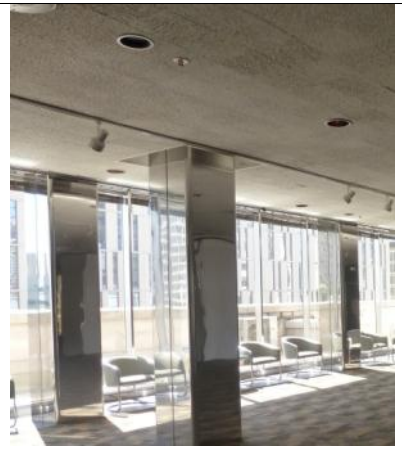
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
	Upper-story Windows • Single-light fixed • Divided by bronze spandrels		X			The window openings and bronze spandrels are original, highly visible, retain integrity and are directly related to the PWA Moderne style of the building. The window sashes are non-original, and therefore, are not character-defining features.
Overall Visual Character	1946 Addition Windows (pictured from the interior) • On 1946 addition at north end of east elevation • Full-height fixed				X	The 1946 addition is not character-defining because it no longer retains physical integrity. Non-original windows and openings; windows were originally multi-light window sash set in projecting metal frames.
	1965 Addition Windows (pictured from the interior) • On 1965 addition at north end of east elevation • Full-height metal-framed fixed			X		Windows date from William L. Pereira & Associates' 1965 design. Although the 1965 addition is not original to the building, it is directly associated with Pereira & Associates as well as the period of significance associated with Otis Chandler (1960-1972).

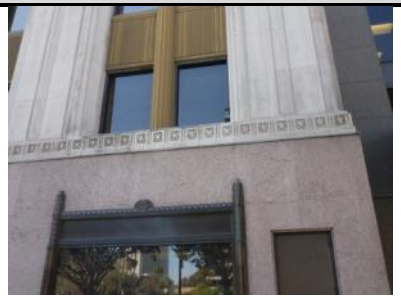
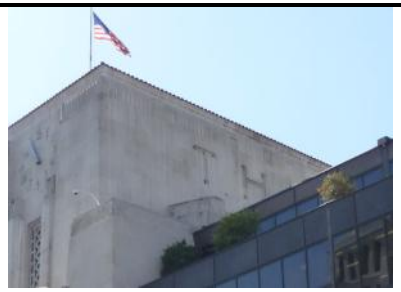
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Exterior Materials • All elevations • Granite (pink and gray) • Terra Cotta • Limestone • Bronze		X			Original, highly visible, and retain integrity.
	"The Times" Carving • East and west elevations • Carved into limestone • Neon illumination		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.
	Carved sculptures • North elevation • Fifth floor • The sculptures represent "Father Time," "Spirit of the Times," and "Gutenberg"		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Clock • Penthouse • North elevation • Numbers and ticks carved into limestone • Metal hands • Neon illumination		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.
	Eagles • North elevation • Just below penthouse		X			Original, highly visible, retains integrity and is directly related to the ecclesiastical PWA Moderne style of the building.
	Grille • North elevation • Sixth floor • Terra Cotta		X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building.

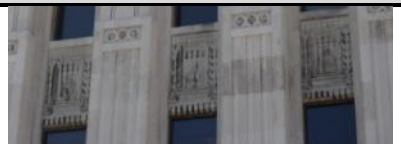
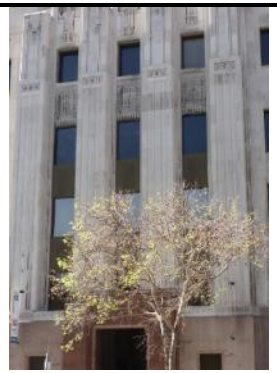
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Bas Relief Panels • North elevation • Fourth floor • Terra Cotta		X			Original, highly visible, retains integrity and is directly related to the ecclesiastical PWA Moderne style of the building.
	Pilasters • North and east elevations • Second to fifth floors • Limestone • Carved		X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building
	Window Surrounds • First story • North and east elevations • Cast bronze		X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building

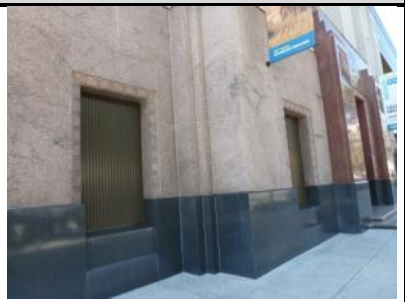
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Window Surrounds • First story • North and east elevations • Carved granite		X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building
	Spandrel Panels and Pilasters • North and east elevations • Upper stories • Fluted pilasters • Carved spandrel panels • Spandrel panel at fourth floor is more elaborately carved with dentils and medallions	 	X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building
	Belt Course • North and east elevations • Between first and second stories • Terra cotta, repeating sunburst pattern		X			Original, highly visible, retains integrity and is directly related to the PWA Moderne style of the building.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Main Entry Surround • Carved granite • Two bas relief eagles at the corners • "Los Angeles Times" at the center		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.
	Main Entry Door • North elevation • First story • Bronze with marble and granite surround • Cast crests • Double doors with sidelights		X			Original, highly visible, retains integrity and is directly related to the use and PWA Moderne style of the building.
	Vestibule Ceiling • North elevation • First story • Smooth stucco • Recessed Lights				X	Not original and consists of common materials. The vestibule ceiling was originally covered in aluminum leaf, glazed to a pale gold. There was also originally an ornamental hanging light fixture.

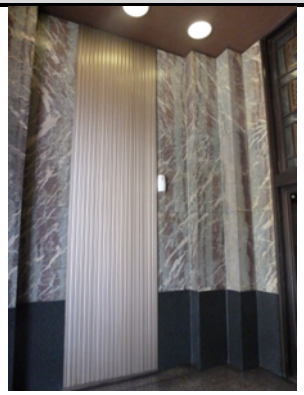
Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Metal Panels • North elevation • First story • Within vestibule • Aluminum				X	Not original; likely covered original window openings with metal panels in 1981 when the Centennial Exhibition was installed.
	Vestibule Floor • North elevation • First story • Granite		X			Original, highly visible, retains integrity.
	Corner Stones/Plaques • North elevation, first story • Carved into granite • One on each side of entrance and on east and west walls of vestibules		X			Original, highly visible, retains integrity.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Globe Lobby Ceiling • Circular configuration • Recessed lighting • Divided lights along circumference • Circular fixture at center			X		Original configuration remains, but circular light fixture has been replaced and the ceiling painted. The lobby ceiling was originally covered in aluminum leaf, glazed to a pale gold.
	Cornice • Cast metal		X			Original, highly visible, retains integrity.
	Hugo Ballin Murals • Murals depicting journalism and newspaper themes		X			Original, highly visible, retains integrity, and directly related to the use of the building. Of high artistic value.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Marble Band • Marble carved with the words, "There is no dimming/No effacement here/Each new pulsation keeps the record clear/The newspaper is a greater treasure to the people than uncounted millions of gold," at the bottom of the murals		X			Original, highly visible, retains integrity, and directly related to the use of the building.
	Globe Sculpture • Located in center of Globe Lobby • Sculpted by Merrell Gage • Aluminum • 5.5' in diameter • Originally rotated, making a full revolution every 15 minutes • Marble base with bas-relief figures		X			Original, highly visible, retains integrity and is directly related to the use of the building. Of high artistic value.
	Marble Floor • Different colored marble inlay forms a compass rose		X			Original, highly visible, retains integrity and is directly related to the use of the building. Of high artistic value.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Exhibit Areas • Surrounding the globe lobby • Carpeted • Fluorescent lighting • Drop ceiling				X	The exhibit areas have been altered with new and common materials; installed in 1981 as part of the Los Angeles Times Centennial Exhibit.
	Elevator Lobby Ceiling • Rounded aluminum light fixture		X			Original, highly visible, retains integrity.
	Marble Walls • Elevator lobby		X			Original, highly visible, retains integrity.
	Art Deco Doors • Elevator lobby • Wood with bronze hardware, inlay and decorative surround		X			Original, highly visible, retains integrity.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Mail Tubes • Elevator lobby • Bronze inlay and marble		X			Original, highly visible, retains integrity.
	Elevator Doors • Elevator lobby • Bronze inlay • Decorative bronze surround		X			Original, highly visible, retains integrity.
	Marble Floor • Elevator lobby • Multiple colors of marble with three bronze plates depicting the three previous homes of the LA Times		X			Original, highly visible, retains integrity.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
						
Interior Spaces, Features, and Finishes	Auditorium • On fifth floor		X			The volume of space is original and directly related to the original use of the building. The finishes and features are non-original, dating from 1935 through more recent alterations; therefore, their integrity is diminished due to a loss of consistency and cohesiveness. Finishes and features are not associated with one specific period of significance; therefore, they have not gained significance in their own right.
	1946 Addition • Acoustic drop ceiling • Drywall • Carpeting • Recessed and track lighting • Double doors • Reflective piers				X	The 1946 addition is not character-defining because it no longer retains physical integrity; therefore, the interior space, finishes, and features are also not character-defining.

Table C-1: Times Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[99]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	1965 Addition • Acoustic ceiling • Wood paneling • Carpeting • Recessed lighting			X		The space, finishes, and features date from William L. Pereira & Associates' 1965 design. Although not original to the building, the finishes and features are directly associated with Pereira as well as the period of significance associated with Otis Chandler (1960-1972).
	Interior Office Spaces • Upper stories • Acoustic drop ceilings • Carpeting • Drywall • Fluorescent lighting • Temporary cubicle partitions				X	These non-public spaces have been heavily altered throughout the years from tenant improvements. The spaces consist of non-original, contemporary, common materials.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Immediate Setting • Setback from street abutting sidewalk		X			Highly visible, retains integrity.
	General Setting • Surrounding neighborhood • Streetscape				X	The surrounding area has been altered since the end of the period of significance, primarily in the form of modern infill.
	Original Massing • Rectangular plan • Two stories • Flat roof • Symmetrical massing		X			Original and highly visible. While the building has experienced a few additions, the original massing remains evident and intact; furthermore, the additions were designed in a manner consistent with the original building and contribute to the visual connection between the Times and Mirror buildings. They reflect the growth of the Times-

[100] Photographs are of representative examples of the character-defining features outlined in the table. Every instance of every feature was not photographed or included in this table.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
						Mirror Company in the postwar period.
Overall Visual Character	Third Story Addition • One story • 1946		X			The addition was directly related to the construction of the Mirror Building in 1948. It was designed in a manner consistent with the original building and contributes to the visual connection between the Times and Mirror buildings. It reflects the growth of the Times-Mirror Company in the postwar period.
	Fourth Story Addition • One story • 1955		X			The addition was designed in a manner consistent with the original building and contributes to the visual connection between the Times and Mirror buildings. It reflects the growth of the Times-Mirror Company in the postwar period.
	Roof Design • Flat with raised parapet			X		Original, but not clearly visible from the public right-of-way.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	East Elevation • Only street-facing elevation • 4 stories • Symmetrical design		X			While the building has experienced a few additions, the original massing remains evident and intact; furthermore, the additions were designed in a manner consistent with the original building and contributes to the visual connection between the Times and Mirror buildings. They reflect the growth of the Times-Mirror Company in the postwar period.
	First Story Openings • East elevation • Symmetrically arranged • Recessed		X			Openings are original, highly visible, and retain integrity. The infill is non-original, added in 1997, and therefore, is not a character-defining feature. The openings originally had roll-up metal doors.
	Second Story Windows • East elevation • Symmetrically-arranged • Recessed		X			Openings are original, highly visible, and retain integrity. The windows are non-original, likely installed in the 1970s, and therefore, are not a character-defining features. The windows were originally multi-light windows with operable pivot sash.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Upper-Story Windows • East elevation • On third and fourth story additions • Ribbons • Glass block and single-light fixed • Metal surround		X			Original, highly visible, retain integrity. The glass block is original. The windows are non-original and therefore, are not character-defining features. The windows were originally multi-light awning windows that were removed sometime before 1980.
Exterior Materials and Craftsmanship	Exterior Materials • East elevation • Granite (pink and gray) • Terra Cotta • Limestone		X			Original, highly visible, and retains integrity.

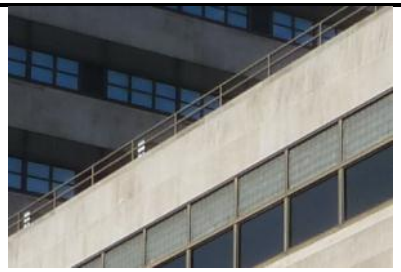
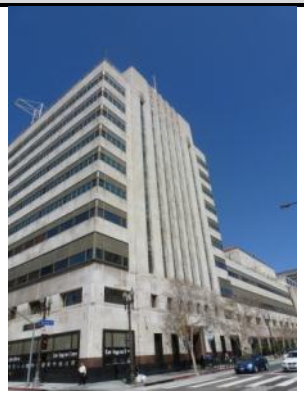
Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Belt Course • East elevation • Between first and second stories • Terra Cotta, repeating sunburst pattern		X			Original, highly visible and retains integrity.
	Carved Signage • East elevation • Second story • Reads "Los Angeles," with eagle and crest		X			Not indicated on original architectural drawings, but is highly visible, retains integrity and is directly related to the use of the building.
	Railing • Along roofline • Metal				X	Non-original, consists of contemporary, common material.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Rounded Bays • South elevation • First story • Marble • Butted glass • Aluminum				X	Non-original (1997), consists of common, contemporary materials.
	Entrance • Frameless glass door • Marble • Butted glass • Aluminum				X	Non-original (1997), consists of common, contemporary materials.
	Loading Dock • Roll-up metal vehicular entrance				X	Non-original, consists of common, contemporary materials.

Table C-2: Plant Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[100]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Cafeteria	 			X	Non-original (1997) space has been re-partitioned for use as a cafeteria, and consists of new and common materials.
	Interior Office Spaces • Upper stories • Acoustic drop ceilings • Carpeting • Drywall • Fluorescent lighting • Temporary cubicle partitions				X	These non-public spaces have been heavily altered throughout the years from tenant improvements. The spaces consist of non-original, contemporary, common materials. (The Times Building interior is pictured here, but the space is representative of most interior office spaces in the buildings).

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Immediate Setting • Setback from street abutting sidewalk		X			Highly visible, retains integrity.
	General Setting • Surrounding neighborhood • Streetscape				X	The surrounding area has been altered since the end of the period of significance, primarily in the form of modern infill.

[101] Photographs are of representative examples of the character-defining features outlined in the table. Every instance of every feature was not photographed or included in this table.

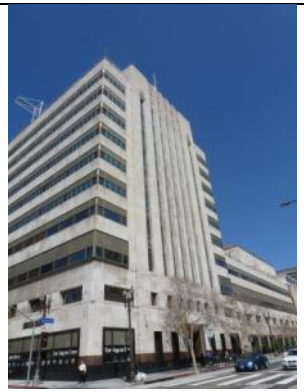
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Original Massing • Rectangular plan • Ten stories • Flat roof • Symmetrical massing		X			Original, intact and highly visible.
	Roof Design • Flat with raised parapet			X		Original and appears to be intact; however, not highly visible from the public right-of-way.
	East Elevation • Primary street-facing elevation • 10 stories • Symmetrical design • Central entrance		X			Original, highly visible, and retains integrity.

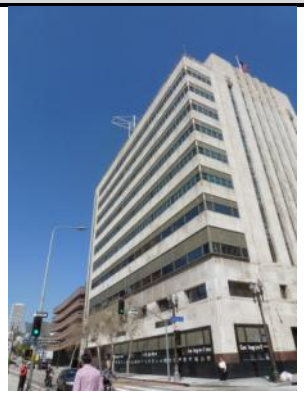
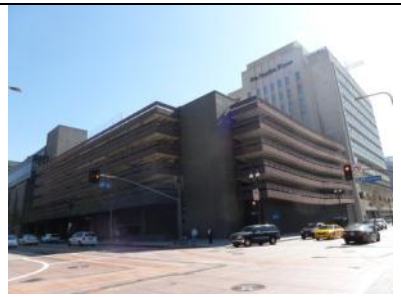
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	South Elevation • Street-facing elevation • 10 stories • Symmetrical design		X			Original, highly visible, and retains overall integrity.
	West Elevation • 10 stories • Symmetrical design		X			Original, highly visible, and retains overall integrity.

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	North elevation • 10 stories • Symmetrical design		X			Original, highly visible, and retains overall integrity.
	Main Entrance • East elevation • Centralized • Recessed • Four doors • Full-height transom • Decorative surround		X			Original, highly visible, retains integrity.
	First Story Windows (Large) • East and south elevations • Symmetrically-arranged • Glass block • Fixed and awning (non-operable) • Decorative surround • Display areas		X			Original, highly visible, retains integrity.

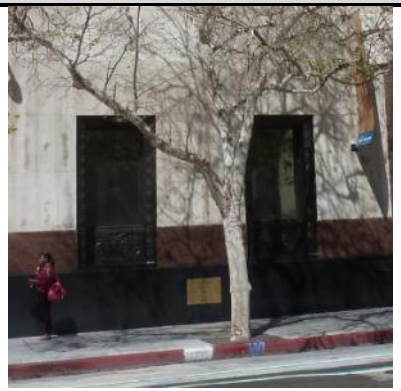
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	First Story Windows (Small) • Symmetrically-arranged • Single-light fixed • Decorative surround		X			Original, highly visible, retains integrity. The window sashes are non-original, and therefore, are not character-defining features. The original window sash was deeply recessed within the opening.
	Upper Story Windows (Center) • East and west elevations • Arranged in vertical bands • Single-light, multi-light fixed • Divided by metal spandrels		X			Original and highly visible. While some windows have been replaced with single-lights, the original design is evident and the openings are intact.
	Upper Story Windows (North and south wings) • All elevations • Glass block • Multi-light fixed • Single-light fixed		X			Original, intact and highly visible. While some windows have been replaced with single-lights, the original design is evident and the openings are intact.

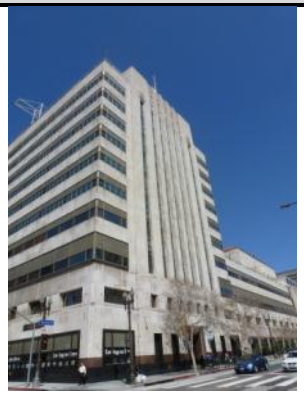
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Exterior Materials • All elevations • Limestone • Granite (red and black)		X			Original, highly visible, and retain integrity.
	Sculptures • East elevation • Tenth floor • Carved limestone • Five figures designed by architect to represent culture, justice, faith, progress, and equality		X			Original, highly visible, retains integrity.
	Eagle Panels • East elevation • Tenth floor • Carved limestone or terra cotta		X			Original, highly visible, retains integrity.

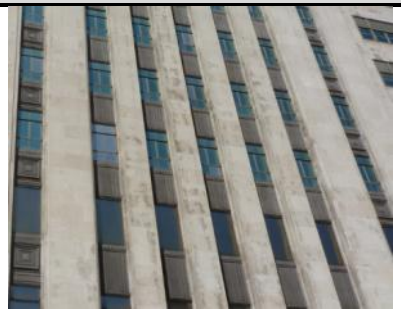
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Metal Spandrels • East and west elevations • Upper stories • Fluted metal panels • Outermost bays have more elaborate panels		X			Original, highly visible, retains integrity.
	Belt Course • East elevation • Between first and second stories • Terra cotta, repeating sunburst pattern		X			Original, highly visible, retains integrity.
	Main Entry Surround • East elevation • First story • Carved granite		X			Original, highly visible, retains integrity.

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Vestibule • East elevation • First story • Granite • Pierced decorative metal screens with lotus pattern; bronze, doors.		X			Original, highly visible, retains integrity.
	Main Entry • East elevation • First story • Double fully-glazed metal doors flanked by single fully-glazed metal doors • Full-height transom • "Los Angeles Times"		X			Original, highly visible, retains integrity.
	Vestibule Ceiling • Dentilled crown molding • Circular light fixture		X			Original, highly visible, retains integrity.

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Window Surrounds • First story • East and south elevations • Coated metal • Display cases		X			Original, highly visible, retains integrity.
	Window Surrounds • First story • East elevation • Coated metal and bronze • Lotus pattern		X			Original, highly visible, retains integrity.
	Railing • South elevation • Tenth story				X	Non-original, consists of contemporary, common material.

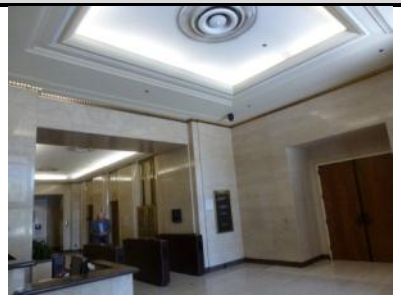
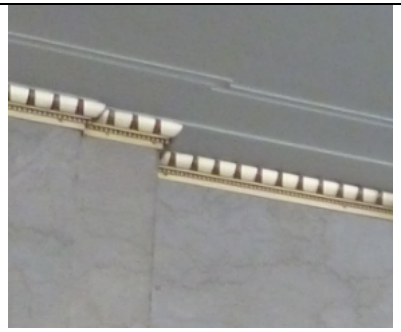
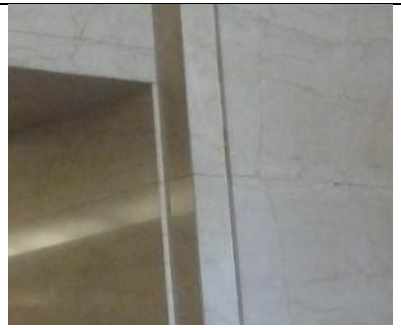
Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Main Lobby Ceiling • Circular fixture at center • Square • Soffited		X			Original configuration remains, but security cameras and fire sprinklers have been added very visibly. The central vent fixture is possibly original as is the location of the lighting, though the light fixtures themselves are likely replacements.
	Crown Molding • Main lobby • Dentillated		X			Original, highly visible, retains integrity.
	Walls • Main lobby • Veined marble panels		X			Original, highly visible, retains integrity.

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Phone Booths • Main lobby • Bronze and wood		X			Original, highly visible, retains integrity and is directly related to the use of the building and construction time period.
	Secondary Lobby Space • Drywall • Carpeting • Drop acoustic ceiling and fluorescent lighting • Structural steel cross-bracing				X	Space is made up of non-original, common materials; the cross-bracing is a major detraction from the space's integrity.
	Elevator Lobby • Circular fixtures and recessed lighting on ceiling • Rectangular • Bronze elevator doors • Mail chutes • Marble paneled floor and walls		X			Original, highly visible, retains overall integrity.

Table C-3: Mirror Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[101]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Interior Office Spaces • Upper stories • Acoustic drop ceilings • Carpeting • Drywall • Fluorescent lighting • Temporary cubicle partitions				X	These non-public spaces have been heavily altered throughout the years from tenant improvements. The spaces consist of non-original, contemporary, common materials. (The Times Building interior is pictured here, but the space is representative of all interior office spaces in the Mirror Building).

Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Immediate Setting • Setback from street abutting sidewalk		X			Highly visible, retains integrity.
	General Setting • Surrounding neighborhood • Streetscape				X	The surrounding area has been altered since the end of the period of significance, primarily in the form of modern infill.
	Original Massing • Rectangular plan • Six stories • Flat roof • Intersecting geometric volumes		X			Original, intact and highly visible.

[102] Photographs are of representative examples of the character-defining features outlined in the table. Every instance of every feature was not photographed or included in this table.

Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Roof Design • Flat with mechanical penthouses and pyramidal skylight • Plantings			X		Original and appears to be intact; however, not highly visible from the public right-of-way.
	North Elevation • Primary street-facing elevation • Six stories • Asymmetrical • Ground floor recessed behind piers, creating plaza		X			Original, highly visible, retains integrity and is directly related to the building's architectural style.
	West Elevation • Street-facing elevation • Six stories • Asymmetrical		X			Original, highly visible, and retains overall integrity.

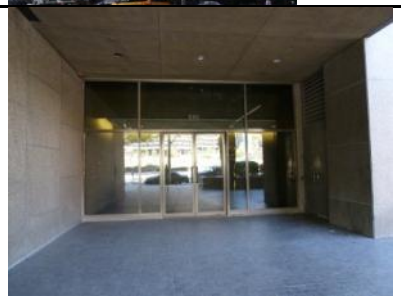
Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	South Elevation • Six stories				X	South elevation abuts Parking Garage and is not visible from the public right-of-way.
	East elevation • Six stories				X	East elevation abuts the Times Building and is not visible.
	Main Entrance • North elevation, east end • Recessed • Double door • Sidelights • Full-height transoms		X			Original, highly visible, retains integrity.

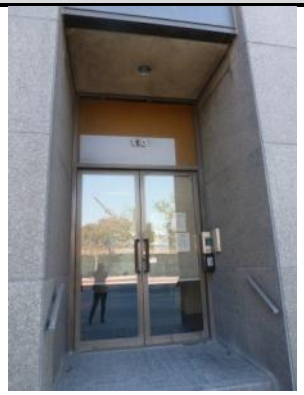
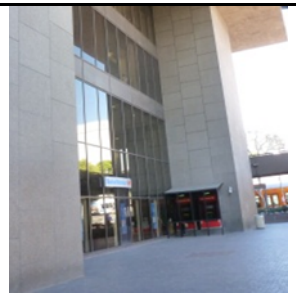
Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	Secondary Entrance • West elevation • Recessed • Double door • Transom			X		Original, retains integrity, common materials, located on secondary elevation.
	Bank Entrance • North and West elevations • Within recessed plaza • Double doors		X			Original, highly visible, retains integrity and is directly related to the building's original use.
	Ground Floor Plaza • Integrated planters • Raised walkways		X			Original, highly visible, retains integrity and is directly related to the building's architectural style.

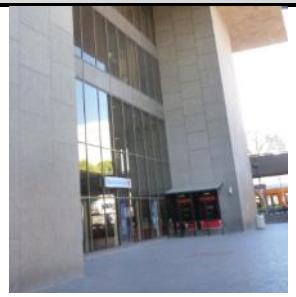
Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Overall Visual Character	First Story Windows • North elevation • Curtain Wall		X			Original, highly visible, retains integrity and is directly related to the building's architectural style.
	Upper-story Windows • North and west elevations • Arranged in vertical bands • Single-light fixed • Divided by metal spandrels		X			Original, highly visible, retains integrity and is directly related to the building's architectural style.
Exterior Materials and Craftsmanship	Exterior Materials • Norwegian granite • Bronze silicon co-polymer coated metal		X			Original, highly visible, retains integrity and is directly related to the building style and construction period.

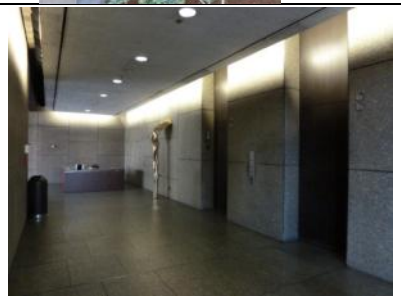
Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Exterior Materials and Craftsmanship	Integrated Planters • First and second stories • Tiled • Rectangular volumes		X			Original, highly visible, retains integrity and is directly related to the building style.
	Plaza • First story • North and east elevations • Tiled plaza floor extends to street		X			Original, highly visible, retains integrity and is directly related to the building style.
Interior Spaces, Features, and Finishes	Main Lobby Ceiling • Main lobby • First story • Acoustic drop ceiling • Recessed lights			X		Original, highly visible, retains integrity but consists of common materials.

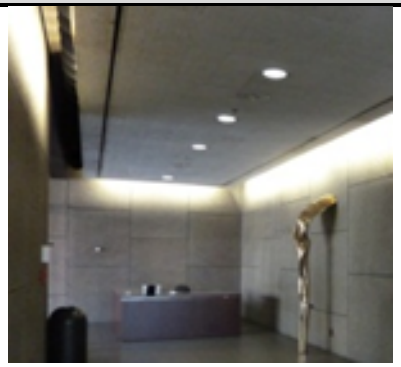
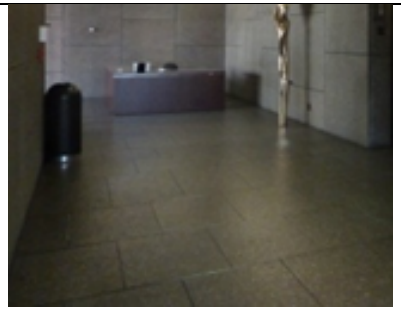
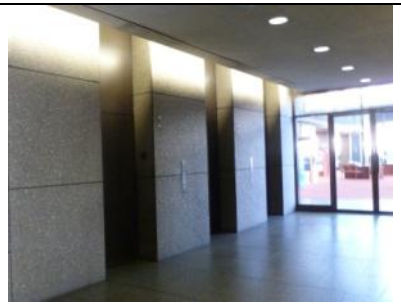
Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Main Lobby Walls • Main lobby • Granite panels		X			Original, highly visible, retains integrity.
	Main Lobby Floor • Main lobby • Granite		X			Original, highly visible, retains integrity.
	Elevators • Main lobby • Scored metal • Three elevators		X			Original, highly visible, retains integrity.

Table C-4: Executive Building Character-Defining Features						
Type	**Feature**	**Photo (if applicable)[102]**	**Primary**	**Secondary**	**Not**	**Reason**
Interior Spaces, Features, and Finishes	Atrium • Sixth floor • Pyramidal skylight • Tile floors			X		Original and distinctive space, retains integrity; however, space is private.
	Conference Room • Sixth floor • Circular light soffit • Wood-paneling • Acoustic drop ceiling			X		Original and distinctive space, retains integrity; however, space is private.
	Interior Office Spaces • Upper stories • Acoustic drop ceilings • Carpeting • Drywall • Fluorescent lighting • Temporary cubicle partitions				X	These non-public spaces have been heavily altered throughout the years from tenant improvements. The spaces consist of non-original, contemporary, common materials. (The Times Building interior is pictured here, but the space is representative of all interior office spaces in the Executive Building, other than the first and the sixth).

Appendix D: Building Permit Tables

Times-Plant Complex

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
09/11/33	Foundation only	Application for concrete foundation.	$10,000	Gordon B. Kaufmann/ None listed
09/21/33	Foundation only	Proposed 165' x 365' foundation made of 3,000 lbs. of cement and 100 tons of reinforcing steel.	$40,000	Gordon B. Kaufmann/ None listed
10/13/33	Entire lot	Application to erect a new 364'-9" x 163'-10" newspaper plant complex; six stories on north side and two stories on south side, with basement under both. Made of reinforced concrete, terra cotta, and tile.	$1,650,000	Gordon B. Kaufmann/ P. J. Walker Co.
12/19/34	Interior of northeast corner store	Complete interior of unfinished corner store by the Owl Drug. Co,	$9,500	Gordon B. Kaufmann/ P. J. Walker Co.
08/28/35	Smoke stack	Replace Thermax partition construction of north and south walls of smoke stack shaft; covering smoke stack with cement and magnesium block.	$5,000	Gordon B. Kaufmann/ P. J. Walker Co.
02/18/36	Stores	Two terra cotta tile partitions, metal lath and plaster ceiling; granite and bronze store fronts; plate glass windows.	$3,000	Gordon B. Kaufmann/ None listed
11/23/45	Not indicated	Remove existing partition, provide new entry to stairs, rework display windows to match existing, upgrade heating and ventilation system.	$15,000	Rowland H. Crawford/ P. J. Walker Co.
01/08/46	Third floor addition over Plant Building	Application for 133' x 184' third floor addition and miscellaneous alterations to Plant Building; additional toilet and locker rooms, mechanical equipment, electrical facilities, and stairways.	$285,000	Rowland H. Crawford/ P. J. Walker Co.
05/28/46	First and second floors	Enlarge press room by removing rooms from first and second floor.	$135,000	Rowland H. Crawford/ P. J. Walker Co.
08/16/46	Fifth floor addition over Times Building	8,100 sf of additional rooms created on fifth floor for recreation and cafeteria.	$78,000	Rowland H. Crawford/ P. J. Walker Co.
01/17/47	Not indicated	Close opening between rooms, rearrange existing women's locker and toilet rooms, and install new non-bearing office partitions and cabinets.	$2,000	Rowland H. Crawford/ P. J. Walker Co.
05/17/47	Third floor	Relocate partitions and widen existing ramp.	$4,900	Rowland H. Crawford/ P. J. Walker Co.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
05/17/47	Not indicated	Remove existing non-bearing partitions and addition of new enlarge kitchen with dressing room. Provide new cabinet work and add two toilet rooms.	$5,000	Rowland H. Crawford/ P. J. Walker Co.
04/26/49	Stores	General repair to correct termite and or fungus damage; no structural changes.	$1,430	None listed/ Abbatto Building Service
1/19/50	Roof	Addition of roof slab and new wall openings. New electric outlets and fixtures. New sprinkler heads and rework roof drains and downspouts.	$4,500	Rowland H. Crawford/ P. J. Walker Co.
05/31/51	Fourth floor	Frame skylight and install tile.	$3,534	None listed/ Harold E. Shagart
06/14/51	Second floor	Addition to existing loading dock in concourse, cutting two new openings in second floor and closing up two existing openings in second floor.	$4,250	Rowland H. Crawford/ P. J. Walker Co.
12/18/51	Not indicated	Insert acoustical ceiling of 1,500 sf to existing wood __, install electric wiring fixtures, repair worn out wood floor; no additions or structural changes.	$1,500	None listed/ Ross Construction Corp.
05/29/52	West elevation of Times Building	Alter first floor glass front; install steel column and two main beams, one crane beam and two supporting beams; install two reinforcing concrete press pits, repair floors, cut some openings in non-bearing stud walls, some new stud plaster walls, or partitions; install a few 7' high plywood office partitions, new ceiling, same new plumbing, with mostly old fixtures.	$8,000	David J. Witmer/ Ross Construction Corp.
06/19/52	Third floor and basement	Addition of 20' x 78' roof deck and suspended plaster ceiling, electric outlets, sprinkler heads and fixtures on third floor. Additional beams in basement.	$20,000	Rowland H. Crawford/ P. J. Walker Co.
10/15/52	Not indicated	Addition of non-bearing partitions, suspended plaster ceiling and new plumbing fixtures.	$8,000	Rowland H. Crawford/ P. J. Walker Co.
12/17/52	First floor	Addition to existing platform interior of first floor.	$1,500	Rowland H. Crawford/ P. J. Walker Co.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
07/30/53	First floor and basement	Addition of beams for new press in basement. Addition of new locker and toilet rooms in basement. Removal and addition of non-bearing partitions on first floor. Alteration to women's restroom and locker room on first floor. Addition of roller steel door and second street truck entrance.	$48,000	Rowland H. Crawford/ P. J. Walker Co.
09/18/53	Not indicated	Make alterations to doors and exits and other corrections/	$1,850	Rowland H. Crawford/ None listed
02/11/54	Third floor	Certificate of Occupancy: Enclose 20' x 78' light court at third floor and add 20' x 78' roof deck above an existing three and ten story.		
09/13/54	Basement	Fill in existing tack depressions and construct new islands at tracks near presses in basement area paper storage; including floor drain changes.	$9,500	Rowland H. Crawford/ P. J. Walker Co.
10/13/54	First floor	Remove existing paper conveyer to basement and install new elevator in same place; including moving air conditioning unit at first floor, plumbing, fire sprinkler and electrical changes to accommodate new shaft and incidental work.	$19,850	Rowland H. Crawford/ P. J. Walker Co.
10/27/54	First floor	Install new and move existing partitions on first floor.	$5,216	None listed/ E. F. Hauserman Co.
02/14/55	Basement	Interior alterations adding toilet room in basement.	$8,000	Rowland H. Crawford/ P. J. Walker Co.
08/11/55	Fourth floor	Remove stone facing and steel sash on south wall at fourth floor. Remove column fireproofing for connections.	$12,500	Rowland H. Crawford/ P. J. Walker Co.
09/08/55	Fourth floor addition over Plant Building	Stone veneer and partial demolish.	$250,000	Rowland H. Crawford/ P. J. Walker
09/16/55	Not indicated	New equipment bases.	$15,000	Rowland H. Crawford/ P. J. Walker Co.
02/07/56	Not indicated	Install interior partitions.	$14,000	Rowland H. Crawford/ P. J. Walker Co.
02/28/56	Not indicated	Repair fire damage.	$30,000	Rowland H. Crawford/ P. J. Walker Co.
05/03/56	Not indicated	Interior partition changes.	$50,000	Rowland H. Crawford/ P. J. Walker Co.
09/17/56	Fourth floor	Certificate of Occupancy: 61' x 164' partial fourth floor addition to an existing offices and printing plant.		

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
12/12/56	Not indicated	Air conditioning equipment platform; interior partitions and ceiling changes.	$295,000	Rowland H. Crawford/ P. J. Walker Co.
03/28/57	Not indicated	Interior partition changes no change to exterior of building.	$15,000	Rowland H. Crawford/ P. J. Walker Co.
05/29/57	First floor	Build new power dock on interior.	$10,000	Rowland H. Crawford/ P. J. Walker Co.
05/29/57	First floor	Add to existing loading dock on interior.	$10,000	Rowland H. Crawford/ P. J. Walker Co.
05/29/57	Not indicated	Strengthen slab.	$3,000	Rowland H. Crawford/ P. J. Walker Co.
11/18/57	Loading dock	Certificate of Occupancy: One-story 21' x 39' addition to an existing 15' x 31' loading dock		
02/17/58	Third floor	New interior openings in existing wall only.	$1,500	Rowland H. Crawford/ P. J. Walker Co.
07/28/58	Basement	New 15' 4" x 6' 8" lead pot equipment.	$12,500	Rowland H. Crawford/ P. J. Walker Co.
09/30/58	Not indicated	Interior partition changes.	$4,000	Rowland H. Crawford/ P. J. Walker Co.
02/04/59	South side of lot	Demolish; subject to retaining wall plans for basement walls.	$12,000	None listed/ Cleveland Wrecking Co.
09/23/59	Not indicated	Partition and ceiling changes to rooms.	$18,000	Rowland H. Crawford/ P. J. Walker Co.
10/20/59	North elevation of Times Building	Remove existing front and replace with brick veneer and glass; plaster existing wall.	$5,000	W. Craig Bullock/ P.J. Walker Co.
12/09/59	First floor	Interior partition changes on the first floor.	$5,000	Rowland H. Crawford/ P. J. Walker Co.
04/05/60	Not indicated	Comply with corrections of survey letter.	$3,000	None listed/ None listed
11/9/60	First floor	Interior partitions on first floor with new concrete floor and filling.	$3,500	Rowland H. Crawford/ P. J. Walker Co.
04/25/61	First floor	Interior of main lobby and waiting room.	$15,000	W. L. Pereira & Associates/ none listed
06/27/61	First floor	New concrete stair on first floor.	$1,000	Rowland H. Crawford/ P. J. Walker Co.
08/08/61	Foundation	New black and white press supports foundation only (1 of 2 permits).	$25,000	Rowland H. Crawford/ P. J. Walker Co.
08/14/61	Not indicated	New steel equipment stair only.	$1,500	Rowland H. Crawford/ P. J. Walker Co.
09/25/61	Fifth floor	New light baffle and platform steps in auditorium.	$25,000	W. L. Pereira & Associates/None listed
09/25/61	Foundation	New black and white press (2 of 2 permits).	$15,000	Rowland H. Crawford/ P. J. Walker Co.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
10/10/61	Press room floor	New steel beam and plate floor in press room added to plans.	$4,000	Rowland H. Crawford/ P. J. Walker Co.
01/15/62	First floor	New removable concrete floor panels.	$1,000	Rowland H. Crawford/ P. J. Walker Co.
02/26/62	First floor and basement	Three new waste paper chutes.	$1,800	Rowland H. Crawford/ P. J. Walker Co.
04/13/62	First floor	New wall, floor and roof openings for waste paper conveyor	$2,000	Rowland H. Crawford/ P. J. Walker Co.
04/20/62	First floor	New raised first floor office-plant section.	$1,500	Rowland H. Crawford/ P. J. Walker Co.
05/18/62	Second and eighth floors (may be Mirror Building)	New partitions, cabinets, floor covering, lighting, and air conditioning.	$130,000	W. L. Pereira & Associates/None listed
07/23/62	West elevation of Plant Building	Repair concrete dock slab off Broadway yard.	$3,500	Rowland H. Crawford/ C. W. Driver Inc.
08/24/62	Second floor	New partitions, ceilings, doors, lighting, and flooring.	$32,000	W. L. Pereira & Associates/ C. W. Driver Inc.
10/30/62	West elevation of Plant Building	Repair concrete dock slab and new concrete framing near Broadway parking lot.	$1,500	Rowland H. Crawford/ C. W. Driver Inc.
12/10/62	Conference room	Change interior finish of conference room only.	$2,000	W. L. Pereira & Associates/ C. W. Driver Inc.
02/27/63	Interior	New partitions, ceilings, lighting, air conditioning, and flooring.	$60,000	W. L. Pereira & Associates/ None listed
04/01/63	Roof	13' x 20' metal canopy on fifth floor roof deck.	$1,000	W. L. Pereira & Associates/ None listed
01/08/64	West elevation of Plant Building	Repair concrete dock slab and new concrete framing near Broadway parking lot.	$1,500	Rowland H. Crawford/ None listed
02/24/64	Third floor	Interior partitions, ceiling lights, and air conditioning on the third floor only.	$300,000	W. L. Pereira & Associates/ None listed
03/11/64	Boiler room	Incinerator in existing boiler room.	$1,200	None listed/ Smith Engineering Co.
04/27/65	Sixth floor addition over Times Building	20' x 74' addition on fifth floor roof; interior partitions, ceilings, lights, fir covering, air conditioning.	$98,000	W. L. Pereira & Associates/ None listed
09/28/65	Roof	Change of sixth floor addition plans.	$2,500	W. L. Pereira & Associates/ C. W. Driver Inc.
04/06/66	Not indicated	Ceiling tile, partitions, air-conditioning, and doors.	$20,000	W. L. Pereira & Associates/ C. W. Driver Inc.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
04/26/66	Second floor	New opening in existing floor and concrete wall on second floor.	$4,000	Rowland H. Crawford/ C.W. Driver Inc.
06/08/66	Fourth floor	Plan check on fourth floor partitions.	$1,500	W. L. Pereira & Associates/ C. W. Driver Inc.
07/01/66	First floor	Remove partitions, new plaster, partitions ceiling toilets, air conditioning, and lighting on first floor.	$20,000	W. L. Pereira & Associates/ C. W. Driver Inc.
09/27/66	Sixth floor	Certificate of occupancy: 26' x 74' newspaper plant addition to sixth floor for assembly room. 100 maximum occupancy load.		
01/31/67	First floor	New concrete work for electric power docks on first floor.	$7,000	Rowland H. Crawford/ C. W. Driver Inc.
06/29/67	Not indicated	Demolish existing partitions and ceiling; install new partitions, ceiling, raised floor, and lighting.	$65,000	W. L. Pereira & Associates/ C. W. Driver Inc.
02/13/68	Second floor	Remove existing walls, install new metal stud walls, suspended ceiling, floor and wall finishes on second floor.	$15,000	W. L. Pereira & Associates/ C. W. Driver Inc.
07/17/68	Fifth floor	Office remodeling, remove existing cafeteria equipment, patch walls, add new light fixtures; all work on fifth floor and no structural alteration.	$8,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
05/29/70	First floor	Install new equipment on first floor; remove non-structural stud walls.	$4,000	Woodward Tom Associates/ C. W. Driver Inc.
07/23/70	West elevation Times Building	Fill in four skylights at roof.	$20,000	W. L. Pereira & Associates/ C.L. Peck
01/05/71	West elevation of Times Building	Hand-demolish penthouse and parapet wall (30' x 100')	$35,000	W. L. Pereira & Associates/ Cleveland Wrecking
04/03/72	Fifth and sixth floors	Interior remodeling on sixth and fifth floors.	$500,000	Charles Kratka I.P. & D./ C. L. Peck
08/03/72	Fourth floor	New ceiling light, air conditioning partitions on fourth floor.	$75,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
08/28/73	Basement	Change in use of basement level B2 to health center.	$100,000	Charles Kratka I.P. & D./ None listed
11/08/73	Fifth floor	Redecoration of fifth floor only; relocate reception room to auditorium.	$200,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
01/28/74	Fourth floor	New partitions in existing space on the fourth floor.	$80,000	Charles Kratka I.P. & D./ C. W. Driver Inc.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
12/15/74	Fourth floor roof	Building connection across existing roof (walkway) on the fourth floor for newspaper plant; proposed between Times and Plant Buildings.	$50,000	None listed/ Not selected
12/06/74	Third floor	Interior remodeling and alterations on third floor of Times Building.	$30,000	Charles Kratka I.P. & D./ Not selected
03/06/75	Third floor	Move toilet room on third floor.	$2,000	Warren Steele & Associates/ C. W. Driver, Inc.
05/02/75	Second floor	New lights and wall covering paint on second floor office.	$52,000	Charles Kratka I.P. & D./ None listed
06/09/75	Basement	Equipment platform in sub-basement (37' x 22')	$6,000	None listed/ None listed
06/27/75	Fourth floor	New partition on fourth floor office.	$47,000	Charles Kratka I.P. & D./ None listed
09/16/75	First floor	Install new ceiling and partitions on first floor.	$18,000	Charles Kratka I.P. & D./ None listed
11/19/75	Fourth floor	New ceiling, partitions, and flooring; Remodel A/C and elec.	$50,000	Charles Kratka I.P. & D./ None listed
12/18/75	Not indicated/entire building inferred	Water blast building.	$10,000	None listed/ J. P. Carroll
01/18/77	Fourth floor	Interior drywall partitions, elevated computer floor.	$10,000	None listed/ C. W. Driver Inc.
03/29/77	Basement	New ceiling, partitions and flooring; remodel air conditioning and electrical in basement.	$100,000	None listed/ None listed
08/31/77	First floor	Interior alterations on ground floor in plate making room; non-structural.	$12,000	None listed/ C. W. Driver Inc.
09/07/77	Third floor	New partitions, flooring on third floor.	$95,000	Charles Kratka I.P. & D./ None listed
12/06/77	Third floor	New door and controls at third floor; plaster patching veneer.	$5,000	Charles Kratka I.P. & D./ None listed

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
01/26/78	Basement	Drywall partitions in basement.	$1,800	None listed/ C. W. Driver Inc.
04/20/78	Third floor	Remodel Interior of third floor of Times Building.	$265,000	Chas Kratka I.P. & D./ C. W. Driver Inc.
05/23/78	Not indicated	Raised floor and drywall partitions.	$8,500	None listed/ C. W. Driver Inc.
10/11/78	Basement	New partition and ceiling for 11'6" x 21'4" spa and deck in second basement.	$25,000	Charles Kratka I.P. & D./ C. W. Driver, Inc.
04/16/79	Not indicated	Alter partitions, ceiling, and flooring.	$250,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
10/30/79	Third floor roof (Fourth floor)	Addition of 21'4" x 23'4" chemical mixing room on roof of third floor of news printing office.	$100,000	None listed/ C. W. Driver Inc.
1/31/80	Third floor	Wall, ceiling and flooring interior remodel on third floor.	$575,000	Charles Kratka I.P. & D./ C.W. Driver Inc.
02/29/80	Fourth floor	Install 90 sf of interior partitions on fourth floor.	$2,100	Charles Kratka I.P. & D./ C. W. Driver Inc.
06/12/80	Eighth floor	New partitions, ceiling, and floor covering.	$250,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
06/25/80	Not indicated	Install mechanical equipment platform on roof.	$50,000	None listed/None listed
12/23/80	Fourth floor	New office partitions, ceiling floor covering on fourth floor only.	$180,000	Charles Kratka I.P. & D./ C.W. Driver Inc.
06/03/81	Not indicated	Display cases.	$42,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
07/30/81	Roof	Install roof drains.	$3,000	Charles Kratka I.P. & D./ Scott Co.
05/12/83	Not indicated	New ceiling; removal of one partition and construction of a new one.	$10,000	None listed/ Int/ KU Sitterley

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
10/15/85	Fifth floor	Dry wall partitions and new corridor doors.	$3,500	None listed/ R.B. Peterson Inc.
02/24/86	First and second floors	Interior remodel of first and second floors.	$20,000	Charles Kratka I.P. & D./ Smithwick-Driver
03/05/86	Third floor	One-story telephone room addition to third floor.	$100,000	Stokes & Bojorquez/ None listed
09/30/86	Fourth floor	New tiles, floors, walls, ceiling, and plumbing fixtures on fourth floor bathroom.	$40,000	LA Times Design Studio/ Smithwick-Driver
01/21/88	South side of building	Alter walls, construct raised floor, and add new doors.	$45,000	David Weaver/ Smithwick-Driver
01/04/90	Not indicated	Sandblast cooling system to clean pipes; no painting or stucco.	$1,800	None listed/ Safeway Sandblasting
04/26/90	Not indicated	Alter partitions and doors, new ceiling.	$176,000	David Weaver/ Swinerton & Walberg
05/21/90	Roof	Add satellite antenna dish (receiving only).	$10,000	None listed/ JH Bryant
08/24/90	Not indicated	Change floor plans, by removing wall.	$15,000	David Weaver/ Swinerton & Walberg
07/12/95	Fifth and sixth floors	HC work on existing restrooms on fifth and sixth floors.	$20,000	Gensler & Associate Architects/ Swinerton & Walberg
11/26/96	Second floor	Upgrade restrooms on second floor to meet handicap requirements.	$17,000	David Weaver/ Swinerton & Walberg
12/20/96	Not indicated	Interior non-bearing partitions for remodeling.	$62,500	David Weaver/ Rellos Construction Inc.
03/06/97	Fourth floor	Men and women's restroom remodel on fourth floor (HCP upgrade)	$50,000	David Weaver/ Swinerton & Walberg Co.
06/27/97	Exterior dock near accessory office building	Tenant improvements; convert portion of loading dock area to.	$900,000	David Weaver/ CMM Constructors
08/29/97	Roof	Install two mechanical platforms on plant& office building.	$30,000	None listed / CMM Constructors
05/19/98	Not indicated	10,000 sf remodel restrooms and showers; add partitions, ceilings, doors, and one-hour corridor to connect two exit stairways.	$400,000	David Weaver/ Rellos Construction Inc.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
06/16/98	Fourth floor	4,000 sf new rated corridor and office walls, doors, and ceilings. New unisex restroom on fourth floor.	$160,000	David Weaver/ Rellos Construction Inc
09/09/99	Second floor	Tenant improvement build out 9,000 sf of second floor, and raise concrete floor in executive office and library.	$350,000	David Weaver/ Rellos Construction Inc.
08/30/00	Second floor of Plant Building	Tenant improvement on second floor of Plant Building; remove and replace non-bearing partitions and reflected ceiling (16,000 sf).	$640,000	David Weaver/ CMM Constructors
01/18/01	Not indicated	Tenant improvement addition of non-structural partition wall, one door, and new suspended ceiling; added steps.	$10,000	David Weaver/ Rellos Construction Inc.
04/27/01	Not indicated	Construct roof top mechanical equipment platform (62' 5.5" x 40') with new structural beams.	$20,000	David Weaver/ CMM Constructors
06/06/01	Second to sixth floors	Rated elevator vestibules from third to sixth floor (2 per floor); replace door at second floor elevator; modify two restrooms on fifth floor for compliance.	$50,000	David Weaver/ CMM Constructors
01/23/02	First floor	Replace steel steps/landing with concrete steps/landing. Install non-bearing partitions and ceiling system. Add H/C lift. All work within 270 sf work area on first floor.	$15,000	David Weaver/ CMM Constructors
09/05/02	Not indicated	Tenant improvements (560 sf) that includes partitions, ceiling doors, and windows.	$20,000	David Weaver/ CMM Constructors
01/23/03	Not indicated	Tenant improvements (500 sf) removing partitions, adding partitions to divide one large office space into two, and adding doors and suspended ceiling.	$20,000	David Weaver/ Rellos Construction Inc.
07/28/03	Dining area	Remove existing seating booths, change carpet to tile flooring, provide floor drain and electric power in existing dining area.	$4,000	David Weaver/ Rellos Construction Inc.
11/20/03	Third floor	Replace two doors in third floor elevator lobby with 45 min. assemblies.	$3,000	David Weaver/ Rellos Construction Inc.
11/20/03	Fourth floor	Tenant improvements (400 sf) door and one-hour wall to separate elevator lobby area, and create rated corridor partition going to exit stair.	$12,000	David Weaver/ Rellos Construction Inc.
12/18/03	Third floor	Tenant improvements (1,666 sf) remove interior non-bearing partitions to create open office area from offices; includes finish work, millwork, and lighting grid.	$18,000	David Weaver/ Rellos Construction Inc.

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
09/03/04	Basement	Add concrete pad on to existing chiller pad in the basement for mechanical unit.	$4,500	None listed/ CMM Constructors
06/09/05	Second to sixth floors	Elevator lobby retrofit at twelve places; doors partitions, ceilings; HCP restroom upgrades at four restrooms; doors, partitions and plumbing fixtures.	$220,000	None listed/ Owner
05/05/11	Third floor	Interior tenant improvement of third floor office areas. Wall fur-outs, finishes, ceiling work and millwork only on 31,200 sf.	$310,200	None listed/ Rellos Construction Inc.
03/19/12	Fifth and sixth floors	Elevator lobby upgrade at fifth and sixth floors	$25,000	None listed/ Rellos Construction Inc.
05/10/12	Fifth floor	Tenant improvement on the fifth floor of an existing office; remove and new interior non-bearing partitions, re-work suspended ceiling, finishes and millwork.	$160,000	David Weaver/ Rellos Construction Inc.
08/06/12	Third floor	Tenant improvement, nonstructural restroom remodel including: partitions, ceilings, doors, plumbing fixtures, and finishes.	$50,000	None listed/ Rellos Construction Inc.
08/18/12	Fifth floor	Retrofit elevator lobby; upgrade handicap restrooms.	$40,000	None listed/ Rellos Construction Inc.
10/04/12	Second floor	Tenant improvement to existing office on second floor; non-bearing partitions, doors and suspended ceiling. 5,000 sf. of tenant improvement and 7,000 sf. of ceiling.	$245,000	David Weaver/ Rellos Construction Inc.
10/04/12	Third floor	Tenant improvements (5,000 sf) new partitions, doors, and ceilings.	$225,000	David Weaver/ Rellos Construction Inc.
09/05/13	Fifth floor	Tenant improvements (450 sf) remove and replace partitions and doors; convert two offices into three offices.	$25,000	None listed/ Owner
05/05/14	Basement	New concrete pad (25' x 30') for installation of three diesel storage tanks and installation of a three-hour, non-load bearing partition wall at basement level of office building.	$100,000	None listed/ El Capitan Environmental Service
10/14/14	Second and third floors	Locking of elevator lobby door at second and third floors.	$12,500	None listed/ Universal protection security
10/28/14	Not indicated	Tenant improvements (200 sf) new partitions, doors and ceilings.	$8,000	None listed/ Howard Building Corporation
10/28/14	Not indicated	Tenant improvements; remove and replace partitions and finishes.	$70,000	Mitchell Ernest Sawasy/ Howard Building Corporation

Table D-1: Building Permit History for Times-Plant Complex				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
12/22/14	Fourth floor	Proposed tenant improvement; non-bearing wall and ceiling suite 411 (886 sf).	$38,000	None listed/ Benchmark Construction Inc.
01/29/15	Fourth floor	Tenant improvement on suite 6-4010 on fourth floor; remove interior and replace with non-bearing partitions, re-work ceiling, millwork and finishes.	$78,000	None listed/ MTI Builders Inc.
11/17/15	Not indicated	Tenant improvement; remove lift and install new interior ramp, relocate door and add new partition. Interior work only.	$52,000	David Weaver/ William J. Lent Jr.

Mirror Building

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
09/05/46	Entire lot	Application to erect a new 120' x 164' building ten stories in height. Made of masonry with steel frame.	$2,800,000	Rowland H. Crawford/ P. J. Walker Co.
09/12/47	Not indicated	Moment joint reinforcement by adding plates or bars. In conjunction with building permit from 03/12/1946	$5,000	Rowland H. Crawford/ P.J. Walker Co.
11/10/48	Not Indicated	Install office partitions on sixth to tenth floors inclusive. Including mechanical work, no structural change, install suspended metal lath and plaster ceiling.	$450,000	Rowland H. Crawford/ P. J. Walker Co.
03/30/54	Not Indicated	Partition alterations including plaster patching; floor and ceiling patching, and moving certain light fixtures; two additional lavatories to be installed at women's toilet.	$8,500	Rowland H. Crawford/ P. J. Walker Co.
01/24/55	Not indicated	Non-bearing concrete block partition.	$2,000	Rowland H. Crawford/ P. J. Walker Co.
08/11/55	North elevation	Remove glass block and steel sash windows along fourth floor	$12,500	Rowland H. Crawford/ P. J. Walker Co.
03/13/59	West elevation	Plaster exterior wall of west elevation after removal of adjacent Hellman Building.	$6,000	Rowland H. Crawford/ P. J. Walker Co.
06/15/59	Not indicated	Add additional plastering and furring on exterior; wall not shown on drawings permit LA26517	$7,000	Rowland H. Crawford/ P. J. Walker Co.
07/16/59	Second floor	Toilet room alterations.	$5,000	Rowland H. Crawford/ P. J. Walker Co.
11/30/59	Fifth floor	Interior partition changes.	$8,000	Rowland H. Crawford/ P. J. Walker Co.
04/06/61	Seventh floor	Interior remodel.	$75,000	W. L. Pereira & Associates/ None listed
10/09/64	Not indicated	New ceilings, partitions, lighting, air conditioning, and flooring.	$100,000	W.L. Pereira / None listed
08/27/65	Fourth floor	New ceiling, partitions, lighting, air conditioning, raised floor for computers, and flooring	$60,000	W. L. Pereira & Associates/ C. W. Driver, Inc.
11/01/65	Tenth floor	New ceilings, partitions, kitchen lighting, air conditioning, and flooring.	$300,000	W. L. Pereira & Associates/ C. W. Driver, Inc.

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
01/11/66	Not indicated	Construct new duct opening in penthouse floor and roof.	$2,000	W. L. Pereira & Associates/ C. W. Driver, Inc.
03/23/66	Ninth floor	New ceiling, partitions, flooring, covering, toilet fixture change, air-conditioning, and wiring.	$200,000	W. L. Pereira & Associates/ None listed
02/28/67	Fourth floor	New ceilings, partitions, lighting, air conditioning, and flooring.	$20,000	W. L. Pereira & Associates/ C. W. Driver, Inc.
10/06/67	Fourth floor	Modernize corridors for the air-conditioning ducts.	$10,000	W. L. Pereira & Associates/ C. W. Driver, Inc.
04/15/68	Sixth floor	New ceiling, partitions, and flooring.	$175,000	W. L. Pereira & Associates/ C. W. Driver, Inc.
11/21/68	Sixth floor	New partitions, lighting, and air conditioning.	$75,000	Charles Kratka I.P. & D./ C. W. Driver Inc.
12/02/70	Fourth and fifth floors	Dumbwaiter partitions.	$1,500	None listed / William H. Roether, Inc.
12/29/70	Not indicated	Structural work; cut floor for dumbwaiter shaft.	$1,500	None listed / William H. Roether, Inc.
12/27/78	Not indicated	Add raised floor; remove and add non bearing wall.	$8,000	None listed / C. W. Driver Inc.
11/26/90	Not indicated	Tenant improvements (6500 sf).	$162,500	None listed / Smithwick-Driver
06/12/92	Second floor	Tenant improvements (1600 sf) new partitions, doors, ceilings, and restrooms.	$320,000	David Weaver/ None listed
07/02/92	Second floor	Suspended chilled water air handling units.	$2,550	David Weaver/ Swinerton & Walberg
09/14/92	Second floor	Elevator lobby enclosure and sprinklers retrofit.	$135,000	David Weaver/ Swinerton & Walberg
04/15/93	Not indicated	Tenant improvements (12,800 sf) new partitions, doors, and ceilings.	$320,000	David Weaver/ Swinerton & Walberg
05/10/93	Second floor	Revise elevator; lobby enclosure.	$5,000	David Weaver/ Swinerton & Walberg
05/14/93	First floor	Tenant improvements (1700 sf) new partitions and ceilings.	$42,000	David Weaver/ Swinerton & Walberg
12/27/93	Fifth floor	Tenant improvements; upgrade floor and restrooms.	$25,000	David Weaver/ Peck & Jones
03/21/94	Fifth floor	Tenant improvements; new partitions.	$145,000	David Weaver/ None listed
03/21/94	Fifth floor	Tenant improvements; elevator and lobby enclosure.	$96,000	David Weaver/ Peck Jones

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
03/21/94	Second floor	Tenant improvements; elevator and lobby enclosure.	$5,500	David Weaver/ Peck Jones
09/05/94	Second floor	Tenant improvements (3,600 sf) partitions, doors, ceilings, and handicap accessibility ramp.	$72,000	David Weaver/ Peck Jones
07/28/94	Third floor	Tenant improvement (1100 sf) new partitions, doors, ceilings, and HCP restroom remodel.	$30,000	David Weaver/ Peck Jones
06/19/96	Third, fourth, seventh, and tenth floors	Remodel four pairs of restrooms.	$150,000	David Weaver/JJS FNC
07/29/96	Roof and basement	Repair cooling tower and chiller replacement.	$300,000	None listed / CMM Constructors
03/18/97	Not indicated	Install supports for mechanical equipment.	$40,000	None listed / CMM Constructors
05/01/97	First, second, third, fourth, and ninth floors	Handicap upgrade of two restrooms (Men and Women) on first, second, third, and ninth floors, and four restrooms (Men and Women) on fourth floor.	$300,000	David Weaver/ Swinerton & Walberg
05/27/97	Basement and first floor	Add new shear walls at basement and ground floor, and new CMU partitions.	$50,000	David Weaver/ Coast Machinery Movers
10/24/97	First and second floors	Addition of concrete shear walls; seismic upgrade; infill existing openings at first and second floors.	$1,820,000	David Weaver/ Coast Machinery Movers
11/24/97	Basement level B2	Structural strengthening of floor slab at B2 level to support backup power system. This area is an un-occupied facility.	$106,000	None listed / CMM Constructors
04/06/98	Not indicated	New freight elevator.	$45,000	None listed / Sanders Development Co
08/26/98	Roof	Replace tile roof with new tile; weight does not exceed original weight.	$42,000	None listed / CMM Constructors
09/03/98	First and second floors	Addition of concrete shear walls, seismic upgrades, and infill existing openings at basement, first, and second floors (1267 sf).	$500,000	David Weaver/ Smithwick-Driver
09/15/98	Not indicated	Structural strengthening.	$2,000,000	None listed / CMM Constructors
11/05/98	Penthouse and basement	Tenant improvements; remodel 70 linear feet of G.B. partition wall; cut one door opening in penthouse wall; and cut four doors opening in basement elevator shaft.	$50,000	David Weaver/ Heron Associates

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
01/13/99	Not indicated	Replace equipment platform with new steel platform to supply air handler.	$60,000	None listed / CMM Constructors
02/16/99	Basement, first and second floors	Tenant improvements; new partitions, ceilings, doors and finishes, restrooms, and electrical rooms.	$100,000	David Weaver/ CMM Constructors
06/18/99	Tenth floor	Tenant improvements (16,000 sf) new ceilings, flooring; new elevator lobby enclosure; new partitions and doors to create office spaces and fill in small mechanical openings at existing concrete floor.	$400,000	David Weaver/ Rellos Construction Inc.
07/29/99	Basement, first and second floors	Tenant improvements (32,000 sf) new partitions, doors, ceilings, and finishes.	$960,000	David Weaver/ CMM Constructors
12/17/99	First floor	Install security barriers in three lobbies and guard desk in one lobby.	$30,000	David Weaver/ CMM Constructors
12/21/99	First floor	Change of use and occupancy, convert portion (742 sf) of truck loading area to office and add new store front.	$720,000	David Weaver/ CMM Constructors
06/08/00	Basement level B2; third, fourth, sixth, eighth, and ninth floors	New rated elevator vestibules on south side for five floors, and for north side of basement level B2.	$62,000	David Weaver/ Rellos Construction Inc.
06/08/00	Seventh floor	Tenant improvements; new doors, partitions, ceilings, elevator lobby, and exit corridor.	$519,000	David Weaver/ Rellos Construction Inc.
10/19/00	Second floor	Tenant improvements; remove and replace partitions, install new ceiling grid, new shower and test kitchen, shaft/hood under separate permit.	$300,000	David Weaver/ Rellos Construction Inc.
08/06/01	Eighth floor	Office tenant improvements (17,300 sf) remove and replace doors, partitions, ceilings, restrooms, new rated elevator lobby and exit corridor.	$490,000	David Weaver/ Rellos Construction Inc.
10/01/02	Basement levels B2 and B3	Elevator lobby enclosure on levels B2 and B3.	$8,000	David Weaver/ Rellos Construction Inc.
07/31/03	Basement through second floor	Replace existing fire rated shaft enclosure (16' X 10'); new partitions and doors at fan room (760 sf) at level B1.	$37,000	David Weaver/ CMM Constructors

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
08/25/03	First floor	Tenant improvements; new partitions, doors, and ceilings.	$52,000	David Weaver/ Rellos Construction Inc.
10/27/03	Second floor	Tenant improvements (8,700 sf) new partitions, doors, ceilings, and flooring.	$260,000	David Weaver/ Rellos Construction Inc.
10/26/04	Fourth floor	Remove non-structural brick partition and door, provide rated partitions and doors.	$15,000	David Weaver/ CMM Constructors
10/26/04	Fourth floor	Tenant improvements; extend existing corridor and create 18' long concrete ramp; includes new partitions and ceiling systems; relocate existing steel bracing one bay over for corridor relocation.	$20,000	David Weaver/ CMM Constructors
12/16/04	Fourth floor	Tenant improvements; new partitions, ceilings, and finishes.	$200,000	David Weaver/ Rellos Construction Inc.
10/17/05	Third floor	Tenant improvement (16,800 sf)-remodel; partitions, doors, ceilings, restrooms.	$500,000	David Weaver/ Rellos Construction Inc.
01/18/07	Fifth floor	Tenant improvements; new doors, partitions, and ceilings; no exterior alterations.	$500,000	David Weaver/ Rellos Construction Inc.
09/18/07	Not indicated	Complete work (30% pending) under original permit for structural strengthening.	$600,000	David Weaver/ CMM Constructors
07/09/08	Tenth floor	Tenant improvements (16,000 sf) new partitions, ceilings, doors, finishes, new door and opening on the stair shaft.	$640,000	David Weaver/ Rellos Construction Inc.
01/13/09	Ninth floor	Tenant improvements; new partitions, doors, ceilings, and finishes.	$700,000	David Weaver/ Rellos Construction Inc.
03/30/10	Eighth floor	Tenant improvements (14,500 sf) new partitions, doors, ceilings, and finishes.	$500,000	David Weaver/ Rellos Construction Inc.
10/05/10	Seventh floor (Southeast area)	Tenant improvements (10,000 sf) new partitions, doors, ceilings, and finishes.	$300,000	David Weaver/ Rellos Construction Inc.
03/29/11	Sixth floor (Southeast area)	Tenant improvements; remove and replace partitions, doors, ceilings, finishes, corridors, and restrooms.	$800,000	None listed / Rellos Construction Inc.
01/05/12	Eighth floor	Tenant improvements (5,600 sf) new partitions, doors, ceilings, finishes, and mill work.	$148,400	None listed / Rellos Construction Inc

Table D-2: Building Permit History for Mirror Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
07/16/14	Seventh floor	Tenant improvements.	$100,000	None listed / Interscape Construction Inc.

Executive Building

Table D-3: Building Permit History for Executive Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
06/19/70	Foundation only	Installation of foundation shoring.	Not indicated	None listed/ C. L. Peck Contractor
10/13/70	Foundation only	Construction of foundation.	$3,500,000	W. L. Pereira & Associates/ C. L. Peck Contractor
01/13/71	Foundation only	Construction of foundation.	$125,000	W. L. Pereira & Associates/ C. L. Peck Contractor
04/17/71	Entire lot	Construction of 6-story addition and parking garage.	$11,000,000	W. L. Pereira & Associates/ C.L. Peck Contractor
06/17/71	Entire lot	Construction of new structural floor system at grade.	$40,000	W. L. Pereira & Associates/ C. L. Peck Contractor
03/26/73	First floor	Installation of new wall sign.	$3,000	None listed/ Triple A Neon
01/28/74	Fourth floor	Construction of new partitions in existing space.	$80,000	Charles Kratka/ C. W. Driver
12/05/74	Fourth floor	Construction of walkway to Times-Plant Complex on existing roof.	$50,000	None listed/ None listed
12/06/74	Third floor	Interior remodeling and alterations.	$30,000	Charles Kratka/ None listed
03/06/75	Third floor	Relocate toilet room.	$2,000	Warren Steele & Assoc./ C. W. Driver, Inc.
05/02/75	Second floor	Tenant improvements; new lights, wall covering, and paint.	$52,000	Charles Kratka/ None listed
06/27/75	Fourth floor	Construction of new partitions.	$47,000	Charles Dratila Int. Planning & Design/ None listed
08/20/75	Basement level B2	Change in use to health center.	$100,000	Charles Kratka/ None listed
09/16/75	First floor	Tenant improvements; new partitions and ceilings.	$18,000	Charles Kratka/ None listed
11/19/75	Fourth floor	Tenant improvements; new partitions, ceilings, and flooring.	$50,000	Charles Kratka/ None listed
02/02/77	North elevation, first floor	Slab over opening, closing up entrance to stairs on Broadway.	$7,000	None listed/ C. W. Driver, Inc.
03/29/77	Basement level B1	New partitions, ceilings, and flooring.	$110,000	None listed/ None listed
09/07/77	Third floor	New partitions and flooring.	$95,000	Charles Kratka/ None listed

Table D-3: Building Permit History for Executive Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
12/06/77	Third floor	New door and controls, plaster patching, and veneer.	$5,000	Charles Kratka/ None listed
01/18/78	Sixth floor	Construction of new drywall partition.	$1,500	None listed/ None listed
02/18/78	Basement*	Cut two openings through slab at basement floor.	$2,000	None listed/ Weatherite
06/08/78	Basement level B1	Add floor level between basement and first floor for flammable storage.	$30,000	None listed/ C. W. Driver, Inc.
06/08/78	Second floor	Construction of stairway and drywall partitions.	$9,500	None listed/ C. W. Driver, Inc.
06/12/78	Second floor*	New drywall partitions for offices, suspended ceiling, and hole in floor slab.	$20,000	None listed/ C. W. Driver, Inc.
06/12/78	Third floor*	Add interior partitions and three dumbwaiters.	$20,000	None listed/ C. W. Driver, Inc.
08/23/78	First to third floors*	Construction of new elevator openings.	$25,000	None listed/ C. W. Driver, Inc.
10/11/78	Basement	Construction of new partition and ceiling for spa and deck.	$25,000	Charles Kratka/ C. W. Driver, Inc.
12/6/78	Not indicated*	Installation of new acoustic tile ceiling.	$15,000	None listed/ C. W. Driver, Inc.
01/31/80	Third floor	New partitions, ceilings, and flooring.	$575,000	Charles Kratka/ C. W. Driver, Inc.
07/03/80	First floor	Installation of night teller machine.	$3,800	Roy Sealey/ Transpac Electric Cons. Co.
10/15/85	Not indicated	New corridor doors and partitions.	$3,500	None listed/ R. B. Paterson, Inc.
11/03/87	First floor	Tenant improvements; new partitions, ceilings, and air conditioning.	$350,000	Stokes & Bojoguez/ R. B. Paterson, Inc.
01/21/88	Not indicated*	Alter walls, construct raised floor, and add new doors.	$45,000	David Roger Weaver/ Smithwick-Driver
08/03/89	First floor	Installation of ATM.	$6,000	L.A. Architects/ J. H. Bryant Jr., Inc.
05/21/90	Roof	Installation of satellite antenna.	$10,000	None listed/ J. H. Bryant Jr., Inc.
02/23/93	First floor	Replacement two existing ATMs with new ATMS.	$78,000	Viktor R. Petris, Inc./ Evans & Sons, Inc.
05/06/93	North and east elevations, first floor	Installation of two signs, one on Broadway and one on First Street.	$2,720	None listed/ Acme Wiley Corp.

Table D-3: Building Permit History for Executive Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
08/02/92	Roof	Replacement of roofing materials with 110 sas of US intec modified bitumen.	$24,500	None listed/ Bilt-Well Roofing
06/23/95	First floor	Replacement of four existing ATMs with new ATMs.	$6,000	None listed/ Evans & Son, Inc.
03/06/97	Fourth floor	Remodel men's and women's restrooms.	$50,000	David Roger Weaver/ Swinerton & Walberg Co.
10/24/97	First and second floors	Addition of concrete shear walls, seismic upgrades, and infill existing openings.	$1,820,000	David Roger Weaver/ Coast Machinery Movers
11/24/97	Basement level B2	Structural strengthening of floor slab to support backup power system.	$106,000	None listed/ C. M. M. Constructors
03/26/98	Third floor	Tenant improvements (5,000 sf) remodel offices.	$20,000	David Roger Weaver/ None listed
05/22/98	Fourth and fifth floors	Fireproofing respray (15,000 sf).	$30,000	None listed/ Versatile Coatings, Inc.
05/22/98	Fourth and fifth floors	Asbestos abatement (15,000 sf).	$2,000	None listed/ Myers R. M. Corporation
06/25/98	Fourth floor	Tenant improvements; new ceiling, doors, and walls.	$420,000	David Roger Weaver/ Rellos Construction, Inc.
06/25/98	Third floor	Tenant improvements (4,200 sf) remove and replace partitions and ceilings; new elevator lobby.	$126,000	David Roger Weaver/ Rellos Construction, Inc.
07/17/98	West elevation	Installation of sign reading "LOS ANGELES TIMES."	$14,000	None listed/ AD Impact
09/03/98	Basement to second floors	Addition of concrete sheer walls, seismic upgrades, and infill existing openings (12,675 sf).	$500,000	David Roger Weaver/ Coast Machinery Movers
04/15/99	Second floor	Tenant improvements (5,400 sf; new walls, doors, ceilings, finishes, and new raised floor.	$135,000	David Roger Weaver/ Rellos Construction, Inc.
11/17/99	Third floor	Tenant improvements; new ceilings, removal of existing wood floor, and replacement with light weight concrete.	$74,000	David Roger Weaver/ Rellos Construction, Inc.
06/23/00	Not indicated	Construction of new exit corridor.	$15,000	David Roger Weaver/ C. M. M. Constructors
10/25/01	First floor	Tenant improvements (1,400 sf) new partitions, doors, and ceilings.	$42,000	None listed/ Rellos Construction, Inc.
03/28/02	First floor	Removal of all existing signs and replace with illuminated sign.	$1,950	None listed/ Acme Wiley Corp.

Table D-3: Building Permit History for Executive Building				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
08/5/03	Basement level B1	Tenant improvements (1,900 sf) new doors, partitions, and ceilings, and conversion of storage area into office.	$57,000	David Roger Weaver/ Rellos Construction, Inc.
11/20/03	Fourth floor	Tenant improvements (400 sf) new door and partition separating elevator lobby and new corridor partition to exit stair.	$12,000	David Roger Weaver/ Rellos Construction, Inc.
12/18/03	Second floor	Tenant improvements; new partitions to create a hallway and convert dark room into an office, and construction of a new opening into office area.	$6,000	David Roger Weaver/ Rellos Construction, Inc.
04/01/04	Third floor	Replacement of two doors in elevator lobby.	$3,000	David Roger Weaver/ Rellos Construction, Inc.
09/03/04	Basement	Add concrete pad to existing chiller pad in basement for mechanical unit.	$4,500	None listed/ C. M. M. Constructors
06/08/05	Second to sixth floors	Elevator lobby retrofit at 12 places; doors, partitions; ceilings; HCP restroom updates, doors, partitions, and plumbing fixtures at four restrooms.	$220,000	None listed/ None listed
08/22/05	Not indicated	Installation of emergency back-up generator, and re-striping of parking lot.	$250,000	David Roger Weaver/ C. M. M. Constructors
06/19/09	First floor	Installation of security glass wall on top of existing teller line counters and nonbearing glass wall.	$25,000	Paul Veryle Morford/ Evans & Son, Inc.
05/10/12	Fifth floor	Tenant improvements; new partitions, finishes, ceilings.	$160,000	David Roger Weaver/ Rellos Construction, Inc.
08/06/12	Third floor	Tenant improvements; new partitions, ceilings, doors, plumbing fixtures, and finishes for restroom remodel.	$50,000	None listed/ Rellos Construction, Inc.
10/04/12	Second floor	Tenant improvements (5,000 sf) new partitions, doors, and ceilings.	$245,000	None listed/ Rellos Construction, Inc.
10/04/12	Third floor	Tenant improvements (5,000 sf) partitions, doors, and ceilings.	$225,000	None listed/ Rellos Construction, Inc.
09/05/13	Fifth floor	Tenant improvements (450 sf) conversion of two offices into three offices.	$25,000	None listed/ None listed
* Times Mirror Square Complex Building where permitted work took place not clearly indicated on permit.				

Parking Structure

Table D-4: Building Permit History for Parking Structure				
Date	**Floor/Area as Described on 2017 Plans**	**Description from Building Permit**	**Value**	**Architect/Builder**
This table only includes building permits for alterations. The permits for the original construction are listed in Table D-3: Building Permit History for Executive Building.				
05/17/71	Roof	Installation of steel support for after burner on roof to press building.	$5,000	W. L. Pereira & Associates/ C. L. Peck Contractor
05/17/71	Foundation only	Change of plans/change of foundation of parking structure.	$23,000	W. L. Pereira & Associates/ C. L. Peck Contractor
06/02/71	Basement	Construction of foundations and walls only to ground level of added basement in garage only.	$56,000	W. L. Pereira & Associates/ C. L. Peck Contractor
10/03/79	First floor*	Installation of bascule bridge.	$40,000	None listed/ None listed
09/04/86	Not indicated*	Interior renovation of walls (to include electrical and mechanical)	$43,000	None listed/ Smithwick-Driver
08/22/05	Not indicated	Installation of emergency back-up generator, and re-striping of parking lot.	$250,000	David Roger Weaver/ C. M. M. Constructors
05/05/14	Basement	New concrete pad for installation of three diesel storage tanks and installation of a three-hour non-load bearing partition wall.	$100,000	Not indicated/ El Captain Environment Service
* Times Mirror Square Complex Building where permitted work took place not clearly indicated on permit.				

Appendix E: William L. Pereira Project List

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1931	Holabird & Root/William L. Pereira	Armour & Company Exhibit Building	San Francisco, California
1931	Holabird & Root/William L. Pereira	Armour & Company Exhibit Building	Chicago, Illinois
1931	Holabird & Root/William L. Pereira	Elgin Watch Company Industrial Plant	Chicago, Illinois
1931	Holabird & Root/William L. Pereira	Armour & Company Exhibit Building	New York City, New York
1938	Holabird & Root/William L. Pereira	Lake County Tuberculosis Sanatorium	Waukegan, Illinois
1943	Holabird & Root/William L. Pereira	Pan Pacific Theatre	Los Angeles, California
1950	Holabird & Root/William L. Pereira	Lake County General Hospital	Hobbs, New Mexico
1951	Pereira & Luckman	Farmers & Stockmen's Bank	Phoenix, Arizona
1951	Pereira & Luckman	Gibraltaar Savings & Loans Headquarters	Beverly Hills, California
1951	Pereira & Luckman	Robinson's Department Store	Beverly Hills, California
1951	Pereira & Luckman	Robinson's Department Store	Pasadena, California
1952	Pereira & Luckman	Luke Air Force Base	Phoenix, Arizona
1952	Pereira & Luckman	Beverly Hills Hotel Addition	Beverly Hills, California
1952	Pereira & Luckman	Doheny Office Building	Beverly Hills, California
1952	Pereira & Luckman	Hilton Hotels Headquarters	Beverly Hills, California
1952	Pereira & Luckman	Lear Industrial Plant	Santa Monica, California
1952	Pereira & Luckman	Avco Research Center	Wilmington, Massachusetts
1953	Pereira & Luckman	CBS Television City	Los Angeles, California
1953	Pereira & Luckman	Western Hydraulics Plant	Van Nuys, California
1954	Pereira & Luckman	KTTV Television Station	Los Angeles, California
1954	Pereira & Luckman	Wadsworth General Hospital	Los Angeles, California
1954	Pereira & Luckman	Electronics and Radio Propagation Research Laboratories	Oceanside, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1954	Pereira & Luckman	Marineland of the Pacific	Rancho Palos Verdes, California
1954	Pereira & Luckman	United States Navy Training Facility	San Diego, California
1954	Pereira & Luckman	KEYT Television Station	Santa Barbara, California
1954	Pereira & Luckman	Santa Rosa Hall - Dormitory	Santa Barbara, California
1954	Pereira & Luckman	Western Hydraulics Plant 2	Van Nuys, California
1954	Pereira & Luckman	National Bureau of Standards Building	Boulder, Colorado
1954	Pereira & Luckman	William H. Block Department Store	Indianapolis, Indiana
1954	Pereira & Luckman	WSBT Television Station	South Bend, Indiana
1955	Pereira & Luckman	Dormitories, Music and Science Buildings	Los Angeles, California
1955	Pereira & Luckman	Service Bureau Office Building	Los Angeles, California
1955	Pereira & Luckman	Jet Production and Test Center	Palmdale, California
1956	Pereira & Luckman	United States Air Force and Naval Base	Cádiz, Spain
1956	Pereira & Luckman	Southern California School of Theology	Claremont, California
1956	Pereira & Luckman	Fallbrook Hospital	Fallbrook, California
1956	Pereira & Luckman	Hunter Engineering Plant	Riverside, California
1956	Pereira & Luckman	General Telephone Company Administration Building	Whittier, California
1956	Pereira & Luckman (Luckman)	Prudential Tower	Boston, Massachusetts
1956	Pereira & Luckman	Braniff International Airways, Operations and Maintenance Base	Dallas, Texas
1957	Pereira & Luckman	Motion Picture Country House and Hospital	Woodland Hills, California
1957	Pereira & Luckman	First National Bank	Denver, Colorado
1957	Pereira & Luckman	Nellis Air Force Base Buildings	Nellis Air Force Base, Nevada
1958	Pereira & Luckman	Berlin Hilton	Berlin, Germany
1958	Pereira & Luckman	Chrysler Sales & Service Training Center	Anaheim, California
1958	Pereira & Luckman	Disneyland Hotel	Anaheim, California
1958	Pereira & Luckman	General Atomic	La Jolla, California
1958	Pereira & Luckman	Firestone Tire Company Headquarters	Los Angeles, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1958	Pereira & Luckman	IBM Headquarters	Los Angeles, California
1958	Pereira & Luckman	Los Angeles International Airport	Los Angeles, California
1958	Pereira & Luckman	Physical Plant Building B	Los Angeles, California
1958	Pereira & Luckman	Signal Oil Headquarters	Los Angeles, California
1958	Pereira & Luckman	Beckman Corporation Plan	Newport Beach, California
1958	Pereira & Luckman	Ford Aeronutronics	Newport Beach, California
1958	Pereira & Luckman	Robinson's Department Store	Palm Springs, California
1958	Pereira & Luckman	Convair Astronautics	San Diego, California
1958	Pereira & Luckman	Grossmont Hospital	San Diego, California
1958	Pereira & Luckman	Bullock's Fashion Square	Santa Ana, California
1958	Pereira & Luckman	Valley Presbyterian Hospital	Van Nuys, California
1959	William L. Pereira & Associates	Rosenzweig Commercial Center	Phoenix, Arizona
1959	William L. Pereira & Associates	Lear Corporation	Goleta, California
1959	William L. Pereira & Associates	Carthay Circle Theatre	Los Angeles, California
1959	William L. Pereira & Associates	Hollywood Motion Picture and Television Museum	Los Angeles, California
1959	William L. Pereira & Associates	Los Angeles Zoo	Los Angeles, California
1959	William L. Pereira & Associates	Vogue Theatre	Los Angeles, California
1959	William L. Pereira & Associates	Linda Island Homes	Newport Beach, California
1959	William L. Pereira & Associates	Firestone Aeronautical Research Laboratory	Pasadena, California
1959	William L. Pereira & Associates	San Diego International Airport	San Diego, California
1959	William L. Pereira & Associates	Fox Theatre	San Francisco, California
1959	William L. Pereira & Associates	Hoffman Science Center	Santa Barbara, California
1959	William L. Pereira & Associates	Civic Center	Santa Fe Springs, California
1959	William L. Pereira & Associates	Automation Post Office	Washington, DC
1959	William L. Pereira & Associates	Prudential Savings and Loan Building	Salt Lake City, Utah
1960	William L. Pereira & Associates	Fox Hills Home Savings and Loan	Fox Hills, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1960	William L. Pereira & Associates	Ford Aeronutronics	Irvine, California
1960	William L. Pereira & Associates	Children's Theatre Arts Center	Los Angeles, California
1960	William L. Pereira & Associates	Communications School and Recreation Complex	Los Angeles, California
1960	William L. Pereira & Associates	Otis College of Art & Design	Los Angeles, California
1960	William L. Pereira & Associates	Union Oil Headquarters	Los Angeles, California
1960	William L. Pereira & Associates	Del E. Webb residence	Mission Bay, California
1960	William L. Pereira & Associates	General Telephone Research Laboratories	Palo Alto, California
1960	William L. Pereira & Associates	Biltmore Hotel	Santa Barbara, California
1960	William L. Pereira & Associates	General Atomics headquarters	Sorrento Valley, California
1961	William L. Pereira & Associates	Physical Sciences Building	Los Angeles, California
1961	William L. Pereira & Associates	Library	Santa Fe Springs, California
1961	William L. Pereira & Associates	Prudential Savings and Loan #2	Salt Lake City, Utah
1962	William L. Pereira & Associates	Hunt Branch Library	Fullerton, California
1962	William L. Pereira & Associates	Prudential Savings and Loan	Butte, Montana
1963	William L. Pereira & Associates	Metropolitan Water District Building	Los Angeles, California
1963	William L. Pereira & Associates	Olin Hall of Engineering	Los Angeles, California
1963	William L. Pereira & Associates	Continental Savings and Loan	Montebello, California
1963	William L. Pereira & Associates	Union Bank	Pasadena, California
1963	William L. Pereira & Associates	Gibraltar Savings & Loan	San Marino, California
1963	William L. Pereira & Associates	Otis Chandler Residence	San Marino, California
1963	William L. Pereira & Associates	Columbia Records Pressing Plant	Santa Maria, California
1963	William L. Pereira & Associates	Ventura Bank and Office Building	Ventura, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1963	William L. Pereira & Associates	West Covina Country Club and Apartments	West Covina, California
1963	William L. Pereira & Associates	Gene Donovan Residence	Salt Lake City, Utah
1964	William L. Pereira & Associates	Douglas Aircraft Research Laboratory	USA
1964	William L. Pereira & Associates	Gibraltar Savings & Loan	Baldwin Hills, California
1964	William L. Pereira & Associates	Union Bank	Fullerton, California
1964	William L. Pereira & Associates	Laguna Playhouse	Laguna Beach, California
1964	William L. Pereira & Associates	ABC Paramount Theatres Headquarters	Los Angeles, California
1964	William L. Pereira & Associates	Ahmanson Center for Biological Research	Los Angeles, California
1964	William L. Pereira & Associates	Art Building	Los Angeles, California
1964	William L. Pereira & Associates	Arthur Coons Center	Los Angeles, California
1964	William L. Pereira & Associates	Beacon Street Apartments	Santa Catalina, California
1964	William L. Pereira & Associates	Clementine Avenue Townhouses	Santa Catalina, California
1964	William L. Pereira & Associates	Descanso Canyon Hotel	Santa Catalina, California
1964	William L. Pereira & Associates	International Motion Pictures studio	San Juan, Puerto Rico
1964	William L. Pereira & Associates	Prudential Federal Savings	Salt Lake City, Utah
1965	William L. Pereira & Associates	Hotel Ivoire	Abidjan, Côte d'Ivoire
1965	William L. Pereira & Associates	Gildread Theatre	Mexico City, Mexico
1965	William L. Pereira & Associates	Howard Johnson Plaza Hotel	Anaheim, California
1965	William L. Pereira & Associates	Unocal 76 gas Station (designed by Gin Wong)	Beverly Hills, California
1965	William L. Pereira & Associates	Golden West College	Huntington Beach, California
1965	William L. Pereira & Associates	University of California, Irvine	Irvine, California
1965	William L. Pereira & Associates	Central Plant	Irvine, California
1965	William L. Pereira & Associates	Crawford Hall	Irvine, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1965	William L. Pereira & Associates	Gateway Study Center	Irvine, California
1965	William L. Pereira & Associates	Humanities Hall	Irvine, California
1965	William L. Pereira & Associates	Murray Krieger Hall	Irvine, California
1965	William L. Pereira & Associates	Jack Langson Library	Irvine, California
1965	William L. Pereira & Associates	Mesa Court (phase 1)	Irvine, California
1965	William L. Pereira & Associates	Howard A. Schneiderman Lecture Hall	Irvine, California
1965	William L. Pereira & Associates	Edward A. Steinhaus Hall	Irvine, California
1965	William L. Pereira & Associates	Communications Building	Los Angeles, California
1965	William L. Pereira & Associates	Dickson Art Center	Los Angeles, California
1965	William L. Pereira & Associates	Ferris Rehearsal Hall	Los Angeles, California
1965	William L. Pereira & Associates	International Clubs Headquarters	Los Angeles, California
1965	William L. Pereira & Associates	Los Angeles County Museum of Art	Los Angeles, California
1965	William L. Pereira & Associates	AT&T Center	Los Angeles, California
1965	William L. Pereira & Associates	Bank of California	Orange, California
1965	William L. Pereira & Associates	Civic Center	San Dimas, California
1965	William L. Pereira & Associates	Pepsi Plant	Santa Ana, California
1965	William L. Pereira & Associates	Avalon Townhouses	Santa Catalina, California
1965	William L. Pereira & Associates	Community Building	Santa Fe Springs, California
1965	William L. Pereira & Associates	Cord Residence	Reno, Nevada
1965	William L. Pereira & Associates	Harris Fine Arts Center	Provo, Utah
1966	William L. Pereira & Associates	Robertson Plaza	Beverly Hills, California
1966	William L. Pereira & Associates	University Tower	Irvine, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1966	William L. Pereira & Associates	John Stauffer Hall of Science	Los Angeles, California
1966	William L. Pereira & Associates	Wilshire County Country Club	Los Angeles, California
1966	William L. Pereira & Associates	North American Aviation	Santa Catalina, California
1966	William L. Pereira & Associates	Seaquariam	Atlantic City, New Jersey
1967	William L. Pereira & Associates	Rio de Janeiro International Airport	Rio de Janeiro, Brazil
1967	William L. Pereira & Associates	Tunis Airport	Tunis, Tunisia
1967	William L. Pereira & Associates	Fremont Junior College	Fremont, California
1967	William L. Pereira & Associates	Horticulture Building and Greenhouse	Irvine, California
1967	William L. Pereira & Associates	Crocker Citizen's Bank	Los Angeles, California
1967	William L. Pereira & Associates	Hall of Science	Los Angeles, California
1967	William L. Pereira & Associates	Hollywood Communications Center	Los Angeles, California
1967	William L. Pereira & Associates	Vivian Hall	Los Angeles, California
1967	William L. Pereira & Associates	William Pereira Residence	Los Angeles, California
1967	William L. Pereira & Associates	World Airways Terminal	Los Angeles, California
1967	William L. Pereira & Associates	400 Tower	Newport Beach, California
1967	William L. Pereira & Associates	Civic Center	Newport Beach, California
1967	William L. Pereira & Associates	Robinson's Department Store	Newport Beach, California
1967	William L. Pereira & Associates	Eddie Martin Terminal, John Wayne Airport	Santa Ana, California
1967	William L. Pereira & Associates	Hoffman Electronics headquarters	Santa Barbara, California
1967	William L. Pereira & Associates	Robinson's Department Store	Santa Barbara, California
1967	William L. Pereira & Associates	Litton Industries headquarters	Santa Catalina, California
1967	William L. Pereira & Associates	USC Marine Science Center	Santa Catalina, California
1967	William L. Pereira & Associates	Fort St. Vrain Nuclear Power Plant	Denver, Colorado

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1967	William L. Pereira & Associates	City Hall	Miami, Florida
1967	William L. Pereira & Associates	Fine Arts Building	Burlington, Vermont
1967	William L. Pereira & Associates	United States Navy Defense Office Complex	Washington, DC
1968	William L. Pereira & Associates	Don Muang Airport	Bangkok, Thailand
1968	William L. Pereira & Associates	Bethany Heights Condominiums	Glendale, Arizona
1968	William L. Pereira & Associates	Geneva Presbyterian Church	Laguna Beach, California
1968	William L. Pereira & Associates	American Red Cross Chapel	Los Angeles, California
1968	William L. Pereira & Associates	Law Building	Los Angeles, California
1968	William L. Pereira & Associates	Occidental Life Insurance Company headquarters	Los Angeles, California
1968	William L. Pereira & Associates	Lockheed Power Plant	Palmdale, California
1968	William L. Pereira & Associates	Rye Canyon Science Laboratory	Palmdale, California
1968	William L. Pereira & Associates	Santa Ana Cinema	Santa Ana, California
1968	William L. Pereira & Associates	Anderson Hills Shopping Center	Williams, California
1968	William L. Pereira & Associates	Kona Bishop Hotel	Kona, Hawaii
1969	William L. Pereira & Associates	Amfac Center	Ontario, Canada
1969	William L. Pereira & Associates	Buena Park Library	Buena Park, California
1969	William L. Pereira & Associates	Camp Pendleton	Camp Pendleton, California
1969	William L. Pereira & Associates	Bunker Hill Towers	Los Angeles, California
1969	William L. Pereira & Associates	Great Western Savings and Loans	Los Angeles, California
1969	William L. Pereira & Associates	Seaver Science Center	Los Angeles, California
1969	William L. Pereira & Associates	500/550 Twin Towers	Newport Beach, California
1969	William L. Pereira & Associates	San Nicolas Place	Newport Beach, California
1969	William L. Pereira & Associates	JC Penney	San Diego, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1969	William L. Pereira & Associates	Robinson's Department Store	San Diego, California
1969	William L. Pereira & Associates	Pan Am Terminal, Honolulu International Airport	Honolulu, Hawaii
1969	William L. Pereira & Associates	H.S. Pogue Department Store	Cincinnati, Ohio
1969	William L. Pereira & Associates	Mutual Benefit Life Building	Cincinnati, Ohio
1970	William L. Pereira & Associates	Civic Center and Auditorium	Inglewood, California
1970	William L. Pereira & Associates	Fine Arts Complex (aka Claire Trevor School of the Arts)	Irvine, California
1970	William L. Pereira & Associates	Art Studios	Irvine, California
1970	William L. Pereira & Associates	Music Building	Irvine, California
1970	William L. Pereira & Associates	Art Gallery (now the Beall Center for Art and Technology)	Irvine, California
1970	William L. Pereira & Associates	Drama Building	Irvine, California
1970	William L. Pereira & Associates	Sculpture and Ceramic Studios (now the Nixon Theatre)	Irvine, California
1970	William L. Pereira & Associates	Orchestra Rehearsal Hall	Irvine, California
1970	William L. Pereira & Associates	Production Studio	Irvine, California
1970	William L. Pereira & Associates	Concert Hall (now Winifred Smith Hall)	Irvine, California
1970	William L. Pereira & Associates	Studio Theatre	Irvine, California
1970	William L. Pereira & Associates	Village Theatre (now the Claire Trevor Theatre)	Irvine, California
1970	William L. Pereira & Associates	Hollywood Park Hotel and Office Complex	Los Angeles, California
1970	William L. Pereira & Associates	JC Penney	Sacramento, California
1970	William L. Pereira & Associates	JC Penney	San Bernardino, California
1970	William L. Pereira & Associates	Geisel Library	San Diego, California
1970	William L. Pereira & Associates	Scripps Clinic	San Diego, California
1970	William L. Pereira & Associates	JC Penney	Honolulu, Hawaii
1970	William L. Pereira & Associates	New England Center	Durham, New Hampshire

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1970	William L. Pereira & Associates	St. Vincent's Hospital	Santa Fe, New Mexico
1970	William L. Pereira & Associates	Texas Industrial Laundries	Corpus Christi, Texas
1970	William L. Pereira & Associates	Studio Theatre, Kennedy Center	Washington, DC
1971	William L. Pereira & Associates	Harbor Justice Center	Irvine, California
1971	William L. Pereira & Associates	Rockwell Autonetics (now Chet Holifield Federal Building	Laguna Niguel, California
1971	William L. Pereira & Associates	5900 Wilshire Tower	Los Angeles, California
1971	William L. Pereira & Associates	Newport Medical Towers	Newport Beach, California
1971	William L. Pereira & Associates	Social Security Administration Center	San Francisco, California
1971	William L. Pereira & Associates	Bank of America	Whittier, California
1971	William L. Pereira & Associates	Eastern Airlines Terminal, Atlanta International Airport	Atlanta, Georgia
1971	William L. Pereira & Associates	Hawaii Loa College	Kaneohe, Hawaii
1971	William L. Pereira & Associates	Library	Cincinnati, Ohio
1971	William L. Pereira & Associates	Two Houston Center	Houston, Texas
1972	William L. Pereira & Associates	Marriot Hotel	Bermuda
1972	William L. Pereira & Associates	Tehran International Airport	Tehran, Iran
1972	William L. Pereira & Associates	Conference Center and Housing Complex	Lagos, Nigeria
1972	William L. Pereira & Associates	Great Western Financial Corporation	Beverly Hills, California
1972	William L. Pereira & Associates	Bob Hope residence	Burbank, California
1972	William L. Pereira & Associates	Grand Slam Health Club	Costa Mesa, California
1972	William L. Pereira & Associates	The Broadway	Fox Hills, California
1972	William L. Pereira & Associates	Sears Shopping Center	La Puente, California
1972	William L. Pereira & Associates	Hospital	Los Angeles, California
1972	William L. Pereira & Associates	Pacific Life building	Newport Beach, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1972	William L. Pereira & Associates	Eastmont Mall	Oakland, California
1972	William L. Pereira & Associates	Desert Hospital	Palm Springs, California
1972	William L. Pereira & Associates	Hillcrest Hospital	Petaluma, California
1972	William L. Pereira & Associates	San Francisco International Airport	San Francisco, California
1972	William L. Pereira & Associates	Transamerica Pyramid	San Francisco, California
1972	William L. Pereira & Associates	Westin St. Francis Hotel	San Francisco, California
1972	William L. Pereira & Associates	United California Bank	San Mateo, California
1972	William L. Pereira & Associates	The Broadway	Santa Anita, California
1972	William L. Pereira & Associates	Gulf Mall	Panama City, Florida
1972	William L. Pereira & Associates	Leleiwi Beach Hotel	Hilo, Hawaii
1972	William L. Pereira & Associates	Mauna Loa Shores Apartments	Hilo, Hawaii
1972	William L. Pereira & Associates	Honolulu Medical Complex	Honolulu, Hawaii
1972	William L. Pereira & Associates	Civic Center	Aurora, Illinois
1972	William L. Pereira & Associates	Reno international Airport	Reno, Nevada
1972	William L. Pereira & Associates	Citibank	Albany, New York
1972	William L. Pereira & Associates	Shuttle Terminal, La Guardia Airport	New York City, New York
1972	William L. Pereira & Associates	Citibank	Rochester, New York
1972	William L. Pereira & Associates	Citibank	Smith Grove, New York
1972	William L. Pereira & Associates	Citibank	Syracuse, New York
1972	William L. Pereira & Associates	Convention Center	Columbus, Ohio
1972	William L. Pereira & Associates	Vacia Talega Hotel and Condominiums	Vacia Talega, Puerto Rico
1973	William L. Pereira & Associates	Regent Beach Hotel	Pattaya, Thailand
1973	William L. Pereira & Associates	Beverly Hills Medical Building	Beverly Hills, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1973	William L. Pereira & Associates	Charles Lee Powell Hall	Los Angeles, California
1973	William L. Pereira & Associates	Communications Building	Los Angeles, California
1973	William L. Pereira & Associates	Continental Airlines First Class Lounge	Los Angeles, California
1973	William L. Pereira & Associates	Metropolitan Water District	Los Angeles, California
1973	William L. Pereira & Associates	Pacific Financial Center	Los Angeles, California
1973	William L. Pereira & Associates	Wilshire Regent Hotel,	Los Angeles, California
1973	William L. Pereira & Associates	Wells Fargo Bank Building	Newport Beach, California
1973	William L. Pereira & Associates	Security Pacific National Bank	Oakland, California
1973	William L. Pereira & Associates	Riverside Administration Building,	Riverside, California
1973	William L. Pereira & Associates	Eisenhower Center	Washington, DC
1973	William L. Pereira & Associates	Hartsfield Airport	Atlanta, Georgia
1973	William L. Pereira & Associates	Hartsfield Airport	Atlanta, Georgia
1973	William L. Pereira & Associates	First Hawaiian Bank Building	Honolulu, Hawaii
1973	William L. Pereira & Associates	Hawaii Kai Studio	Honolulu, Hawaii
1973	William L. Pereira & Associates	Makaha Towers and Country Club	M□kaha, Hawaii
1973	William L. Pereira & Associates	Naval Base	New Orleans, Louisiana
1973	William L. Pereira & Associates	Greyhound Bus Terminal	Reno, Nevada
1973	William L. Pereira & Associates	Harrisburg International Airport	Harrisburg, Pennsylvania
1973	William L. Pereira & Associates	Bayou Building	Houston, Texas
1974	William L. Pereira & Associates	Hilton Hotel	Kuta, Bali
1974	William L. Pereira & Associates	Imperial Medical Center (now Iran University of Medical Sciences)	Tehran, Iran
1974	William L. Pereira & Associates	City Hall Annex	Cypress, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1974	William L. Pereira & Associates	Library	Cypress, California
1974	William L. Pereira & Associates	Middle Earth Housing (phase 1)	Irvine, California
1974	William L. Pereira & Associates	Central Post Office	La Habra, California
1974	William L. Pereira & Associates	Virginia Ramo Hall of Music	Los Angeles, California
1974	William L. Pereira & Associates	450 Tower, Newport Center	Newport Beach, California
1974	William L. Pereira & Associates	660 Tower, Newport Center	Newport Beach, California
1974	William L. Pereira & Associates	Hoag Hospital West Tower	Newport Beach, California
1974	William L. Pereira & Associates	Convention Center	Palm Springs, California
1974	William L. Pereira & Associates	Naval Hospital	Port Hueneme
1974	William L. Pereira & Associates	California State Capitol Building Addition	Sacramento, California
1974	William L. Pereira & Associates	Medical and Dental Clinic, San Diego Naval Training Center	San Diego, California
1974	William L. Pereira & Associates	Naval Hospital	San Diego, California
1974	William L. Pereira & Associates	Crocker Citizen's Bank	San Francisco, California
1974	William L. Pereira & Associates	Pacific Mutual Building	San Francisco, California
1974	William L. Pereira & Associates	Continental Hotel	Guam
1974	William L. Pereira & Associates	Kauai Inn and Conference Center	Lihue, Hawaii
1974	William L. Pereira & Associates	Staten Island Hospital	New York City, New York
1974	William L. Pereira & Associates	Quail Springs Mall	Oklahoma City, Oklahoma
1975	William L. Pereira & Associates	Albert S. Raubenheimer Music Building	Los Angeles, California
1975	William L. Pereira & Associates	Satellite Building 2	Los Angeles, California
1975	William L. Pereira & Associates	Marriot Hotel	Newport Beach, California
1975	William L. Pereira & Associates	Frank Hagel Social Security Building	Richmond, California
1976	William L. Pereira & Associates	Bell Operations Training Facility	Tehran, Iran

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1976	William L. Pereira & Associates	Barstow Community College	Beverly Hills, California
1976	William L. Pereira & Associates	Professional Office Building	Glendale, California
1976	William L. Pereira & Associates	Bing Theatre	Los Angeles, California
1976	William L. Pereira & Associates	Computer Science Center	Los Angeles, California
1976	William L. Pereira & Associates	Los Angeles Trade Tech Library	Los Angeles, California
1976	William L. Pereira & Associates	Stanford Research Institute	Menlo Park, California
1976	William L. Pereira & Associates	Biology Building	Pasadena, California
1976	William L. Pereira & Associates	Jet Propulsion Laboratory	Pasadena, California
1976	William L. Pereira & Associates	Harrah's	Reno, Nevada
1977	William L. Pereira & Associates	Armed Services Headquarters	Jakarta, Indonesia
1977	William L. Pereira & Associates	Hyatt Hotel	Kuwait City, Kuwait
1977	William L. Pereira & Associates	Arizona State Prison	Florence, Arizona
1977	William L. Pereira & Associates	Warner Bros. Office Building	Burbank, California
1977	William L. Pereira & Associates	Federal Correctional Facility	Camarillo, California
1977	William L. Pereira & Associates	Cerritos Cultural Center	Cerritos, California
1977	William L. Pereira & Associates	Prudential Office (now California Bank & Trust)	Costa Mesa, California
1977	William L. Pereira & Associates	South Coast Town Center	Costa Mesa, California
1977	William L. Pereira & Associates	Douglas Aircraft Plaza	Irvine, California
1977	William L. Pereira & Associates	Lake Tahoe Community College	Lake Tahoe, California
1977	William L. Pereira & Associates	Braille Institute	Los Angeles, California
1977	William L. Pereira & Associates	Produce Market	Los Angeles, California
1977	William L. Pereira & Associates	Maricopa Hotel	Maricopa, California
1977	William L. Pereira & Associates	National Steinbeck Center	Salinas, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1977	William L. Pereira & Associates	County Government Center	San Bernardino, California
1977	William L. Pereira & Associates	Convention Center	San Francisco, California
1977	William L. Pereira & Associates	Toyota Headquarters	Torrance, California
1977	William L. Pereira & Associates	Boise Industrial Park	Boise, Idaho
1977	William L. Pereira & Associates	Horrock's	Baton Rouge, Louisiana
1977	William L. Pereira & Associates	Gaylord Apartments	Las Vegas, Nevada
1977	William L. Pereira & Associates	Intevep Laboratories	Caraccas, Venezuela
1978	William L. Pereira & Associates	Baghdad International Airport (formerly Saddam International Airport)	Baghdad, Iraq
1978	William L. Pereira & Associates	Los Angeles Times	Costa Mesa, California
1978	William L. Pereira & Associates	American Airlines Corporate Headquarters	Los Angeles, California
1978	William L. Pereira & Associates	Host International Headquarters	Los Angeles, California
1978	William L. Pereira & Associates	Los Angeles Times	Northridge, California
1978	William L. Pereira & Associates	Raley's Landing	Sacramento, California
1979	William L. Pereira & Associates	Hydrocarbon Institute	Los Angeles, California
1980	William L. Pereira & Associates	Yanbu Residential Community	Yanbu, Saudi Arabia
1980	William L. Pereira & Associates	Pontiac Office Tower	Singapore
1980	William L. Pereira & Associates	Two Transamerica Center	San Francisco, California
1980	William L. Pereira & Associates	Communicore, EPCOT Center, Walt Disney World Resort	Lake Buena Vista, Florida
1981	William L. Pereira & Associates	Universal City Sheraton Hotel	Burbank, California
1981	William L. Pereira & Associates	Jonathan Club	Los Angeles, California
1982	William L. Pereira & Associates	Doha Sheraton Hotel	Doha, Qatar
1982	William L. Pereira & Associates	Park La Brea	Los Angeles, California

Table E-1: William Pereira Project List			
Year	**Firm**	**Project Name**	**Location**
1982	William L. Pereira & Associates	Nob Hill Condominiums	San Francisco, California
1982	William L. Pereira & Associates	Performing Arts Center	Whittier, California
1983	William L. Pereira & Associates	Lockheed headquarters	Calabasas, California
1983	William L. Pereira & Associates	T-2 Information Systems	Carlsbad, California
1983	William L. Pereira & Associates	Irvine Hall	Irvine, California
1983	William L. Pereira & Associates	Park Wellington Condominiums	Los Angeles, California

D-2 Archaeological Resources Assessment Report

Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report

Prepared for
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

September 2018



Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Archaeological Resources Assessment Report

Prepared for:
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

September 2018

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director and Principal Investigator:
Monica Strauss, M.A., R.P.A.

Project Manager:
Sara Dietler, B.A.

Report Authors:
Fatima Clark, B.A.
Michael Vader, B.A.

Project Location:
Los Angeles (CA) USGS 7.5-minute Topographic Quad;
Township 1 South, Range 13 West, unsectioned

Acreage: Approx. 3.6 acres

80 South Lake Avenue
Suite 570
Pasadena, CA 91101
626.204.6170
www.pcrnet.com

Irvine	Sacramento
Los Angeles	San Diego
Oakland	San Francisco
Orlando	Santa Monica
Pasadena	Seattle
Petaluma	Tampa
Portland	Camarillo

D170060.00

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EXECUTIVE SUMMARY

Times Mirror Square Project - Archaeological Resources Assessment Report

Environmental Science Associates (ESA) has been retained by Onni Group (Applicant), to conduct an Archaeological Resources Assessment for the Times Mirror Square Project (Project) in support of an Environmental Impact Report (EIR). The Applicant proposes to construct two new mixed-use towers along with rehabilitation of three existing buildings within the Times Mirror Square site (Project Site) in the city of Los Angeles. The Project Site is currently occupied by five structurally distinct but internally connected buildings occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings include the Times Building, the Plant Building, the Mirror Building, the Executive Building, and a parking structure. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-use towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building. The City of Los Angeles (City) is the lead agency pursuant to the California Environmental Quality Act (CEQA). The 3.6-acre Project Site is located within the northern portion of downtown Los Angeles and comprises the city block bounded by W. 1st Street to the northeast, S. Spring Street to the southeast, W. 2nd Street to the southwest, and S. Broadway to the northwest.

A records search for the Project was conducted on May 4, 2017 at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search results indicate that 98 studies that included some form of field study including survey, excavation, or monitoring have been conducted within ½ mile of the Project Site. Approximately 70 percent of the ½-mile records search radius has been included in previous cultural resources field studies. Of the 98 previous field studies, one (LA-10507) overlaps the Project Site. Approximately 90 percent of the Project Site has been included as part of this previous study.

The records search results indicate that 15 resources have been previously recorded within the ½-mile records search radius. These resources include 14 archaeological resources and one California Historic Landmark (CHL #744). Of the 14 archaeological resources, 13 are historic-period archaeological sites and one is a historic-period isolate. One of the historic-period archaeological sites (P-19-004451) was identified during construction of the Los Angeles Federal Courthouse and is located approximately 100 feet from of the Project Site. Resource P-19-174925 includes CHL #744 identified as the site of the first brick school house in Los Angeles between 1854 and 1855, as well as the site of the Butterfield Overland Mail Company office and corrals between 1858 and 1861, and the U.S. Army Quartermaster in 1861, all of which were previously

located within the eastern portion of the Project Site within the current footprint of the Mirror Building. The Project Site is commemorated by a plaque affixed to the south-facing façade of the Mirror Building. The area of the Project Site, which is the subject of the commemoration, would continue to function as CHL#744 after the implementation of the Project and the plaque would be retained in its current location.

The California Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted on August 11, 2017 to request a search of the SLF. The NAHC responded to the request in a letter dated August 23, 2017. The NAHC's letter states that sites are known to be located within the Project Site, but did not provide specific information regarding these sites.

Historic maps and aerial photographs were examined to provide historical information about the Project Site and to contribute to an assessment of the Project Site's archaeological sensitivity. Available maps include the 1888, 1894, 1906, and 1950 Sanborn Fire Insurance Maps. Historic aerial photographs of the Project Site from the years 1948, 1952, 1964, 1977, 1972, 1980, 2012 were also examined. The historic review indicates that the Project Site has been developed and used for residential and commercial purposes since the late 19th century. Beginning in the mid-20th century the eastern half of the Project Site was drastically changed as all of the buildings present since the late 19th century were demolished and replaced with the Times Building, the Plant Building, and the Mirror Building. Similarly, the buildings in the western half of the Project Site were destroyed when the Executive Building and parking structure were constructed in the 1960s and 1970s. The buildings that are currently present within the Project Site all contain basements, and the construction of these buildings and their subgrade components likely destroyed any subsurface remnants associated with the multi-story buildings that were constructed in the late 19th century.

Given the developed nature of the Project Site and the lack of visible ground surface, an archaeological resources survey for the Project was not conducted.

Given the high degree of disturbance associated with the construction of the buildings currently present within the Project Site, there is a low likelihood of encountering subsurface archaeological deposits during Project implementation. Although the likelihood of encountering subsurface archaeological resources is low, the Project would include ground disturbing activities associated with the demolition of the Executive Building and parking structures, and the construction of Towers 1 and 2. Accordingly, there is a possibility that ground disturbing activities could impact pockets of undisturbed soil containing previously unidentified archaeological deposits that may qualify as historical resources and/or unique archeological resources pursuant to CEQA. As such, ESA recommends mitigation measures for the retention of a qualified archaeological monitor, cultural resources sensitivity training, and protocols to be carried out should archaeological resources be inadvertently discovered. These measures are included in the *Conclusions and Recommendations* Section at the close of this report.

TIMES MIRROR SQUARE PROJECT

Archaeological Resources Assessment Report

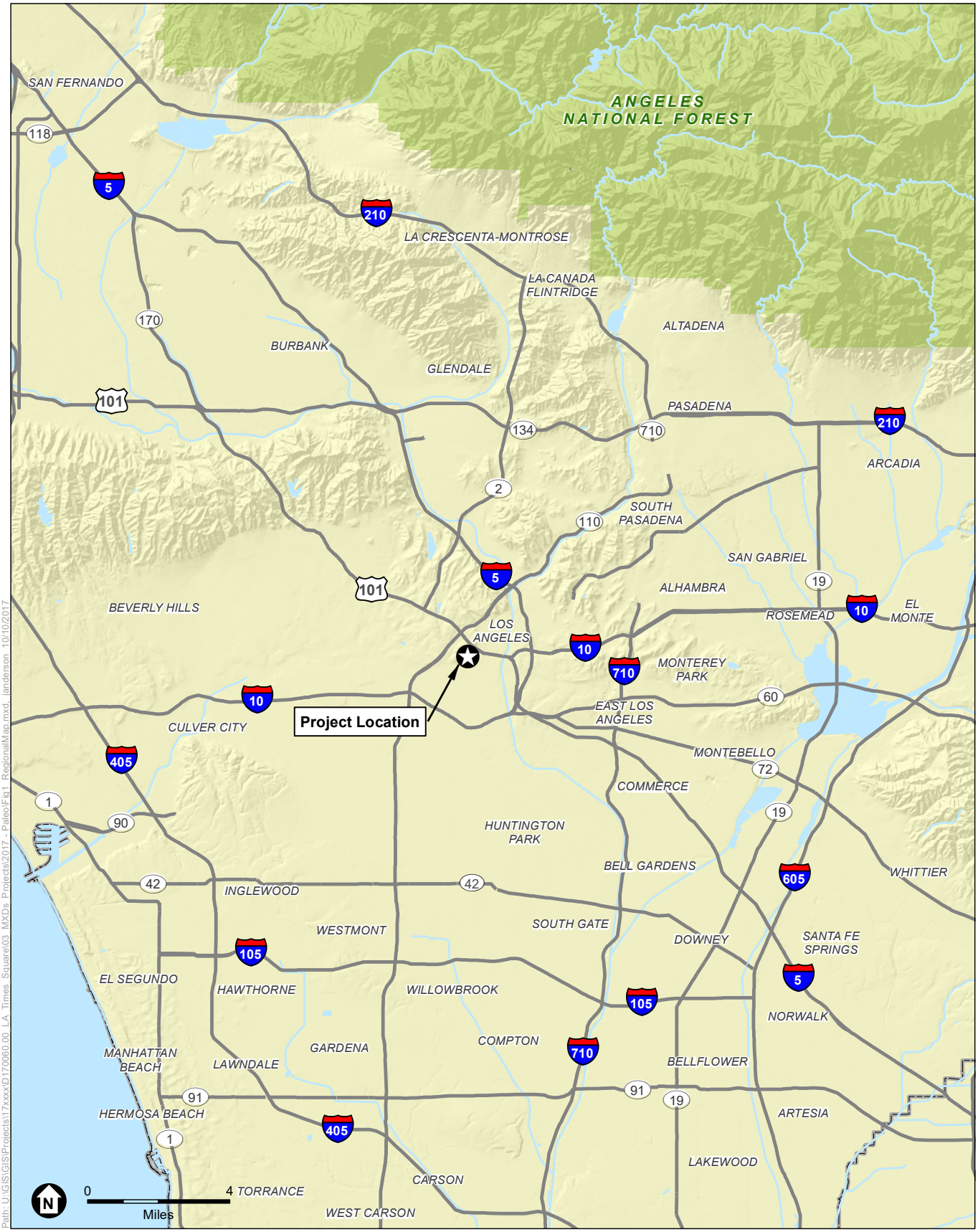
Introduction

Environmental Science Associates (ESA) has been retained by Onni Group (Applicant), to conduct an Archaeological Resources Assessment for the Times Mirror Square Project (Project) in support of an Environmental Impact Report (EIR). The Applicant proposes to construct two new mixed-use towers along with rehabilitation of three existing buildings within the Times Mirror Square site (Project Site) in the city of Los Angeles. The Project Site is currently occupied by five structurally distinct but internally connected buildings occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings include the Times Building, the Plant Building, the Mirror Building, the Executive Building, and parking structure. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-used towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building. The City of Los Angeles (City) is the lead agency pursuant to the California Environmental Quality Act (CEQA).

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., R.P.A., Project Director and Principal Investigator; Sara Dietler, B.A., Project Manager; Fatima Clark, B.A. report author; Michael Vader, B.A., report author. Resumes of key personnel are included in **Appendix A**.

Project Location

The 3.6-acre Project Site is located within the northern portion of downtown Los Angeles (**Figure 1**). Specifically, the Project Site is located in an unsectioned portion of Township 1 South, Range 13 West on the Los Angeles, CA USGS 7.5-minute topographic quadrangle (**Figure 2**). The Project Site comprises the city block bounded by W. 1st Street to the northeast, S. Spring Street to the southeast, W. 2nd Street southwest, and S. Broadway to the northwest (**Figure 3**).

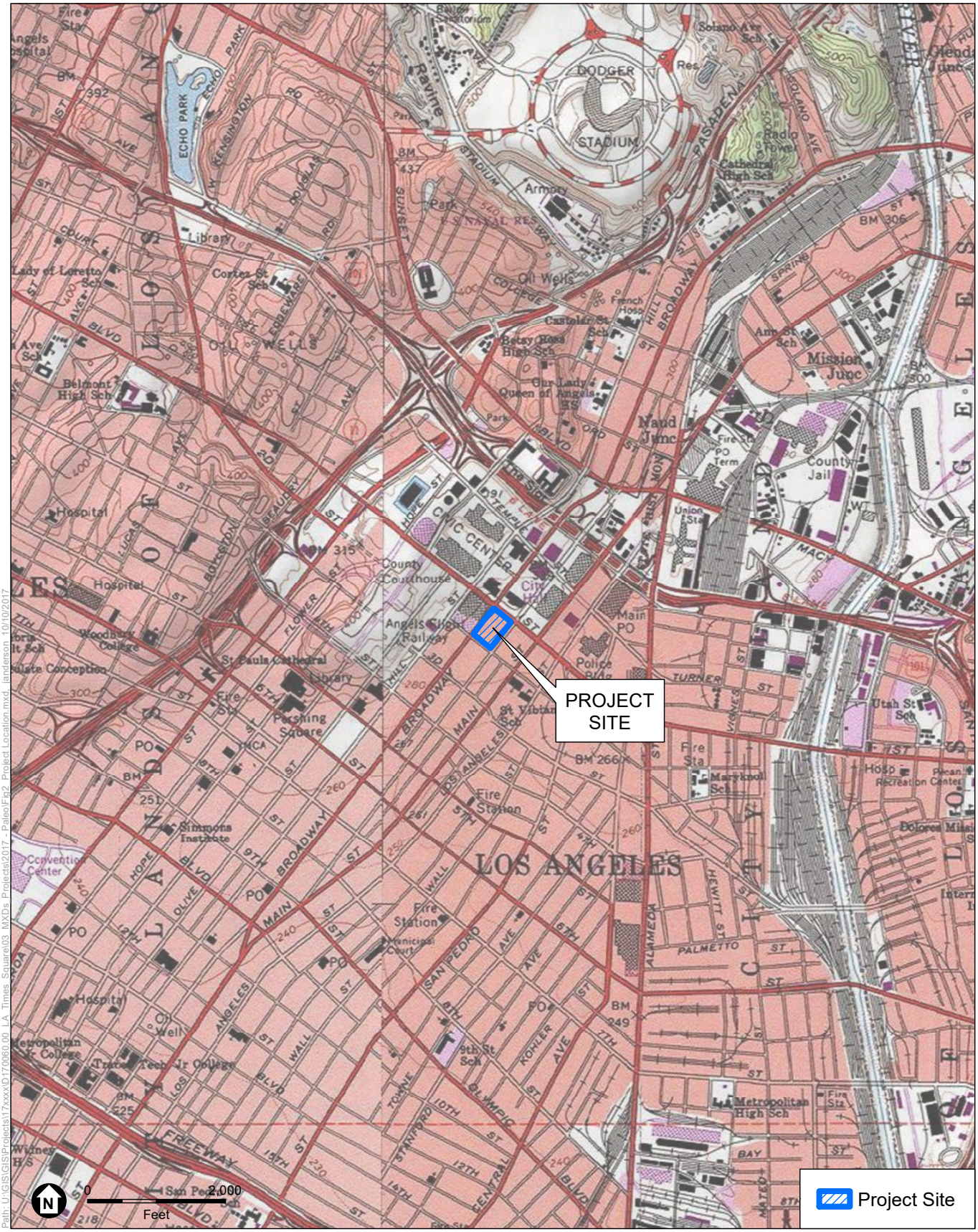


SOURCE: ESRI

Times Mirror Square Project

Figure 1
Regional Vicinity

ESA

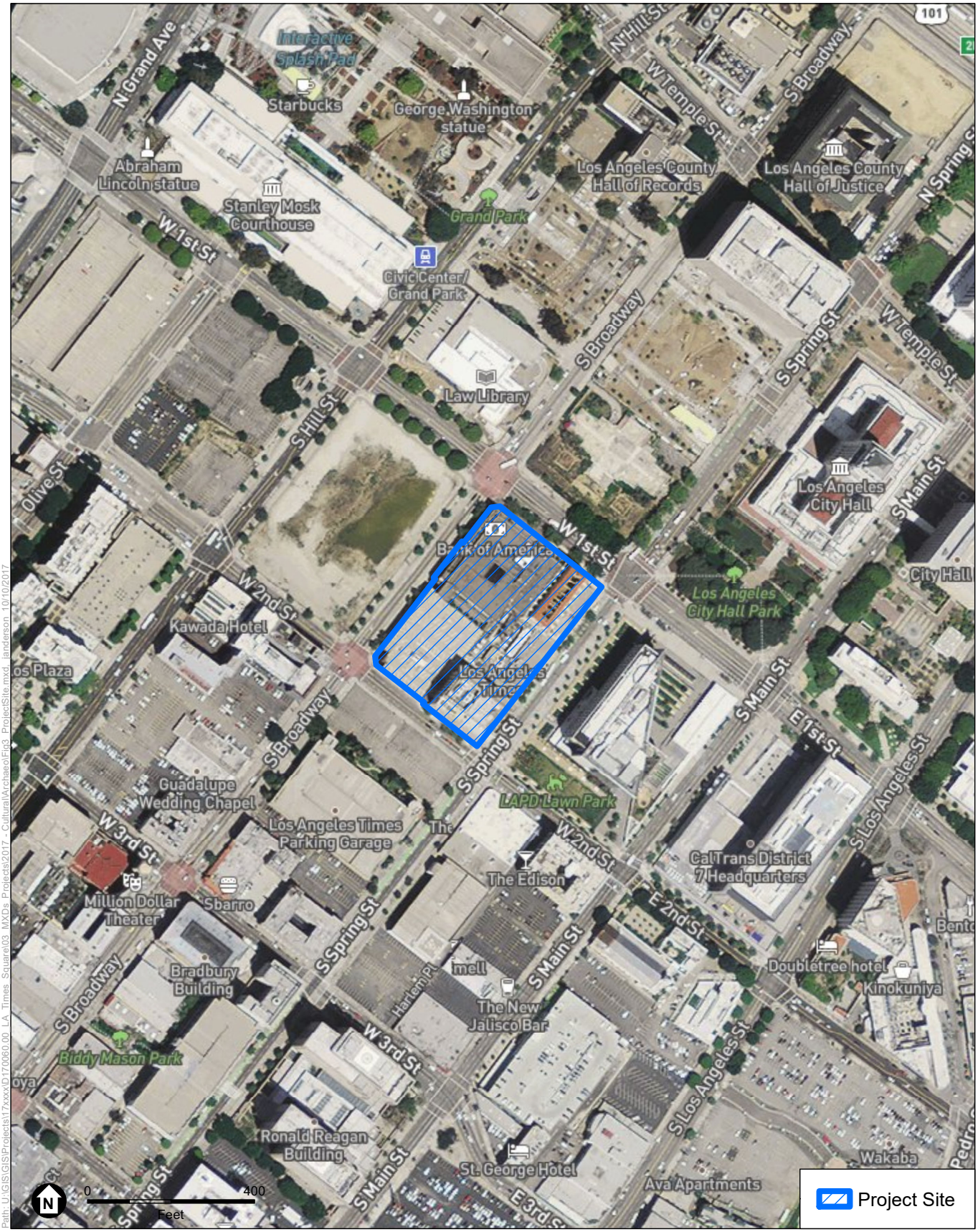


SOURCE: ESRI; Los Angeles Topoquad

Times Mirror Square Project

Figure 2
Project Location

ESA



SOURCE: MapBox Satellite Streets

Times Mirror Square Project

Figure 3
Project Site

ESA

Project Description

The Project Site encompasses five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to 10 stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the 10-story Mirror Building, the six-story Executive Building, and the six-story parking structure. The Project would include demolition of the Executive Building and parking structure, and would construct the two mixed-used North and South Towers in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building.

The proposed 37-story North Tower and 53-story South Tower would be constructed in the west sector of the block, which is aligned with S. Broadway with frontages on W. 1st Street and W. 2nd Street. The North and South Towers, which would be constructed above a five-story parking podium (Podium), would contain a total of approximately 1,127 residential units, approximately 34,572 square feet of commercial floor area, and a combined floor area of approximately 1,135,803 square feet. The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. Ground level retail uses would be located along the base of the Podium facing W. 1st Street, S. Broadway, and W. 2nd Street, and the Paseo.

Setting

Natural Setting

The Project is located in a relatively flat area of the western Los Angeles Basin. The basin is formed by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains. Prior to urban development and the channeling of the Los Angeles River, the Project Site, which is located 0.90 miles west of the Los Angeles River Channel, was likely covered with marshes, thickets, dense woodland, and grassland. The floodplain forest of the Los Angeles Basin formed one of the most biologically rich habitats in southern California. Willow, cottonwood and sycamore, and dense underbrush of alder, hackberry, and shrubs once lined the Los Angeles River as it passed near present-day downtown Los Angeles. Although historically most of the Los Angeles River was dry for at least part of the year, shallow bedrock in the Elysian Park area north of downtown forced much of the river's underground water to the surface. This allowed for a steady year-round flow of water through the area that later became known as downtown Los Angeles. Currently, the Project Site is completely developed and encompasses five existing buildings. A geotechnical study prepared in support of the Project indicates that the Project Site is likely underlain by small amounts of artificial fill but does not provide exact depth or ages of the fill (Geocon West, Inc., 2017).

Prehistoric Setting Overview

The chronology of southern California is typically divided into three general time periods: the Early Holocene (11,000 to 7,600 Before Present [B.P.]), the Middle Holocene (7,600 to 3,600 B.P.), and the Late Holocene (3,600 B.P. to A.D. 1769). Within this timeframe, the archaeology of southern California is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture.

While it is not certain when humans first came to California, their presence in southern California by about 11,000 B.P. has been well documented. At Daisy Cave, on San Miguel Island, cultural remains have been radiocarbon dated to between 11,100 and 10,950 B.P. (Byrd and Raab, 2007). The first evidence of human occupation in the Los Angeles area dates to at least 9000 years B.P. and is associated with the Millingstone cultures (Wallace, 1955; Warren, 1968). Millingstone cultures were characterized by the collection and processing of plant foods, particularly acorns, and the hunting of a wider variety of game animals (Byrd and Raab, 2007; Wallace, 1955). Millingstone cultures also established more permanent settlements that were located primarily on the coast and in the vicinity of estuaries, lagoons, lakes, streams, and marshes where a variety of resources, including seeds, fish, shellfish, small mammals, and birds, were exploited. Early Millingstone occupations are typically identified by the presence of handstones (manos) and millingstones (metates), while those Millingstone occupations dating later than 5000 B.P. contain a mortar and pestle complex as well, signifying the exploitation of acorns in the region.

During the Middle Holocene (7,600 to 3,600 B.P.), there is evidence for the processing of acorns for food and a shift toward a more generalized economy. Around 7,000 B.P., the climate of southern California became warmer and more arid and the human population, residing mainly in coastal or inland desert areas, began exploiting a wider range of plant and animal resources (Byrd and Raab, 2007).

During the Late Holocene (3,600 B.P. to A.D. 1769), many aspects of Millingstone culture persisted, but a number of socioeconomic changes occurred (Erlandson, 1994; Wallace, 1955; Warren, 1968). The native populations of southern California were becoming less mobile and populations began to gather in small sedentary villages with satellite resource-gathering camps. Increasing population size necessitated the intensified use of existing terrestrial and marine resources (Erlandson, 1994). Evidence indicates that the overexploitation of larger, high-ranked food resources may have led to a shift in subsistence, towards a focus on acquiring greater amounts of smaller resources, such as shellfish and small-seeded plants (Byrd and Raab, 2007). Around 1,000 B.P., an episode of sustained drought, known as the Medieval Warm Period, occurred. While this climatic event did not appear to reduce the human population, it did lead to a change in subsistence strategies in order to deal with the substantial stress on resources. The Late Holocene marks a period in which specialization in labor emerged, trading networks became an increasingly important means by which both utilitarian and non-utilitarian materials were acquired, and travel routes were extended. Although the intensity of trade had already been increasing, it now reached its zenith, with asphaltum (tar), seashells, and steatite being traded

from southern California to the Great Basin. Major technological changes appeared as well, particularly with the advent of the bow and arrow, which largely replaced the use of the dart and atlatl. Small projectile points, ceramics, including Tizon brownware pottery, and obsidian from Obsidian Butte (Imperial County), are all representative artifacts of the Late Holocene.

Ethnographic Setting

The Project Site is located in a region traditionally occupied by the Takic-speaking Gabrielino Indians. The term "Gabrielino" is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language is part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game were hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino-Tongva are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Villages are reported to have been the most abundant in the San Fernando Valley, the Glendale Narrows area north of downtown, and around the Los Angeles River's coastal outlets (Gumprecht, 2001). The village of *Yaanga* was located approximately 0.25 miles from the present-day location of the Project Site (Morris et al., 2016). Of the approximately 100 known Gabrielino villages, *Yaanga* was one of the largest and leaders from other Gabrielino villages would regularly converge on *Yaanga* to hold councils (Rasmussen, 1997). The Gabrielino leaders would meet beneath the branches of a large sycamore tree known as the council tree, or *El Aliso*, which served as a regional landmark and meeting place. The 400-year old tree died and was cut down in 1892 as downtown Los Angeles's industrial expansion surrounded it (Rasmussen, 1997). Recent research indicates that El Aliso was located south of what is presently the Metropolitan Transit Authority's headquarters within the median of the Hollywood Freeway, located approximately 0.5 miles east of the Project Site (Rasmussen, 1997).

Based on baptismal records, *Yaanga* appears to have been occupied until at least 1813. But by the early 1820s, *Yaanga's* Gabrielino residents were displaced to an area south of the village site in what is presently the block north of Los Angeles Street and W. 1st Street, approximately 530 feet

east of the Project Site (Morris et al., 2016). By 1836, the community in which the displaced Gabrielino lived was known as *Rancho de los Pablinos*, and Los Angeles residents began complaining about the Gabrielino bathing in the irrigation ditches known as Zanjas (Morris et al., 2016). As a result of the complaints, the Gabrielino were once again displaced further to the east approximately 0.44 miles from the Project Site. By 1847, the Gabrielino from *Yaanga* were displaced once again and left without a space in which to form a new community. As a result, the Gabrielino dispersed throughout Los Angeles.

Historic Setting

Regional Setting

Spanish Period (A.D. 1769-1821)

Although Spanish explorers made brief visits to the region in 1542 and 1602, sustained contact with Europeans did not commence until the onset of the Spanish Period. In 1769 Gaspar de Portolá led an expedition from San Diego, passing through the Los Angeles Basin and the San Fernando Valley, on its way to the San Francisco Bay (McCawley, 1996). This was followed in 1776 by the expedition of Father Francisco Garcés (Johnson and Earle, 1990).

In the late 18th century, the Spanish began establishing missions in California and forcibly relocating and converting native peoples. The nearest mission to the Project Site was Mission San Gabriel Arcángel, founded in 1771, located approximately 8 miles to the northeast.

In an effort to promote Spanish settlement of Alta California, Spain granted several large land concessions from 1784 to 1821. At this time, unless certain requirements were met, Spain retained title to the land (State Lands Commission [SLC], 1982).

Mexican Period (A.D. 1821-1848)

The Mexican Period began when Mexico won its independence from Spain in 1821. Mexico continued to promote settlement of California with the issuance of land grants. In 1833, Mexico began the process of secularizing the missions, reclaiming the majority of mission lands and redistributing them as land grants. According to the terms of the Secularization Law of 1833 and Regulations of 1834, at least a portion of the lands would be returned to the Native populations, but this did not always occur (Milliken et al., 2009).

Many ranchos continued to be used for cattle grazing by settlers during the Mexican Period. Hides and tallow from cattle became a major export for Californios (native Hispanic Californians), many of whom became wealthy and prominent members of society. The Californios led generally easy lives, leaving the hard work to vaqueros (Hispanic cowhands) and Indian laborers (Pitt, 1994; Starr, 2007).

American Period (A.D. 1848-present)

In 1846, the Mexican-American War broke out. Mexican forces were eventually defeated in 1847 and Mexico ceded California to the United States as part of the Treaty of Guadalupe Hildalgo in 1848. California officially became one of the United States in 1850. While the treaty recognized right of Mexican citizens to retain ownership of land granted to them by Spanish or Mexican

authorities, the claimant was required to prove their right to the land before a patent was given. The process was lengthy, and generally resulted in the claimant losing at least a portion of their land to attorney's fees and other costs associated with proving ownership (Starr, 2007).

When the discovery of gold in northern California was announced in 1848, a huge influx of people from other parts of North America flooded into California. The increased population provided an additional outlet for the Californios' cattle. As demand increased, the price of beef skyrocketed and Californios reaped the benefits. However, a devastating flood in 1861, followed by droughts in 1862 and 1864, led to a rapid decline of the cattle industry; over 70 percent of cattle perished during these droughts (McWilliams, 1946; Dinkelspiel, 2008). This event, coupled with the burden of proving ownership of their lands, caused many Californios to lose their lands during this period (McWilliams, 1946). Former ranchos were subsequently subdivided and sold for agriculture and residential settlement.

The first transcontinental railroad was completed in 1869, connecting San Francisco with the eastern United States. Newcomers poured into northern California. Southern California experienced a trickle-down effect, as many of these newcomers made their way south. The Southern Pacific Railroad extended the line from San Francisco to Los Angeles in 1876. The second transcontinental line, the Santa Fe, was completed in 1886 and caused a fare war, driving fares to an unprecedented low. Settlers flooded into the region and the demand for real estate skyrocketed. As real estate prices soared, land that had been farmed for decades outlived its agricultural value and was sold to become residential communities. The subdivision of the large ranchos took place during this time (Meyer, 1981; McWilliams, 1946). During the first three decades of the 20th century, more than 2 million people moved to Los Angeles County, transforming it from a largely agricultural region into a major metropolitan area.

City of Los Angeles

On September 4, 1781, El Pueblo de la Reina de los Angeles was established not far from the site where Portolá and his men camped during their 1769 excursion. Father Juan Crespi, who accompanied the 1769 expedition, had noted the suitability of the area for supporting a large settlement. He named the river El Rio de Nuestra Senora la Reyna de Los Angeles de Porciuncula (The River of Our Lady the Queen of the Angels of Porciuncula) (Gumprecht, 2001).

The pueblo was first established in response to the increasing agricultural needs of Spanish missions and presidios in Alta California. A land grant of 28 acres was issued to California Governor Felipe de Neve in 1781. A small group of colonists from Mexico then set out to develop a pueblo near the river. The original pueblo consisted of a central square surrounded by twelve houses and a series of agricultural fields. Thirty-six fields occupied 250 acres between the town and the river to the east (Gumprecht, 2001). An irrigation system that would carry water from the river to the fields and the pueblo was the communities' first priority and was constructed almost immediately. The main irrigation ditch, or Zanja Madre, was completed by the end of October 1781. It was constructed in the area of present-day Elysian Park, and carried water south along Alameda Street to the pueblo and then beyond (Gumprecht 2001). As the water needs of Los Angeles increased, additional ditches that branched off of the Zanja Madre were excavated. Maps provided by Gumprecht (2001), Stevenson (1884), and Rowan and Koeberle (1887) depict

Zanja No. 8 running in what is presently Main Street located approximately 450 southeast of the Project Site (**Figures 4, 5, and 6**). Zanja No. 8 was a branch of the Zanja Madre and consisted of an 8,300-foot long, 16-inch diameter cement pipe (Hall 1888).

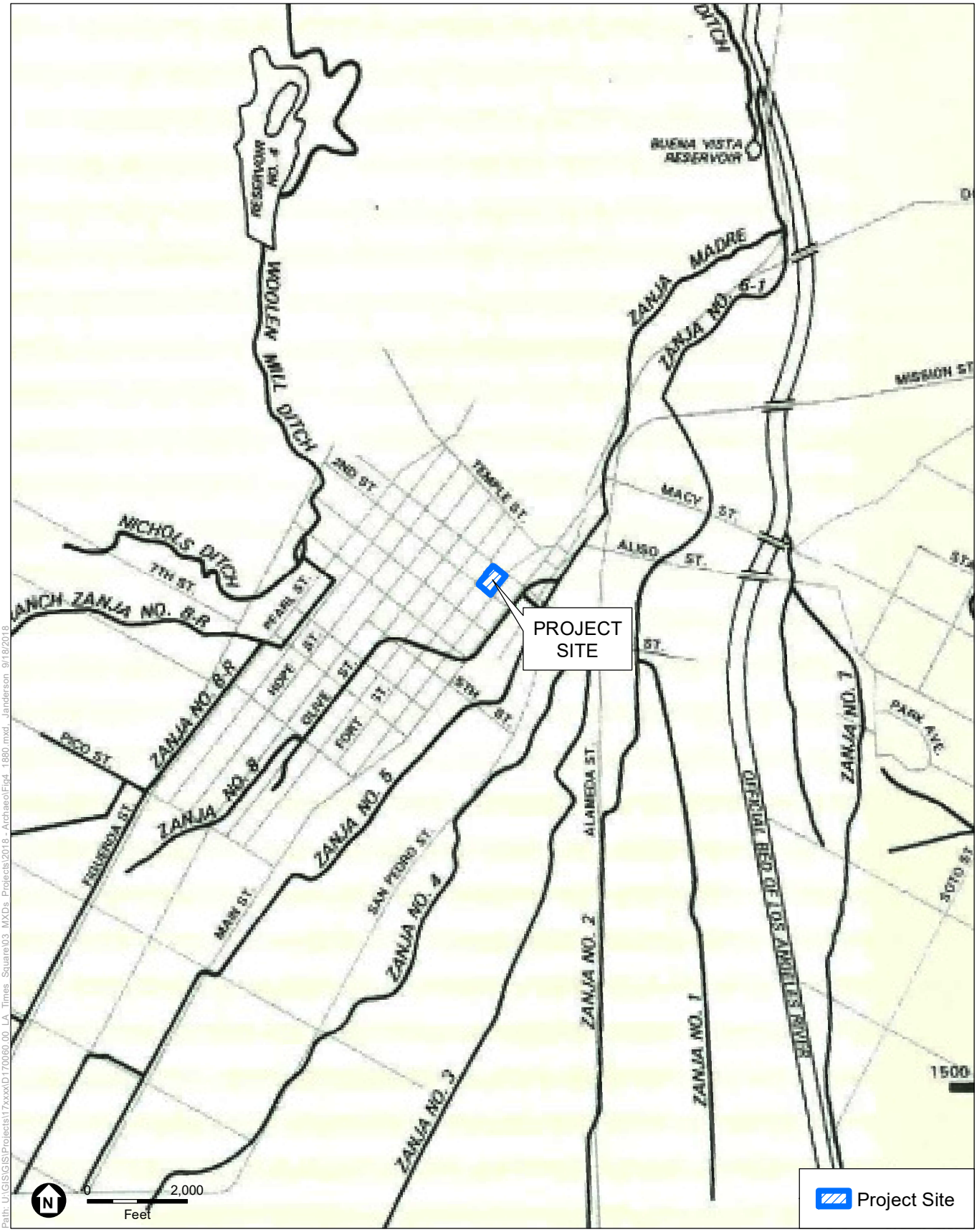
By 1786, the flourishing pueblo attained self-sufficiency and funding by the Spanish government ceased (Gumprecht, 2001). Fed by a steady supply of water and an expanding irrigation system, agriculture and ranching grew, and by the early 1800s the pueblo produced surplus wheat, corn, barley, and beans for export. A large number of livestock, including cattle and sheep, grazed in the surrounding lands. Wine production gained importance and vineyards blanketed the landscape between present-day San Pedro Street and the river (Gumprecht, 2001).

After Mexico gained its independence from Spain, Los Angeles became the capital of its California territory in 1835. But few visited the area and the town remained a "sleepy agricultural village" until the Gold Rush in 1848 (Gumprecht, 2001).

When Los Angeles was connected to the transcontinental railroad via San Francisco on September 5, 1876, it experienced a significant boost in population. The city would experience its greatest growth in the 1880s when two more direct rail connections to the East Coast were constructed. The Southern Pacific completed its second transcontinental railway, the Sunset Route from Los Angeles to New Orleans, in 1883 (Orsi, 2005). In 1885, the Santa Fe Railroad completed a competing transcontinental railway to San Diego, with connecting service to Los Angeles (Mullaly and Petty, 2002). The resulting fare wars led to an unprecedented real estate boom, as well as affordable cross-country fares for immigrants. Despite a subsequent collapse of the real estate market, the population of Los Angeles increased 350 percent in the decade between 1880 and 1890 (Dinkelspiel, 2008).

The population boom of the 1880s drove the demand for real estate in Los Angeles. Farmland south and east of the city began to be replaced by residential and commercial development. Large tracts of agricultural land, now far more valuable for residential development, were subdivided and sold (Gumprecht, 1999).

From 1890 to 1900, the city continued to grow, and many infrastructure projects were completed during this decade (McWilliams, 1946). E.L. Doheny discovered oil in 1892, adding fuel to the flame. From 1900 to 1920, Los Angeles became a tourist mecca (McWilliams, 1946). The Los Angeles Aqueduct was constructed and a large portion of the San Fernando Valley annexed to the city during the first decade of the 20th century. From 1920 to 1930, Los Angeles experienced another population explosion, due in part to the automobile and the development of the movie industry. All told, between 1890 and 1930, the population of Los Angeles increased from 50,000 to 1.2 million people (Wild, 2005).

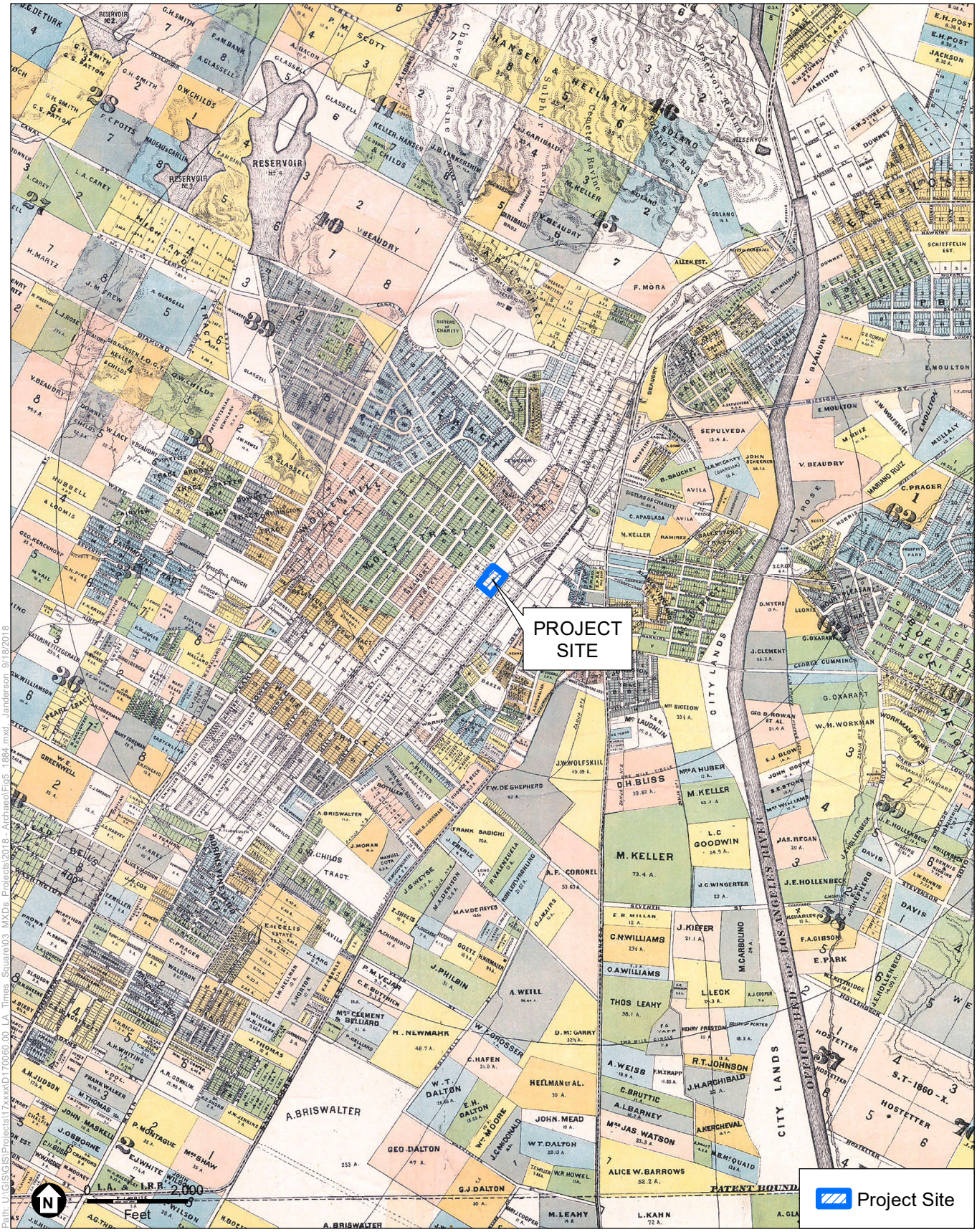


SOURCE: Gumprecht 1999

Times Mirror Square Project

Figure 4
Los Angeles Zanja System in 1880

ESA

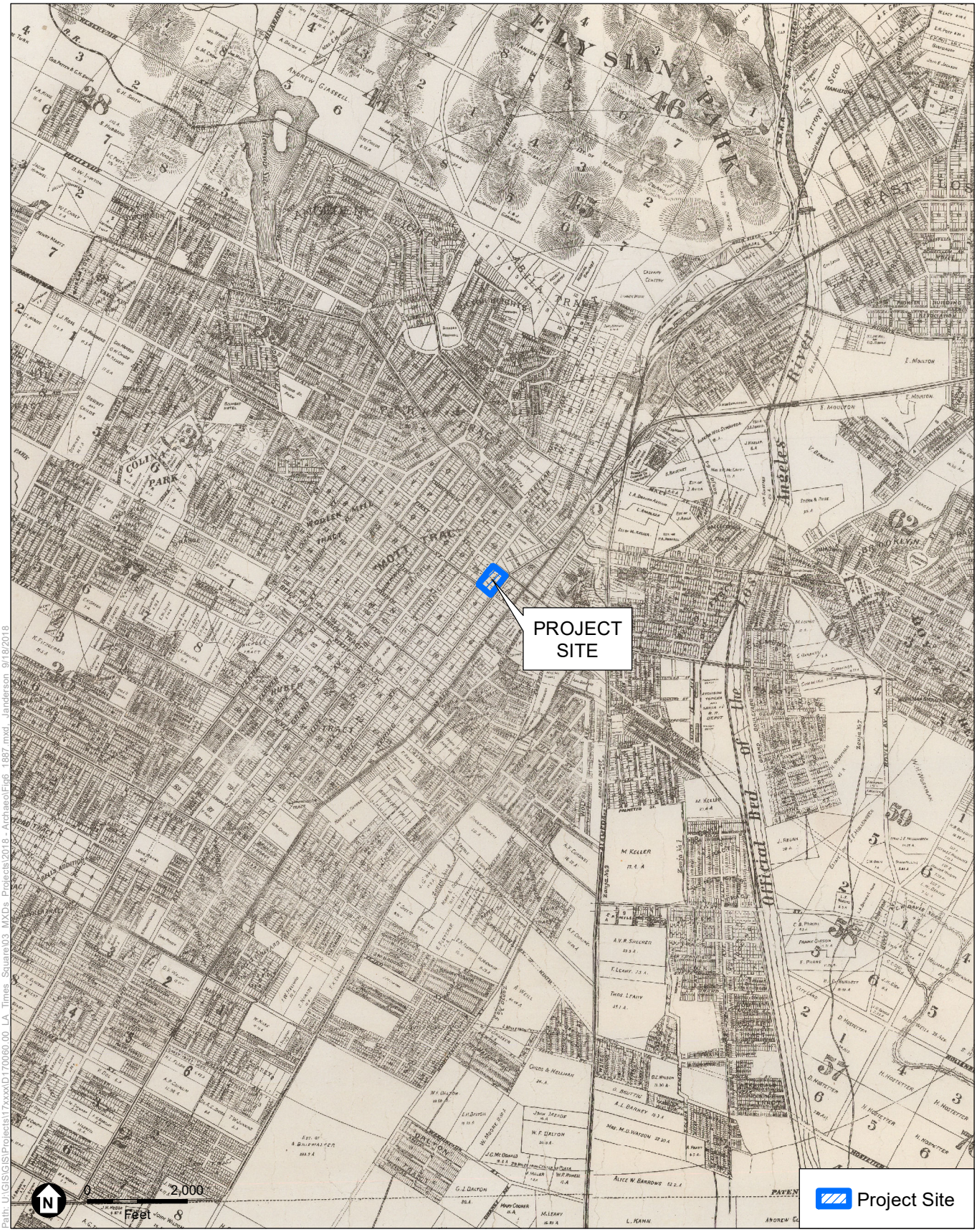


SOURCE: Stevenson 1884

Times Mirror Square Project

Figure 5
City of Los Angeles 1884

ESA



SOURCE: Rowan and Koeberle 1887

Times Mirror Square Project

Figure 6
City of Los Angeles 1887

ESA

History of the Project Site

The Project Site has been continuously occupied and evolved through multiple phases of development since the mid-1850s. In late 1854 and early 1855 the first brick schoolhouse, known as School No. 1, was constructed northwest of the intersection of Spring Street and W. 2nd Street in the southeast portion of the Project Site (Arbuckle, 1979). In late 1859, the Butterfield Overland Mail Company purchased a lot southwest of the intersection of Spring Street and W. 1st Street, in the northeastern portion of the Project Site, and constructed a brick building to house offices and living quarters, with stables and shops in the rear of the building (Arbuckle, 1979). The mail company's Los Angeles station was second only to their El Paso station in terms of its size and equipment (Arbuckle, 1979). By 1860, the Butterfield Overland Mail Company discontinued use of their office on Spring Street and W. 1st Street, and in 1861 the building became the headquarters of the office of the U.S Quartermaster (Arbuckle, 1979).

In 1883, the Los Angeles Board of Education sold their lot in what is the southeast portion of the Project Site to the City for $30,000, and the City replaced Schoolhouse No. 1 with a new City Hall building (Arbuckle, 1979). By 1887, the remainder of the lot was sold to John Bryson and George H. Bonebrake who constructed an 8-story office building known as the Bryson-Bonebrake Block in 1889 (Arbuckle, 1979). The building was designed by Joseph Cather Newsom and was the most architecturally ornate office building in Los Angeles at the time (Shannon, 2009). The building housed one bank, 126 rooms, a lodge room, and included 120 feet of frontage on Spring Street and 103 feet of frontage on W. 2nd Street (Shannon, 2009). In 1934, the Bryson-Bonebrake Block office building was demolished to make way for the Times Mirror Square that occupies the Project Site today.

The buildings currently within the Project Site include the Times Building, the Plant Building, the Mirror Building, the Executive Building, and a parking structure. The Times Building was built between 1933 and 1935 and designed by the architect Gordon B. Kaufman to serve as the new headquarters replacing the previous headquarters which was located immediately northeast of the Project Site on W. 1st Street and Broadway. The location of the old headquarters was bombed in 1910 by union leaders in response to the paper's anti-union stance (GPA Consulting, 2017). The Times Building has a steel frame structural system and a rectangular plan, with walls composed of reinforced concrete and clad with marble, granite, and limestone (GPA Consulting, 2017).

The Plant Building was constructed in three different phases. The first phase was undertaken in 1935 along with the construction of the Times Building and designed by Gordon B. Kaufmann. The second phase occurred in 1946 and consisted of the addition of a third story to the building, designed by Rowland H. Crawford. The third phase (also designed by Crawford), which entailed the addition of a fourth story that connected to the Times and Mirror Buildings, was carried out in 1955 (GPA Consulting, 2017).

The Mirror Building was designed by Rowland Crawford and constructed between 1947 and 1948. In 1948, Norman Chandler, the Chairman of the Times Mirror Company, started the Los Angeles Mirror as an afternoon paper to compete with the *Herald-Express and Daily News*. The Mirror Building housed the new paper's offices, as well as a mail room, press room, television offices, rental offices, and equipment storage rooms (GPA Consulting, 2017).

The Executive Building was constructed between 1970 and 1973, during the time when Franklin David Murphy was chairman of the company. Norman, Dorothy, and Otis Chandler were on the board, and Otis Chandler was the publisher of the *Los Angeles Times*. Dorothy Chandler was in charge of the development of the building, which has a rectangular plan, a flat roof with a steel frame structural system, and a 2-story basement. The walls are clad with a combination of Norwegian granite and metal coated with a dark bronze silicon copolymer finish (GPA Consulting, 2017).

The parking structure was constructed 1973. The building consists of horizontal parking decks, with, and most of the first story is enclosed with metal slat vents. The Parking Structure has a rectangular plan, is six stories high, and includes a basement (GPA Consulting, 2017).

In 1949, the Native Daughters of the Golden West (NDGW), a non-profit organization for women born in California, commemorated the Mirror Building as the site of the first brick school house in Los Angeles, the Butterfield Overland Stage Station, and the U.S Army's Quartermasters headquarters, which were present from the 1850s through the 1880s. NDGW was founded by Lily O. Reiclhling in 1886 in the northern California town of Jackson. Jackson's Pioneer Hall became the headquarters of the first local chapter, known as a Parlor, and, by 1887, 17 Parlors had been established throughout the state (NDGW, 2017). Today, there are over 75 Parlors throughout the state, many within major cities.

Regulatory Framework

Numerous laws and regulations require federal, state, and local agencies to consider the effects a project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies.

Federal

National Historic Preservation Act

The principal federal law addressing historic properties is the National Historic Preservation Act (NHPA), as amended (54 United States Code of Laws [USC] 300101 et seq.), and its implementing regulations (36 CFR Part 800). Section 106 requires a federal agency with jurisdiction over a proposed federal action (referred to as an "undertaking" under the NHPA) to take into account the effects of the undertaking on historic properties, and to provide the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking.

The term "historic properties" refers to "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register" (36 CFR Part 800.16(*l*)(1)). The implementing regulations (36 CFR Part 800) describe the process for identifying and evaluating historic properties, for assessing the potential adverse effects of federal undertakings on historic properties, and seeking to develop measures to avoid, minimize, or mitigate adverse effects. The Section 106 process does not require the preservation of historic

properties; instead, it is a procedural requirement mandating that federal agencies take into account effects to historic properties from an undertaking prior to approval.

The steps of the Section 106 process are accomplished through consultation with the State Historic Preservation Officer (SHPO), federally-recognized Indian tribes, local governments, and other interested parties. The goal of consultation is to identify potentially affected historic properties, assess effects to such properties, and seek ways to avoid, minimize, or mitigate any adverse effects on such properties. The agency also must provide an opportunity for public involvement (36 CFR 800.1(a)). Consultation with Indian tribes regarding issues related to Section 106 and other authorities (such as NEPA and Executive Order No. 13007) must recognize the government-to-government relationship between the Federal government and Indian tribes, as set forth in Executive Order 13175, 65 FR 87249 (Nov. 9, 2000), and Presidential Memorandum of Nov. 5, 2009.

National Register of Historic Places

The National Register of Historic Places (National Register) was established by the NHPA of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR 60.2) (U.S. Department of the Interior, 2002). The National Register recognizes a broad range of cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes. As noted above, a resource that is listed in or eligible for listing in the National Register is considered "historic property" under Section 106 of the NHPA.

To be eligible for listing in the National Register, a property must be significant in American history, architecture, archaeology, engineering, or culture. Properties of potential significance must meet one or more of the following four established criteria:

A. Are associated with events that have made a significant contribution to the broad patterns of our history;

B. Are associated with the lives of persons significant in our past;

C. Embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Have yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (U.S. Department of the Interior, 2002). The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance.

Ordinarily religious properties, moved properties, birthplaces or graves, cemeteries, reconstructed properties, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible for the National Register unless they meet one of the Criteria Considerations (A-G), in addition to meeting at least one of the four significance criteria and possessing integrity (U.S. Department of the Interior, 2002).

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Standards) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3)).

California Register of Historical Resources

The California Register is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC Section 5024.1[a]). The criteria for eligibility for the California Register are based upon National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register.

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the California Register must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the California Native American Heritage Commission (NAHC) within 24 hours to relinquish jurisdiction.

California Public Resources Code Section 5097.98

California PRC Section 5097.98, as amended by Assembly Bill 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner, designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods.

In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition, or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

Local

City of Los Angeles General Plan

The City of Los Angeles General Plan (adopted 2001) states as its objective, to "protect the City's archaeological and paleontological resources for historical, cultural, research, and/or educational purposes" by continuing "to identify and protect significant archaeological and paleontological resources known to exist or that are identified during land development, demolition, or property modification activities."

In addition, the City will:

> *continue to protect historic and cultural sites and/or resources potentially affected by proposed land development, demolition, or property modification activities…The City's environmental guidelines require the applicant to secure services of a bona fide archaeologist to monitor excavations or other subsurface activities associated with a development project in which all or a portion is deemed to be of archaeological significance. Discovery of archaeological materials may temporarily halt the project until the site has been assessed, potential impacts evaluated and, if deemed appropriate, the resources protected, documented and/or removed (City of Los Angeles, 2001).*

In addition to the National Register and the California Register, three additional types of historic designations may apply at a local level:

1. Historic-Cultural Monument
2. Designation by the Community Redevelopment Agency as being of cultural or historical significance within a designated redevelopment area

3. Classification by the City Council as an Historic Preservation Overlay Zone

The City of Los Angeles Cultural Heritage Ordinance states that a Historic-Cultural Monument designation is reserved for those resources that have a special aesthetic, architectural, or engineering interest or value of a historic nature and meet one of the following criteria (City of Los Angeles Department of City Planning, 2009). A historical or cultural monument is any site, building, or structure of particular historical or cultural significance to the City of Los Angeles, such as historic structures or sites:

- in which the broad cultural, political, economic, or social history of the nation, state, or community is reflected or exemplified; or
- which are identified with historic personages or with important events in the main currents of national, state, or local history; or
- which embody the distinguishing characteristics of an architectural-type specimen, inherently valuable for a study of a period, style, or method of construction; or
- which are a notable work of a master builder, designer, or architect whose individual genius influenced his or her age.

In addition, the Los Angeles Municipal Code (LAMC) Section 91.106.4.5 states that the Building Department "shall not issue a permit to demolish, alter or remove a building or structure of historical, archaeological or architectural consequence if such building or structure has been officially designated" by a federal, state, or local authority.

Archival Research

SCCIC Records Search

A records search for the Project was conducted on May 4, 2017 at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded cultural resources and previous studies within the Project Site as well as a ½-mile radius.

Previous Cultural Resources Investigations

The records search results indicate that 152 cultural resources studies have been conducted within a ½-mile radius of the Project Site. Of these 152 previous studies, 98 included some form of field study including survey, excavation, or monitoring. (**Table 1**). Approximately 70 percent of the ½-mile records search radius has been included in previous cultural resources field studies. Of the 98 previous field studies, one (LA-10507) overlaps the Project Site. Approximately 90 percent of the Project Site has been included as part of this previous study.

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

Author	SCCIC# (LA-)	Title	Year
Amaral,et al.	11817	*Not Dead But Gone Before: The Archaeology of Los Angeles City Cemetery (CA-LAN-3566)*	2012
Anonymous	04836	*Phase I Archaeological Survey Along Onshore Portions of the Global West Fiber Optic Cable Project*	2000
Anonymous	08967	*San Pedro Apartments, Little Tokyo Redevelopment Project, Los Angeles, California*	2007
Anonymous	09844	*Draft: Los Angeles Eastside Corridor, Revised Cultural Resources Technical Report, Final Supplemental Environmental Impact Statement/Final Subsequent Environmental Impact Report*	2001
Anonymous	10507*	*Technical Report - Historical/Architectural Resources - Los Angeles Rail Rapid Transit Project "Metro Rail" Draft Environmental Impact Statement and Environmental Impact Report*	1983
Anonymous	01578	*Technical Report Archaeological Resources Los Angeles Rapid Rail Transit Project Draft Environmental Impact Statement and Environmental Impact Report*	1983
Anonymous	01997	*First Street North Draft Environmental Impact Report*	1990
Anonymous	02950	*Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project*	1992
Ashkar, Shahira	04834	*Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties*	1999
Ashkar, Shahira	04835	*Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Riverside, Los Angeles and Riverside Counties*	1999
Berger, Louis	04262	*Zanja No. 3: Brick Culvert Historic American Engineering Record Documentation at the Proposed Federal Center Complex Los Angeles, California*	1987
Billat, Lorna	09388	*SHPO Cover Letter FCC Form 620 (Section 106) Submittal EarthTouch, Inc. (Consultants on Behalf of Royal Street Communications, LLC) Cal Trans @ Grand-Temple / LA-0158E Los Angeles City and County, California*	2008
Bonner, Wayne	11954	*Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate LA03XC041 (Angels Flight) 242 South Broadway, Los Angeles, Los Angeles County, California*	2012
Bonner, Wayne	12392	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate EL0038 (SBC Building), 433 Olive Street and 434 South Grand Avenue, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne and Crawford, Kathleen	12393	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02731A (LA424-AT&T (Madison MSC), 633 South Olive Street, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne and Crawford, Kathleen	12784	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV11069C (Abe Building RT) 533 South Los Angeles Street, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne H.	07980	*Cultural Resources Records Search and Site Visit Results for Royal Street Communications, Llc Candidate La0155a (433 S. Olive Street: At&t Switch), 433 South Olive Street, Los Angeles, Los Angeles County, California*	2006

Author	SCCIC# (LA-)	Title	Year
Bonner, Wayne H.	07774	*Cultural Resources Records Search Results and Site Visit for Cingular Wireless El-038-01 (sbc Switch-downtown La), 433 South Olive Street & 434 Grand Avenue (aka 420 South Grand Avenue), Los Angeles, Los Angeles County, California*	2005
Bonner, Wayne H.	08537	*Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate La03612a (alameda and Macy), 701 North Main Street, Los Angeles, Los Angeles County, California*	2006
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*Indicates study overlaps Project site

Previously Recorded Cultural Resources

The records search results indicate that 15 resources have been previously recorded within the ½-mile records search radius (**Table 2**). These resources include 14 archaeological resources and one California Historic Landmark (CHL #744). Of the 14 archaeological resources, 13 are historic-period archaeological sites (CA-LAN-2741H, -3097H, -3129H, -3337H, -3347, -3566, -3588H, -3767H, -3862H, -4114H, -4171H, -4196H and P-19-004451), and one is a historic-

period isolate (P-19-100311). CHL #744 (P-19-174925) is the site of the site of the first brick school house in Los Angeles, the Butterfield Overland Mail Company office and corrals, and the U.S. Army Quartermaster, which existed during the mid-19th century. The CHL is marked by a commemorative plaque affixed to the Mirror Building. Of the 14 previously recorded archaeological resources, one (P-19-004451) is located within 100 feet the Project Site. CHL #744 (P-19-174925) is located within the Project Site itself. Detailed descriptions of these resources are provided below.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCES

Primary Number (P-19-)	Trinomial (CA-LAN-)	Description	Date Recorded
002741	2741H	Historic-period archaeological site: buried mortared red brick footing or wall.	1998
003097	3097H	Historic-period archaeological site: brick and concrete structural foundations and privies.	2002
003129	3129H	Historic-period archaeological site: four discrete refuse deposits dating to the late 19th and early 20th centuries.	2003
003337	3337H	Historic-period archaeological site: refuse deposit	2000
003347	3347H	Historic-period archaeological site: granite-block pavement	2004
003566	3566H	Historic-period archaeological site: Los Angeles's first cemetery and refuse deposits	2000
003588	3588H	Historic-period archaeological site: foundations and a refuse deposit.	2006
003767	3767H	Historic-period archaeological site: three structural foundations, basements, pads and associated historic refuse from the late 19th and early 20th centuries.	2007
003862	3862H	Historic-period archaeological site: brick alignment.	2009
004114	4114H	Historic-period archaeological site:11 structural features, seven refuse deposit features and isolated artifacts.	2008
004171	4171H	Historic-period archaeological site: refuse deposits and features from the mid-19th century to the mid- 20th century.	2007
004196	4196H	Historic-period archaeological site (Zanja Madre and associated artifacts)	2011
004451**	-	Historic-period archaeological site: privies, foundation walls, building foundations, and refuse deposits.	2014
100311	-	Historic-period isolate: one black glass bottle fragment.	1998
174925*	-	CHL# 744: Site of the first brick schoolhouse in Los Angeles, Butterfield Overland Mail Company, and U.S. Army Quartermaster	1979

*Indicates resource within Project site

**Indicates resource within 100 feet of Project site

P-19-004451

Resource P-19-004451 is a historic-period archaeological site that is comprised of nine features discovered during archaeological monitoring between 2013 and 2014 (Garrison, 2014). The features include privy deposits, foundations, and refuse deposits. The resource is located

approximately 100 feet from the Project Site. Given that the site was buried or destroyed by the construction of the courthouse, and because it is not located within the Project Site, Project-related ground disturbing activities would not impact the resource.

P-19-174925 (CHL #744)

Resource P-19-174925 includes CHL #744 which commemorates the site of the first brick school house in Los Angeles (1854 - 1855), as well as the site of the Butterfield Overland Mail Company office and corrals (1858 -1861), and the U.S. Army Quartermaster (1861). All of these structures were located in the eastern portion of the Project Site within the current footprint of the Mirror Building during the mid-19th century.

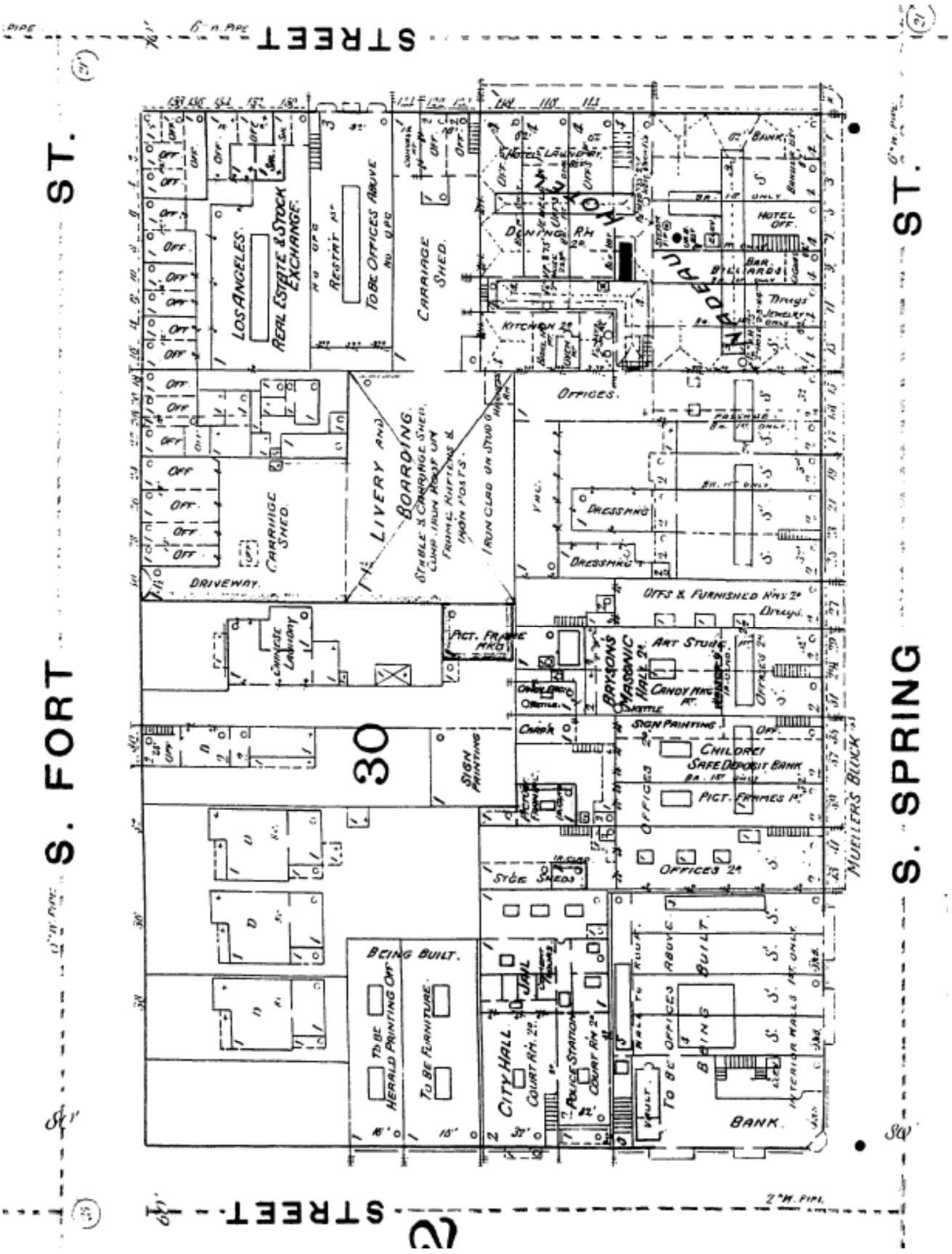
Historic Map and Aerial Photograph Review

Historic maps and aerial photographs were examined to provide historical information about the Project Site and to contribute to an assessment of the Project Site's archaeological sensitivity. Available maps include the 1888, 1894, 1906, and 1950 Sanborn Fire Insurance Maps. Historic aerial photographs of the Project Site from the years 1948, 1952, 1964, 1977, 1972, 1980, 2012 were also examined (historicaerials.com, 2017).

The 1888 Sanborn Map depicts a number of multistory buildings within the Project site (**Figure 7**). The buildings in the western portion of the Project site house restaurants, offices, the Los Angeles Real Estate & Stock Exchange, livery stables, a Chinese laundry, family dwellings, and the Herald Printing Office. The buildings in the eastern portion of the Project Site were occupied by the Nadeau Hotel, retail stores, the Bryson's Masonic Hall, offices, City Hall, a police station, a jail, a bank, and a children's safe deposit bank. The map indicates that only one building, located in the northeastern portion of the Project Site, has a 1-story basement.

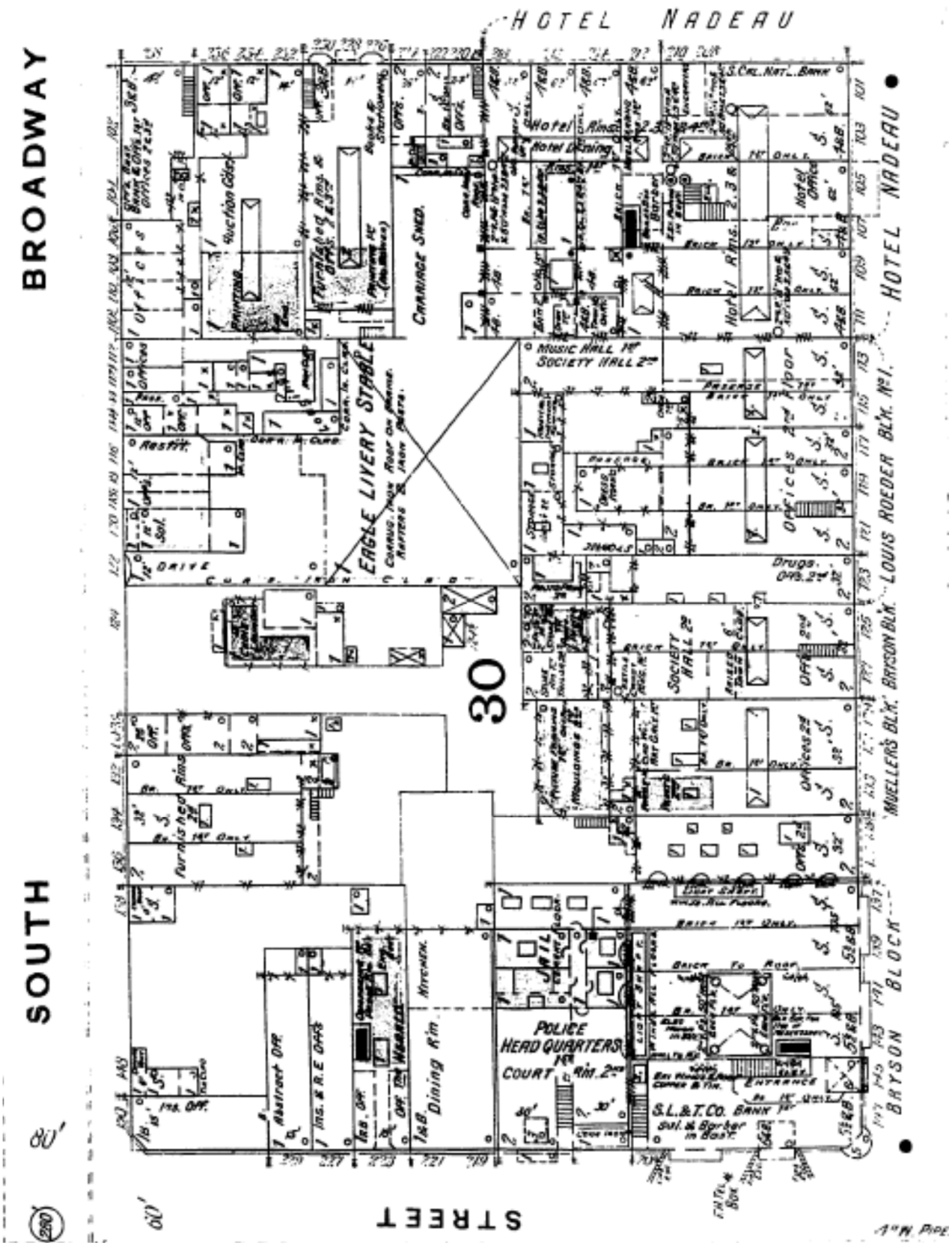
The 1894 and 1906 maps indicate little has changed in the western half of the Project Site since the 1888 map, and show that a printing facility and retail stores have replaced the Los Angeles Real Estate & Stock Exchange and the family dwellings. However, the eastern portion of the Project Site has changed dramatically with the construction of the Bryson-Bonebrake Building, which encompasses the entire eastern half of the Project Site. The map indicates that a number of 1-story basements underlie the buildings located in the southeast, south-central, southwestern, and northeastern portions of the Project Site (**Figure 8**).

The 1950 Sanborn Map shows Bryson-Bonebrake Building, which encompassed the entire eastern half of the Project Site, has been demolished and replaced by the Times Building, the Plant Building, and the Mirror Building. The map also shows that the western half of the Project Site changed little since the 1888 and 1906 maps, and still consists of multistory buildings that house retail stores and restaurants.



SOURCE: Los Angeles Public Library, 2017

Figure 7
1888 Sanborn Fire Insurance Map



SOURCE: Los Angeles Public Library, 2017

Figure 8
1894 Sanborn Fire Insurance Map

The historic aerial photographs reflect what is depicted by the Sanborn Maps: that the entire Project Site has been intensively developed. The 1948 and 1952 photographs show the Project Site includes six buildings including the Times Building, the Plant Building, and the Mirror Building in the eastern half, and three multi-story buildings in the western half. The 1964 photograph shows that the building located in the southwestern portion of the Project Site has been demolished and replaced with a parking lot. The 1972 photograph shows that the buildings previously depicted in the northwestern portion of the Project Site have been demolished and the construction of the Executive Building is underway. The 1972 photograph also indicates that the parking lot depicted in the 1964 photograph has been removed and replaced by a dirt lot used for staging equipment as part of the Executive Building construction. The 1980 and 2012 photographs show the parking structure is located in the southwestern portion of the Project Site, and the Executive Building is located in the northwestern portion of the Project Site.

In sum, the historic map and aerial review indicates that the Project Site has been developed and used for residential and commercial purposes since the late 19th century. Beginning in the mid-20th century the eastern half of the Project Site was drastically changed as all of the buildings present since the late 19th century were demolished and replaced with the Times Building, the Plant Building, and the Mirror Building. Similarly, the buildings in the western half of the Project Site were destroyed when the Executive Building and parking structure were constructed in the 1960s and 1970s. The buildings that are currently present within the Project Site all contain basements, and the construction of these buildings and their subgrade components likely destroyed any subsurface remnants associated with the multi-story buildings that were constructed in the late 19th century.

Archaeological Resources Survey

Given the developed nature of the Project Site and the lack of visible ground surface, an archaeological resources survey for the Project was not conducted.

Conclusions and Recommendations

The archival research conducted as part of this cultural resources assessment did not identify the presence of cultural resources that qualify as historical resources and/or unique archaeological resources pursuant to CEQA. Therefore, the Project would not significantly impact known historical and/or unique archaeological resources.

The SCCIC records search identified one resource (CHL #744 [P-19-174925]) within the Project Site. CHL #744 commemorates the site of the first brick school house in Los Angeles between 1854 and 1855, as well as the site of the Butterfield Overland Mail Company office and corrals between 1858 and 1861, and the U.S. Army Quartermaster in 1861. The site, which is the subject of the commemoration, will continue to function as CHL#744 after the implementation of the Project and the plaque would be retained in its current location on the Mirror Building. Resource P-19-004451 is a historic-period archaeological site comprised of nine features discovered during the construction monitoring 100 feet from the Project Site and would not be impacted by the Project.

Although, no known historical or unique archaeological resources were identified by the archival research, there exists the possibility, nonetheless, that pockets of undisturbed soil containing archaeological resources that qualify as historical resources or unique archaeological resources under CEQA could be encountered during Project implementation; therefore, impacts are conservatively considered to be significant. The Project Site has undergone multiple phases of development from the 1850s onward. This development began with the construction of the first brick schoolhouse in Los Angeles, as well as the Butterfield Overland Mail Company station in the 1850s, followed by the Bryson-Bonebrake Block office building in the 1880s. The final phase of development included the construction of the Times, Plant, and Mirror Buildings in the 1930s and 1940s, followed by the construction of the Executive Building and parking structure in the 1970s. Based on the historic map review, the types of archaeological resources that may exist within the Project Site would consist of historic-period archaeological deposits associated with basements and/or privy's associated the Project Site's previous historic uses. These types of resources would likely not exceed a depth of 10 – 15 feet, and it is likely that the construction of the existing buildings on site, which all contain at least one-story basements, destroyed any historic-period archaeological features associated with the late 19th century to the mid-20th century use of the Project site. Given the high degree and depths of disturbance associated with the construction of the buildings currently present within the Project Site, any subsurface archaeological features have likely been destroyed. As a result, the likelihood of encountering these types of deposits during Project implementation is low.

Although the likelihood of encountering subsurface archaeological resources is low due to the subgrade components of the existing buildings, the Project would include ground disturbing activities associated with the demolition of the Executive Building and parking structure, and the construction of the North and South Towers. As such, the following three mitigations measures are proposed for implementation to reduce potential impacts to unknown archaeological resources to a less than significant level.

1. **Retention of a Qualified Archaeologis**t: Prior to the start of ground-disturbing activities, the Applicant shall retain a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior 2008) to carry out the following measures.
2. **Construction Worker Cultural Resources Sensitivity Training:** ESA recommends that construction personnel be trained in the identification of cultural resources. Prior to earth moving activities, the qualified archaeologist shall conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures be to enacted in the event of an inadvertent discovery of archaeological resources or human remains. The Applicant shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance.
3. **Inadvertent Discoveries of Archaeological Resources:** In the event of the unanticipated discovery of archaeological materials, the contractor shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or tool-making debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs);

and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include stone or concrete footings and walls; filled wells or privies; and deposits of metal, glass, and/or ceramic refuse. Construction shall not resume until the qualified archaeologist has conferred with the City on the significance of the resource.

If it is determined that the discovered archaeological resource constitutes a historical resource under CEQA, avoidance and preservation in place is the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is demonstrated to be infeasible and data recovery through excavation shall be documented in , a Cultural Resources Treatment Plan shall be prepared and implemented by a qualified archaeologist in consultation with the Applicant and the City that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The Applicant and the City shall consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

4.

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Warren, Claude N. 1968. Cultural Tradition and Ecological Adaptation on the Southern California Coast. In *Archaic Prehistory in the Western United States*. C. Irwin-Williams, ed, pp. 1-4. Eastern New Mexico University Contributions in Anthropology. Portales.

Wild, Mark. 2005. *Street Meeting: Multiethnic Neighborhoods in Early Twentieth Century Los Angeles*, Berkeley, University of California Press.

Appendix A
Personnel



Monica Strauss, RPA

Director, Southern California Cultural Resources Group

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/ paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives.

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

19 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Relevant Experience

Los Angeles Unified School District, Central Los Angeles High School #9. Los Angeles, CA. *Project Director.* ESA contributed to Data Recovery Report sections for Los Angeles Unified School District's Central High School #9, constructed in downtown Los Angeles. Between 2004 and 2009, Monica led a team of archaeological staff of ten who conducted archaeological monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Alameda Street Improvement Archaeological Monitoring and Assessment. Los Angeles CA. *Project Director.* Monica directed archaeological monitoring conducted during the construction of roadway improvements in downtown Los Angeles. She responded to the discovery of historic resources including the *Zanja Madre* and the historic brick Alameda Street. She developed mitigation recommendations to address impacts to these resources from the project including an adaptive re-use of the recovered brick materials in the landscape design of the project. Monica provided oversight to laboratory analysts who catalogued the artifact collection.

City of Los Angeles, Department of Public Works, Public Safety Facilities Master Plan Phase I Archaeological Resources Evaluation. Los Angeles County, CA. *Project Director.* Monica directed a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Project work involved an extensive investigation of the area during the cities' early pueblo years and specifically the Zanja Madre irrigation system. Monica prepared a technical report with findings and recommendations for further work, pursuant to CEQA requirements.



Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.



Fatima Clark

Archaeologist

Fatima Clark has eight years of hands-on archaeological experience and is practiced in project management and client and agency coordination. Her field experience is complimented by the course study and participation in numerous archaeological excavations in California, Arizona, and Peru. Fatima has written California Environmental Quality Act (CEQA)-level technical reports, Environmental Impact Report (EIR) sections, Initial Study sections, archaeological peer reviews, archaeological monitoring reports, and reports pursuant to Caltrans requirements. She is also experienced in performing archaeological testing, site recordation, laboratory analysis, pedestrian surveys, records searches through several California Historical Resources Information Systems-Information Centers, and monitoring for a wide variety of projects, including mixed-use, residential, and energy, water, and road infrastructure projects. In addition to her archaeology background, Fatima has been cross-trained in conducting paleontological surveys and monitoring and has co-authored and managed associated reports.

Relevant Experience

Ivy Station Mixed-Use Development MND, Los Angeles/Culver City, CA. *Archaeologist.* Fatima performed historical records searches through CHRIS, conducted the field survey, and provided technical information and recommendations for the Initial Study to support an MND to address the proposed development of a stand-alone five-story office building with ground-level retail. The project also included two interconnected five- and six-story buildings, including a 148-room boutique hotel and a 200-unit residential complex with amenities atop a podium.

750 North Edinburgh Avenue Project MND, Los Angeles, CA. *Archaeologist.* Fatima performed historical record searches through CHRIS, conducted the field survey, and provided technical information and recommendations for the Initial Study to support an MND. The proposed project would remove extant uses on the project site, subdivide the parcel into eight lots, and develop on each lot a three-story single-family residence, two covered parking spaces, and private patio/yard areas.

3240 Wilshire Boulevard Project, Los Angeles, CA. *Archaeologist.* Fatima performed historical record searches through CHRIS, conducted the field survey, and provided technical information and recommendations in the form of a letter report and Initial Study section to support an MND. The proposed project involved the conversion of the I. Magnin department store building (currently known as the Wilshire Galleria) into a hotel and the construction of a mid-rise apartment building, high-rise condominium tower and commercial space, in addition to the existing 138,500-square-foot I. Magnin building.

EDUCATION

B.A., Anthropology, California State University, Fullerton

8 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

SPECIALIZED TRAINING

Section 106 Webinar, 2016

Workshop: The Art and Science of Flintknapping, California Desert Studies Center, 2013

Successful CEQA, Compliance-Southern California Edison, Environmental Training, 2011

Cultural Resources Protection under CEQA and Other Legislative Mandates, UCLA Extension, 2010

PROFESSIONAL AFFILIATIONS

Society for California Archaeology



Michael Vader

Senior Associate

EDUCATION

B.A., Physical Anthropology, University of California, Santa Barbara

11 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Pacific Coast Archaeological Society (PCAS)

SPECIALIZED EXPERIENCE

Analysis of faunal remains including fish and shellfish species

Archaeological Monitoring

Paleontological Monitoring

Environmental Compliance Monitoring

Human osteology and bioarchaeology

Michael is cultural resources specialist with experience working on survey, data recovery, and monitoring projects. Michael has experience with project management, has led crews on multiple surveys and excavations, and is familiar with environmental compliance documents. He has worked on a variety of energy and water infrastructure projects throughout California, including projects in Riverside, San Diego, Imperial, San Bernardino, Los Angeles, Orange, Santa Barbara, San Luis Obispo, Kern, Fresno, Madera, and Inyo Counties, as well as in Clark County Nevada. Michael regularly works as part of a team, coordinating with field staff and agency leads.

Relevant Experience

San Gabriel River Confluence with Cattle Canyon Improvements Project, Los Angeles National Forest, Los Angeles County, CA. *Archaeologist*. ESA has been retained by BlueGreen Consultants to prepare a joint EIS/R for the San Gabriel River Confluence with Cattle Canyon Improvements Project. The Project consists of recreational improvements and ecological restoration opportunities to address resource management challenges resulting from high public use of a 2.5-mile reach of the East Fork of the San Gabriel River, near its confluence with Cattle Canyon Creek in the Angeles National Forest. Michael led the cultural resources survey and prepared the Phase I cultural resources study report in support of the EIS/R.

Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, CA. *Archaeologist.* The California State Coastal Conservancy retained ESA to conduct an Extended Phase I investigation at 20 previously recorded shell scatters and Phase II archaeological testing of four historic-period archaeological sites in support of an Environmental Impact Statement/Environmental Impacts Report being prepared for the proposed Ballona Ecological Reserve Restoration Plan Project which would restore native coastal wetland and upland habitats within the 600-acre Ballona Wetlands Ecological Reserve. Michael led the extended Phase I and Phase II fieldwork and assisted in the preparation of the technical report presenting the results and conclusions of the study.

City of Los Angeles Department of Water and Power, City Trunk Line Unit 3 Project, Los Angeles, CA. *Archaeologist.* ESA has conducted a Phase 1 cultural resources assessment for the Los Angeles Department of Water and Power (LADWP), City Trunk Line Unit 3 Project. LADWP plans replacing a portion of the City Trunk Line on Coldwater Canyon Avenue between Vanowen Street and Magnolia Boulevard, within the City of Los Angeles. The proposed Project would involve the installation of approximately 10,250 linear feet of 60-inch diameter water pipeline constructed of welded steel. Michael led the Phase 1 cultural resources survey of the Project area and prepared the technical report and the cultural resources ISMND section.

Appendix B
Sacred Lands File Search

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

August 11, 2017

Native American Heritage Commission
1550 Harbor Blvd., Suite 100
Sacramento, CA 95691

Subject: Sacred Lands File Search Request: Proposed Omni LA Times Square Project, Downtown Los Angeles, California.

Dear Native American Heritage Commission Representative:

ESA is preparing environmental documentation for the proposed Omni LA Times Square Project ("the Project").

The Project would involve the redevelopment of the Times Mirror Square site (Project Site) located in Downtown Los Angeles and bounded by West 1st Street, South Spring Street, West 2nd Street, and South Broadway. The Project would include the retention and renovation of the on-site Times, Plant and Mirror Buildings on the eastern half of the Project Site. The Project would also demolish the four-level Parking Garage and Executive Building located on the western half of the Project Site and construct two towers with residential units. The Project would provide nine new subterranean levels of parking and five above-ground podium levels.

To ensure that any areas containing previously recorded cultural resources and sacred lands are identified and considered, ESA is requesting a Sacred Lands File search of the Project Site. The Project Site is located in an unsectioned portion of Township 1 South, Range 13 West of the Los Angeles, CA United States Geological Survey 7.5' topographic quadrangle map (**Figure 1**, attached).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at fclark@esassoc.com.

Sincerely,

Fatima Clark
Archaeologist



TOPOQUAD: Hollywood & Los Angeles

Times Mirror Square Project

Figure 1

Record Search

ESA PCR

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710

August 23, 2017

Fatima Clark
ES Associates

Sent by E-mail: fclark@esassoc.com

RE: Proposed Omni LA Times Square Project, City of Los Angeles; Los Angeles USGS Quadrangle, Los Angeles County, California

Dear Ms. Clark:

Attached is a list of tribes that have cultural and traditional affiliation to the areas of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. Sites have been located within the APE you provided that may be impacted by the project. Please immediately contact Gabrieleno Band of Mission Indians – Kizh Nation at (626) 926-4131 for more information about these sites.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

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Native American Heritage Commission
Native American Contact List
Los Angeles County
8/23/2017

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chariperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
gabrielenoindians@yahoo.com

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Omni LA Times Square Project, Los Angeles County.

D-3 Paleontological Resources Assessment Report

Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Draft Paleontological Resources Assessment Report

Prepared for
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

July 2018



Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Draft Paleontological Resources Assessment Report

Prepared for:
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

July 2018

Prepared by:
ESA

Principal Investigator and Report Author:
Alyssa Bell, Ph.D.

Project Manager:
Sara Dietler, B.A.

Project Location:
Los Angeles (CA) USGS 7.5-minute Topographic Quad; Township 1 South, Range 13 West, unsectioned

Acreage: Approx. 3.6 acres

626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300
www.esassoc.com

Bend
Camarillo
Delray Beach
Destin
Irvine
Los Angeles
Miami
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San Diego
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EXECUTIVE SUMMARY

Times Mirror Square Project - Paleontological Resources Assessment Report

Environmental Science Associates (ESA) has been retained by Onni Group (Applicant), to conduct an Archaeological Resources Assessment for the Times Mirror Square Project (Project) in support of an Environmental Impact Report (EIR). The Applicant proposes to construct two new mixed-use towers along with rehabilitation of three existing buildings within the Times Mirror Square site (Project Site) in the city of Los Angeles. The Project Site is currently occupied by five structurally distinct but internally connected buildings occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings include the Times Building, the Plant Building, the Mirror Building, a parking structure, and the Executive Building. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-use towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building. The City of Los Angeles (City) is the lead agency pursuant to the California Environmental Quality Act (CEQA). The 3.6-acre Project Site is located within the northern portion of downtown Los Angeles and comprises the city block bounded by W. 1st Street to the northeast, S. Spring Street to the southeast, W. 2nd Street to the southwest, and S. Broadway to the northwest.

The Project Site was the subject of thorough background research and analysis. The research included a paleontological locality records search from the Natural History Museum of Los Angeles County (LACM), as well as geologic map and literature reviews. The Project Site and its vicinity have also been the subject of a geotechnical study. The archival research indicates that the Project Site is underlain by Quaternary younger alluvium (Qa), Quaternary older alluvium (Qoa), the Fernando Formation (Tfr), and the Puente Formation (Tush). Based on the archival research, the following paleontological sensitivity has been assigned to the geologic units underlying the Project Site. The Quaternary younger alluvium has low sensitivity. The older Quaternary alluvium and the Fernando and Puente formations have high sensitivity.

As a result of this study, the surficial sediments of the Project Site identified as younger Quaternary alluvium are too young to preserve fossils and, therefore, have low paleontological sensitivity. However, older Quaternary alluvium, the Fernando Formation, and the Puente Formation are present in the subsurface of the Project Site and have high paleontological sensitivity. Substantial excavation within the Project Site during construction for subterranean parking, deep excavation for excavation shoring, and ancillary uses or improvements (e.g., sewer, electrical, water) is planned at such depths as to impact these formations determined as having a high sensitivity for fossils as a result of the research presented in this study. As such, recommendations for the retention of a Qualified Paleontologist, paleontological resources sensitivity training, paleontological monitoring, and protocols to be carried out in the case of inadvertent discoveries are included in the *Conclusions and Recommendations* section at the close of this report.

TIMES MIRROR SQUARE PROJECT

Paleontological Resources Assessment Report

Introduction

Environmental Science Associates (ESA) has been retained by Onni Group (Applicant), to conduct an Archaeological Resources Assessment for the Times Mirror Square Project (Project) in support of an Environmental Impact Report (EIR). The Applicant proposes to construct two new mixed-use towers along with rehabilitation of three existing buildings within the Times Mirror Square site (Project Site) in the city of Los Angeles. The Project Site is currently occupied by five structurally distinct but internally connected buildings occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings include the Times Building, the Plant Building, the Mirror Building, a parking structure, and the Executive Building. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-used towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building. The City of Los Angeles (City) is the lead agency pursuant to the California Environmental Quality Act (CEQA).

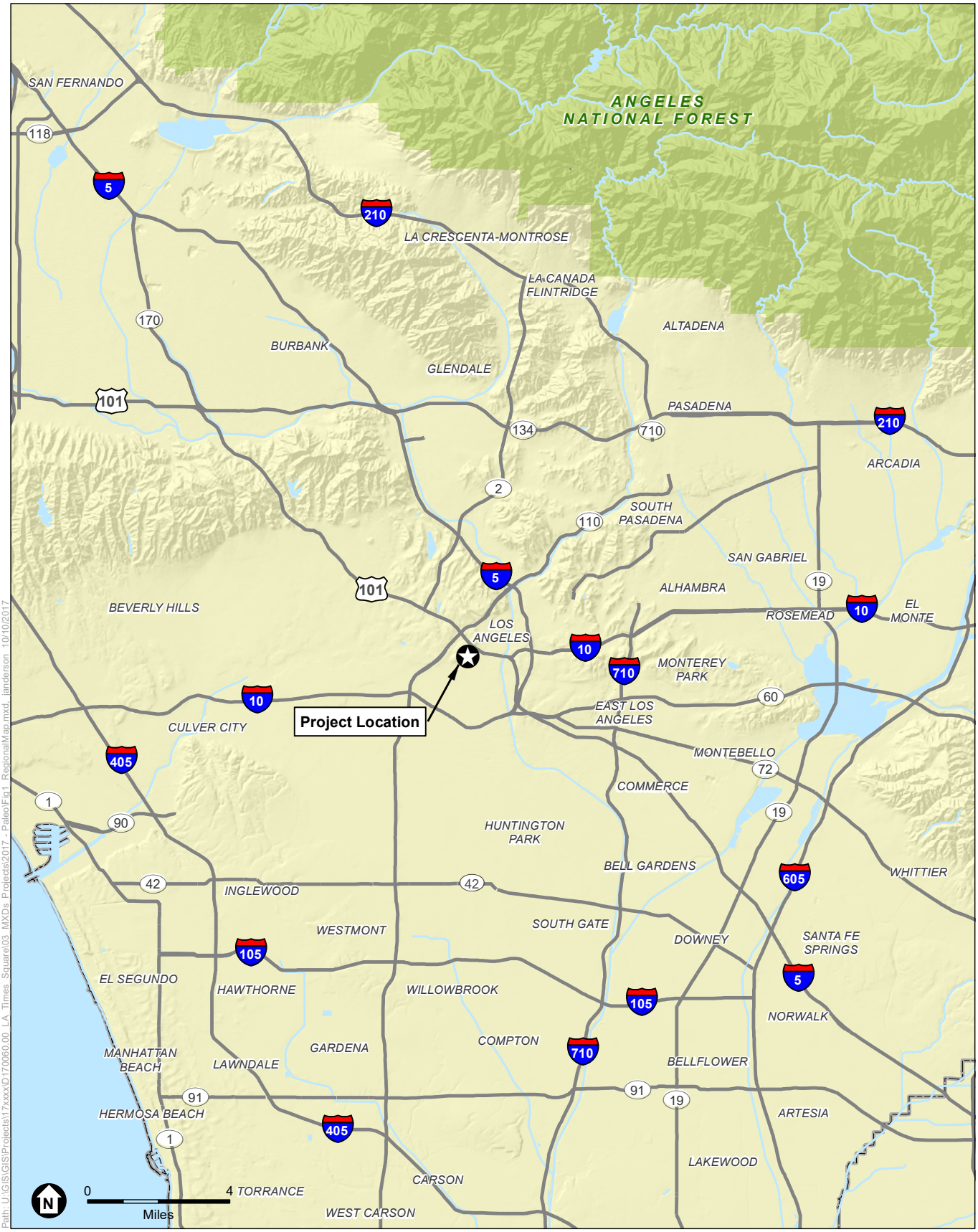
ESA personnel involved in the preparation of this report are as follows: Sara Dietler, project manager; Alyssa Bell, Ph.D., Principal Investigator and report author; and Jaclyn Anderson, GIS specialist. Resumes of key personnel are included in **Appendix A**.

Project Location

The 3.6-acre Project Site is located within the northern portion of downtown Los Angeles (**Figure 1**). Specifically, the Project Site is located in an unsectioned portion of Township 1 South, Range 13 West on the Los Angeles, CA USGS 7.5-minute topographic quadrangle (**Figure 2**). The Project Site comprises the city block bounded by W. 1st Street to the northeast, S. Spring Street to the southeast, W. 2nd Street southwest, and S. Broadway to the northwest (**Figure 3**).

Project Description

The Project Site is currently occupied by five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to 10 stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the 10-story Mirror Building, the six-story parking structure, and the six-story Executive Building. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-used towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror building.

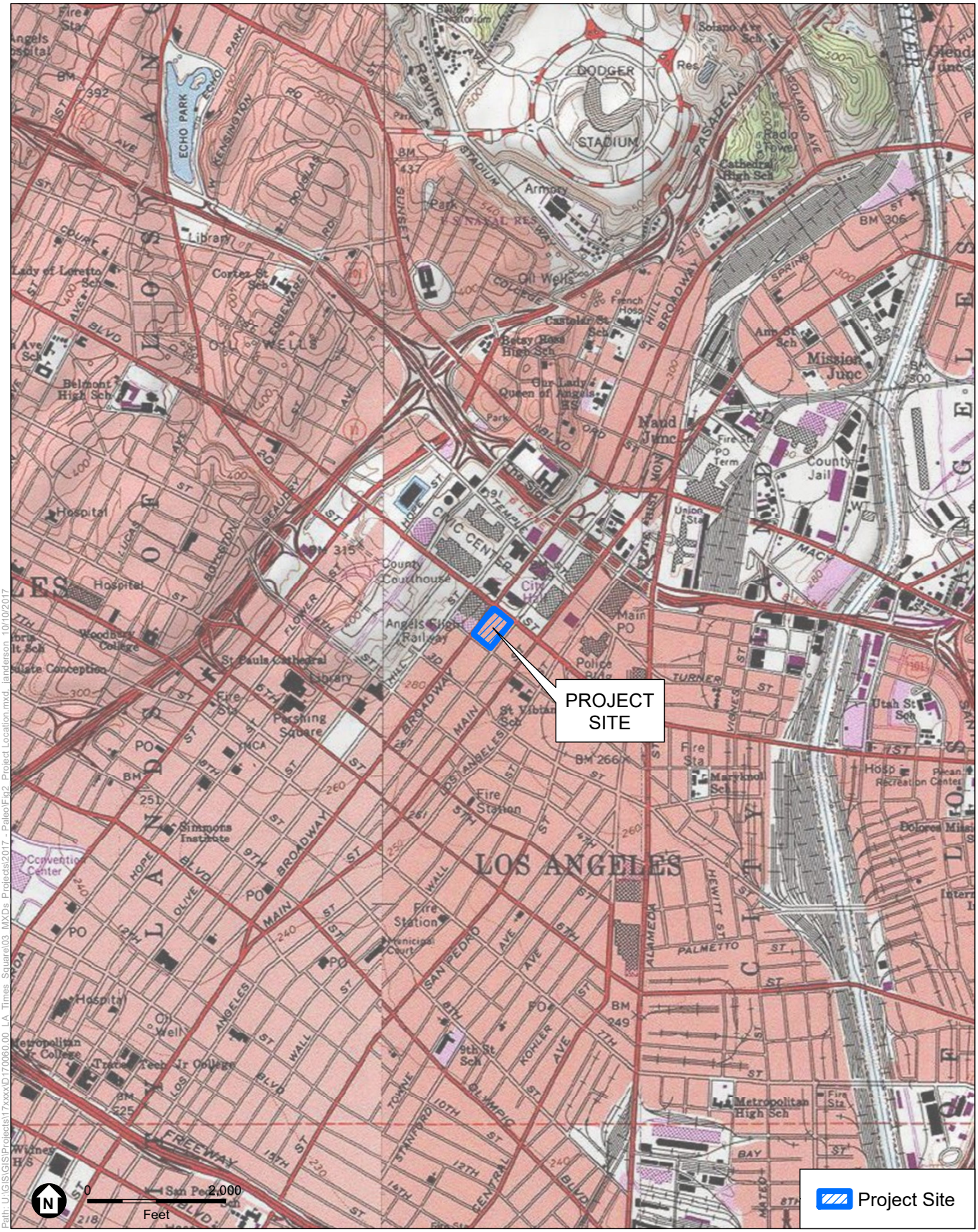


SOURCE: ESRI

Times Mirror Square Project

Figure 1
Regional Vicinity

ESA

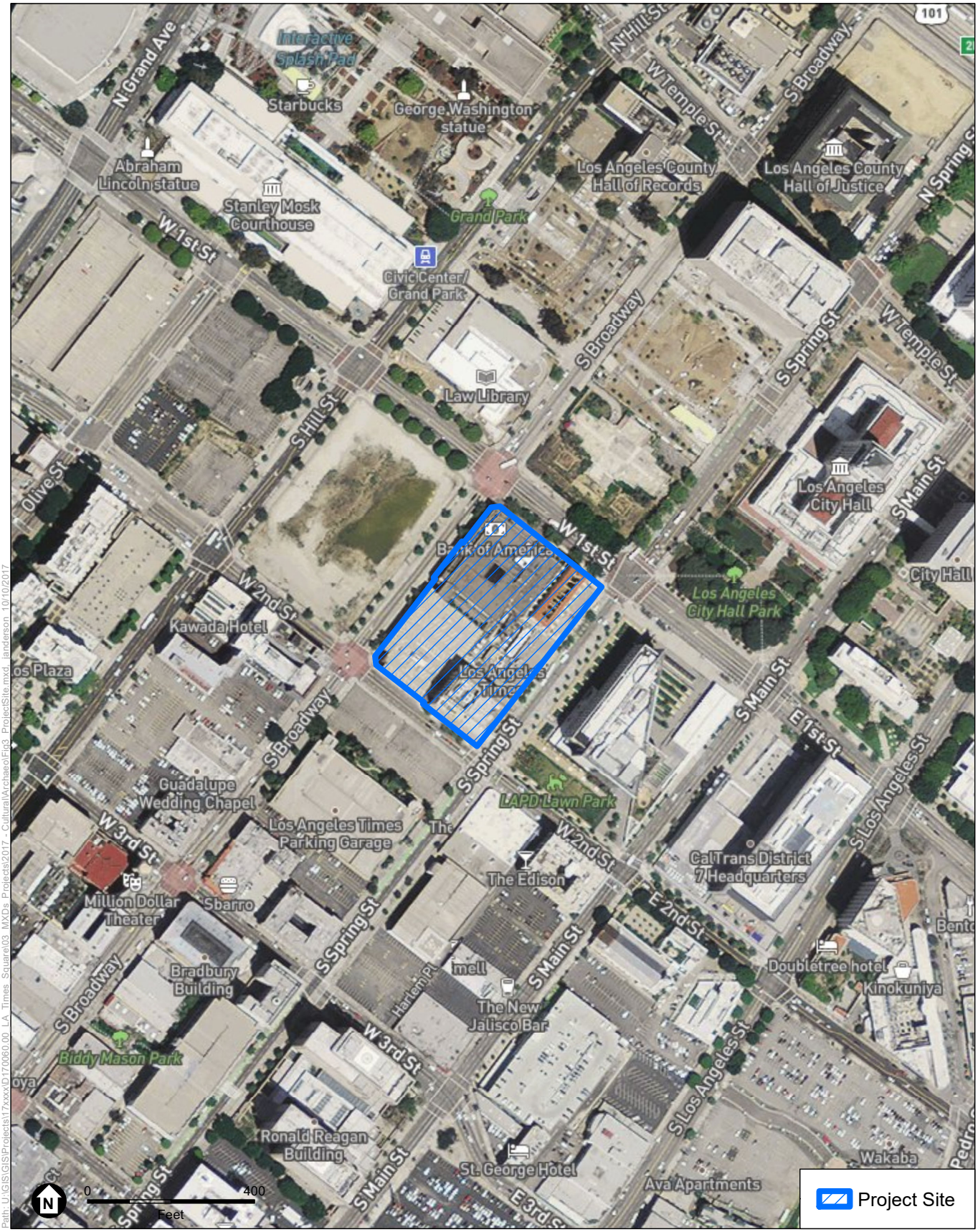


SOURCE: ESRI; Los Angeles Topoquad

Times Mirror Square Project

Figure 2
Project Location

ESA



SOURCE: MapBox Satellite Streets

Times Mirror Square Project

Figure 3
Project Site

ESA

The proposed 37-story North Tower and 53-story South Tower would be constructed in the west sector of the block, which is aligned with S. Broadway with frontages on W. 1st Street and W. 2nd Street. The North and South Towers, which would be constructed above a five-story parking podium (Podium), would contain a total of approximately 1,127 residential units, approximately 34,572 square feet of commercial floor area, and a combined floor area of approximately 1,135,803 square feet. The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. Ground level retail uses would be located along the base of the Podium facing W. 1st Street, S. Broadway, and W. 2nd Street, and the Paseo.

Regulatory Framework

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value that are afforded protection under state laws and regulations. The following section summarizes the applicable federal and state laws and regulations, as well as professional standards provided by the Society for Vertebrate Paleontology (SVP).

State Regulations

California Environmental Quality Act

The CEQA Guidelines (Title 14, Chapter 3 of the California Code of Regulations, Section 15000 *et seq*.), define the procedures, types of activities, individuals, and public agencies required to comply with CEQA. As part of CEQA's Initial Study process, one of the questions that must be answered by the lead agency relates to paleontological resources: "Will the proposed project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (CEQA Guidelines Section 15023, Appendix G, Section XIV, Part a).

The loss of any identifiable fossil that could yield information important to prehistory, or that embodies the distinctive characteristics of a type of organism, environment, period of time, or geographic region, would be a significant environmental impact. Direct impacts to paleontological resources primarily concern the potential destruction of nonrenewable paleontological resources and the loss of information associated with these resources. This includes the unauthorized collection of fossil remains. If potentially fossiliferous bedrock or surficial sediments are disturbed, the disturbance could result in the destruction of paleontological resources and subsequent loss of information (significant impact). At the project-specific level, direct impacts can be mitigated to a less than significant level through the implementation of paleontological mitigation.

The CEQA threshold of significance for a significant impact to paleontological resources is reached when a project is determined to "directly or indirectly destroy a significant paleontological resource or unique geologic feature." In general, for project sites that are

underlain by paleontologically sensitive geologic units, the greater the amount of ground disturbance, the higher the potential for significant impacts to paleontological resources. For project sites that are directly underlain by geologic units with no paleontological sensitivity, there is no potential for impacts on paleontological resources unless sensitive geologic units which underlie the non-sensitive unit are also affected.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Society for Vertebrate Paleontology

The SVP has established standard guidelines (SVP, 1995 and 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys, monitoring and mitigation, data and fossil recovery, sampling procedures, and specimen preparation, identification, analysis, and curation. Most practicing professional vertebrate paleontologists adhere closely to the SVP's assessment, mitigation, and monitoring requirements as specifically provided in its standard guidelines. Most state regulatory agencies with paleontological resource-specific Laws, Ordinances, Regulations, and Standards (LORS) accept and use the professional standards set forth by the SVP.

As defined by the SVP (1995), significant nonrenewable paleontological resources are:

> *Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.*

As defined by the SVP (1995:26), significant fossiliferous deposits are:

> *A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].*

Based on the significance definitions of the SVP (1995), all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate

fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be "sensitive" to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case (SVP, 1995).

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. In summary, paleontologists cannot know either the quality or quantity of fossils prior to natural erosion or human-caused exposure. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if these remains are significant, successful mitigation and salvage efforts may be undertaken in order to prevent adverse impacts to these resources.

Paleontological Sensitivity

Paleontological sensitivity is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey. In its "Standard Guidelines for the Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources," the SVP (1995:23) defines four categories of paleontological sensitivity (potential) for rock units: high, low, undetermined, and no potential:

- **High Potential.** Rock units from which vertebrate or significant invertebrate fossils or suites of plant fossils have been recovered and are considered to have a high potential for containing significant nonrenewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontologic resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical; and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic,

or stratigraphic data. Also classified as significant are areas that contain potentially datable organic remains older than Recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways.

- **Low Potential.** Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils. Such units will be poorly represented by specimens in institutional collections.
- **Undetermined Potential.** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials.
- **No Potential.** Metamorphic and granitic rock units generally do not yield fossils and therefore have no potential to yield significant non-renewable fossiliferous resources.

For geologic units with high potential, full-time monitoring is generally recommended during any project-related ground disturbance. For geologic units with low potential, protection or salvage efforts will not generally be required. For geologic units with undetermined potential, field surveys by a qualified vertebrate paleontologist should be conducted to specifically determine the paleontologic potential of the rock units present within the study area.

Paleontological Resources Significance Criteria

Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life; or
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important (Scott and Springer, 2003; Scott et al., 2004).

Archival Research

The Project Site was the subject of thorough background research and analysis. The research included a paleontological locality records search from the Natural History Museum of Los Angeles County (LACM), as well as geologic map and literature reviews. The Project Site and its vicinity have also been the subject of a geotechnical study (GEOCHON West, Inc., 2013; Kleinfelder, 2005; MACTEC Engineering and Consulting, 2003).

LACM Records Search

On August 11, 2017, a paleontological resources database search was requested from the Natural History Museum of Los Angeles County (LACM) for records of fossil localities in the Project Site. The purpose of the records search was to: (1) determine whether any previously recorded fossil localities occur in the Project Site; (2) assess the potential for disturbance of these localities during construction; and (3) evaluate the paleontological sensitivity in the Project Site. The records search returned no known localities within the Project Site (**Appendix B**). However, a number of vertebrate fossils are known from similar sedimentary deposits in downtown Los Angeles (McLeod, 2017).

The records search indicates that Holocene and Pleistocene-aged older alluvial (Qoa) sediments underlie the surficial alluvium in the Project vicinity. These sediments have yielded fossils of numerous Ice Age animals in the Los Angeles area. The closest locality indicated by the LACM is approximately 1.3 miles from the Project Site, where a fossil horse (*Equus*) was recovered from a depth of 43 feet below ground surface (bgs) (McLeod, 2017). Approximately 1.9 miles from the Project Site, ,fossil specimens of pond turtle, (*Clemmys mamorata*), ground sloth (*Paramylodon harlani*), mastodon (*Mammut americanum*), mammoth (*Mammuthus imperator*), horse (*Equus*), and camel (*Camelops*) were recovered from depths of 20-35 feet bgs (McLeod, 2017). Just north of this locality, approximately 2 miles from the Project Site, excavations for a storm drain recovered fossil specimens of turkey (*Meleagris californicus*), sabre-toothed cat (*Smilodon fatalis*), horse (*Equus*), and deer (*Odocoileus*) at unstated depths (McLeod, 2017).

The records search also indicates that the Pliocene-aged Fernando Formation (Tfr) is mapped at the ground surface in Bunker Hill, approximately 0.3 miles northwest of the Project Site. A number of fossil localities are known from this formation in downtown Los Angeles. The closest of these is located approximately 450 feet from the Project Site. Other fossil localities occur approximately 0.3 miles, 0.4 miles, and 1 mile from the Project Site. These nearby Fernando Formation localities have produced a composite fauna including fossil specimens of stingray (*Dasyatis*), eagle ray (*Myliobatis*), skate (*Raja*), chimaerid (*Chimaeriformes*), bull shark (*Carcharhinus leucas*), dusky shark (*Carcharhinus obscurus*), hammerhead shark (*Sphyrna*), sixgill shark (*Hexanchiformes*), bonito shark (*Isurus oxyrinchus*), salmon shark (*Lamna ditropis*), white sharks (*Carcharodon sulcidens* and *Carcharodon carcharias*), herring (*Clupeidae*), hake (*Merluccius*), sheepshead (*Semicossyphus*), mackerel (*Scomber*), rorqual baleen whale (Balaenopteridae), toothed whale (Odontoceti), and bird (Aves) (McLeod, 2017).

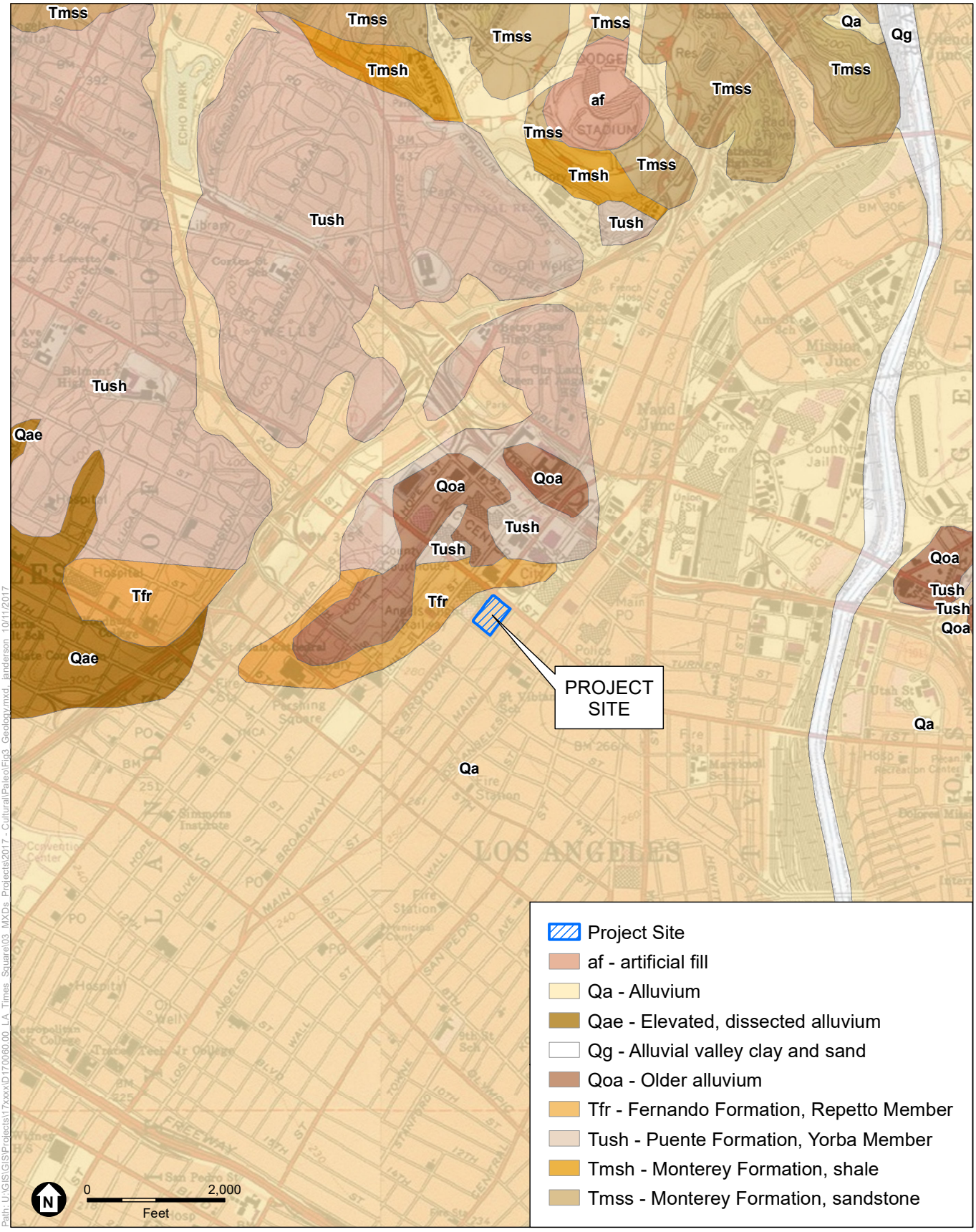
The Miocene-aged Puente Formation (Tush) is also mapped as occurring at the surface in Bunker Hill. The Puente has also produced numerous significant fossils in the Project vicinity. The

closest known locality is located approximately 425 feet from the Project Site, where a fossil specimen of the deep sea fish Bristlemouth (*Cyclothone*) was recovered (McLeod, 2017). Additional fossil localities within the Puente Formation have been identified approximately 0.20 miles from the Project Site. These localities have produced fossil fish including slickheads (Alepocephalidae), argentinas (Argentinidae), deep sea smelts (Bathylagidae), viperfish (*Chauliodus*), herring (Clupeidae), cod (Gadiformes), bristlemouths (Gonostomidae), mackerel (Scombridae), and dragonfish (Stomiatidae) (McLeod, 2017).

Geological Map, Geotechnical Studies, and Literature Review

Geological mapping by Dibblee and Ehrenspeck (1989) indicates that the surface of the Project Site is covered with Quaternary alluvium (Qa) (**Figure 4**) . At the surface these sediments are relatively recent in age and, as such, are not old enough to contain fossil remains. However, these alluvial sediments progress in age with depth, such that the underlying alluvial sediments date to the Late Holocene or Pleistocene and therefore may preserve fossil resources. The older underlying alluvial sediments were deposited on the ancient floodplain of the Los Angeles River and consist of well-sorted silts and sands, interbedded with stream channel deposits of sands and gravels.

Geotechnical studies of the Project Site indicate that artificial fill underlies the Project Site at depths ranging from 2-18 feet bgs (GEOCHON West, Inc., 2013; Kleinfelder, 2005; MACTEC Engineering and Consulting, 2003). The geotechnical studies do not indicate the exact depth at which the Quaternary alluvium becomes old enough to preserve fossils, but the LACM records search indicated fossils have been recovered at depths of 20 feet bgs from alluvial deposits in the Project vicinity (McLeod, 2017). As described above, the LACM records search has identified a number of fossil localties which have been within the Pleistocene alluvium in the vicinity of the Project Site. some of which have also been reported in the scientific literature (e.g. Brattstrom and Sturn, 1959; Steadman, 1980)



SOURCE: ESRI; Dibblee and Minch 1989

Times Mirror Square Project

Figure 4
Geologic Map

ESA

The geotechnical studies have encountered the Pliocene-age Fernando Formation as bedrock underlying the Quaternary alluvium at depths of 8 to 28 feet bgs within the Project Site (GEOCHON West, Inc., 2013, 2017; Kleinfelder, 2005; MACTEC Engineering and Consulting, 2003). The Fernando Formation is a marine and nonmarine semi-friable, massively bedded sandstone that crops out at the surface nearby at Bunker Hill (Dibblee and Ehrenspeck, 1989; GEOCHON West, Inc., 2017). As described above, the LACM the records search has identified numerous fossil localities within the Fernando Formation in the vicinity of the Project Site (McLeod, 2017). Additionally, numerous scientifically significant fossil discoveries have been reported in the scientific literature from the Fernando Formation (e.g. Lamar 1970; Woodring, 1938; Yerkes, 1965).

The Puente Formation also crops out near to the Project Site at Bunker Hill, and is therefore also expected to be present in the subsurface of the Project Site, albeit at great depth (Dibblee and Ehrenspeck, 1989). Geotechnical studies in and around the Project Site extended to depths of 60 - 81 feet bgs and did not encounter the Puente Formation, therefore it's depth is expected to be at greater than 60 feet bgs within the Project Site (GEOCHON West, Inc., 2013, 2017; Kleinfelder, 2005; MACTEC Engineering and Consulting, 2003). The Puente Formation consists of thin bedded silty clay shale, sometimes interbedded with fine sandstone (Dibblee and Ehrenspeck, 1989). As detailed by the records search of the LACM (McLeod, 2017; see above), numerous fossils have been recovered from the Puente Formation in Los Angeles, some of which have been reported in the scientific literature (e.g., David, 1943).

Paleontological Resources Survey

Due to the intensively developed nature of the Project Site and the lack of exposed fossil-bearing geologic units, a paleontological resources survey was determined not to be required as part of the investigation.

Paleontological Sensitivity Analysis

Based on the archival research conducted for the Project, paleontological sensitivity has been assigned to the geologic units underlying the Project Site. The sensitivity assignments follow the SVP guidelines (1995, 2010) and are as follows:

- **Quaternary younger alluvium (Qa) –** Surficial sediments; **low-to-high sensitivity**, increasing with depth. High sensitivity sediments are estimated to occur at around 15 feet bgs, as indicated by fossil discoveries reported by the LACM (McLeod, 2017).
- Quaternary older alluvium (Qoa) – Subsurface, approximately 15 feet bgs; high sensitivity
- **Fernando Formation (Tfr)** – Subsurface, approximately 8-28 feet bgs; **high sensitivity**
- **Puente Formation (Tush) -** Subsurface, over approximately 60 feet bgs; **high sensitivity**

Conclusions and Recommendations

As a result of this study, the surficial sediments of the Project Site identified as younger Quaternary alluvium are too young to preserve fossils and, therefore, have low paleontological

sensitivity. However, the Late Holocene – Pleistocene older alluvium, the Fernando Formation, and the Puente Formation are present in the subsurface of the Project Site and have high paleontological sensitivity. Substantial excavation within the Project Site during construction for subterranean parking, deep excavation for excavation shoring, and ancillary uses or improvements (e.g., sewer, electrical, water) is planned at such depths as to impact these formations determined as having a high sensitivity for fossils as a result of the research presented in this study.

The following recommendations are made and would serve to reduce impacts to unique paleontological resources or unique geological feature to a less than significant level:

1. A qualified paleontologist meeting the Society of Vertebrate Paleontology (SVP) Standards (SVP, 2010) (Qualified Paleontologist) shall be retained prior to the approval of demolition or grading permits. The Qualified Paleontologist shall provide technical and compliance oversight of all work as it relates to paleontological resources, shall attend the Project kick-off meeting and Project progress meetings on a regular basis, and shall report to the site in the event potential paleontological resources are encountered.
2. The Qualified Paleontologist shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities (including vegetation removal, pavement removal, etc.). In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the Project Site and the procedures to be followed if they are found. Documentation shall be retained demonstrating that all construction personnel attended the training.
3. Full-time paleontological resources monitoring shall be conducted for all ground disturbing activities occurring in previously undisturbed sediments of older alluvium, the Fernando Formation, and the Puente Formation. The surficial alluvium, as well as any artificial fill present, has low paleontological sensitivity and so work in the upper 15 feet of the Project Site does not need to be monitored. The depth of 15 feet is derived from the records search of the LACM, which reports fossils recovered in older alluvium from depths of 20 feet in the vicinity of the Project Site (McLeod, 2015). The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. Paleontological resources monitoring shall be performed by a qualified paleontological monitor (meeting the standards of the SVP) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during Project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a final monitoring and mitigation report to document the results of the monitoring effort.
4. If construction or other Project personnel discover any potential fossils during construction, regardless of the depth of work or location, work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it should be salvaged following the standards of the SVP (SVP, 2010) and curated with a certified repository.

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Appendix A
Personnel Qualifications



Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.



EDUCATION

Ph.D., Vertebrate Paleontology; University of Southern California

M.S., Environmental Microbiology; University of Tennessee

B.A. with honors, Ecology and Systematics; William Jewell College & Homerton College, Cambridge University

10 YEARS EXPERIENCE

Alyssa Bell, PhD

Paleontologist

Dr. Alyssa Bell has supervised and peformed field work, authored project reports, and provided scientific and compliance direction and quality control for paleontological projects throughout Southern California. Dr. Bell has accumulated a wealth of field experience, working with crews from a variety of institutions on field sites in California, Arizona, New Mexico, South Dakota, and Utah, and has led her own expeditions in Montana. She has performed all manner of investigations from surveys and assessments to monitoring and fossil idenfitication over the last 15 years as a part of her academic pursuits and professional consultation, with the last three years being exclusively professional endeavors.

In addition to consulting, Dr. Bell serves as a postdoctoral fellow at the Dinosaur Institute of the Natural History Museum of Los Angeles County (LACM). There she is involved in pursuing her own research into fossil birds as well as working with the Institute's field projects and museum-wide education and outreach initiatives. She has also published peer-reviewed articles and book chapters and given numerous presentations at scientific conferences on both her paleontological and microbiological research.

Relevant Experience

ICHA Area 10 (PA 10-2 & 10-4) Archaeological and Paleontological Monitoring, Irvine, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the University of California, Irvine, and authored the final report.

Suncrest Reactive Power Support Project, San Diego County, CA. *Principal Investigator.* Dr. Bell authored the paleontological assessment for the Proponent's Environmental Assessment (PEA) in support for a dynamic reactive power support facility and associated 230-kilovolt (kV) transmission line near Alpine, California. The application for Certificate of Public Convenience and Necessary was filed in summer 2015 and the PEA was deemed complete in December 2015.

Washington National Archaeological and Paleontological Monitoring (Access Culver City), Culver City, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell managed the curatorial process for fossils collected during monitoring of pre-construction activities at the Washington national site in Culver City, CA and authored the final report.

OTO Hotels Santa Monica Archaeological and Paleontological Service, Santa Monica, CA. *Principal Investigator.* Dr. Bell supervised paleontological monitoring and mitigation services during construction excavations and grading. Services included implementation of a paleontological mitigation monitoring program and reporting.

Sacred Heart Specific Plan Environmental Impact Report (EIR), La Canada Flintridge, CA. *Principal Investigator.* Dr. Bell prepared paleontological studies and

developed monitoring & mitigation recommendations for the Sacred Heart development project.

Sixth & Bixel Paleontological Monitoring Services Project, Los Angeles, CA. *Principal Investigator & Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities in support of a development project encompassing two parcels in downtown Los Angeles. During these activities, monitors identified and recovered numerous significant vertebrate fossils. Dr. Bell supervised the excavation of fossilized whale remains discovered on-site, and oversaw the collection and curation of all fossil specimens.

Natural and Cultural Support for the Gordon Mull Subdivision EIR, Glendora, CA. *Principal Investigator.* Dr. Bell collected the necessary data to prepare the technical sections and mitigation recommendations to support an EIR prepared by another firm to address the Gordon Mull Subdivision in the city of Glendora. The project is proposes to redevelop a 71-acre, 19-lot located in the San Gabriel Foothills.

Lake Elsinore Lakeshore Town Center Permitting, Riverside County, CA. *Principal Investigator.* Dr. Bell provided paleontological studies and developed monitoring and mitigation recommendations for the Lake Elsinore Town Center project in Riverside County.

San Pedro Plaza Park - Phase III Archaeological Monitor, Los Angeles, CA. *Principal Investigator.* Dr. Bell identified fossils during the mitigation measurement-required archaeological monitoring of earthmoving activities in San Pedro Park Plaza. She is also responsible for curation of the fossil material and authorship of the paleontological section of the final report.

City of Hope Specific Plan and EIR, Duarte, CA. *Principal Investigator.* Dr. Bell provided paleontological resource studies for the City of Hope Specific Plan Project.

Blythe Solar Power Project, Units 1 & 2, Riverside County, CA. *Project Paleontologist.* Dr. Bell supervised paleontological monitoring of preconstruction activities for a solar photo-voltaic cell power-generating facility outside the city of Blythe. As a part of her role, she provided oversight and management of paleontological monitors and development of the final monitoring report.

Industrial Project Environmental Impact Report, Colton, CA. *Principal Investigator.* Dr. Bell provided a paleontological resources study for a six-acre industrial project site at the southwest corner of Agua Mansa Road and Rancho Avenue in the city of Colton.

Mojave Solar Project Paleontological Reporting, San Bernardino County, CA. *Principal Investigator.* Dr. Bell managed curation of fossil materials and authored the final report of paleontological monitoring services provided for construction activities in support of a solar field development project in San Bernardino County.

El Camino Real Bridge Replacement Environmental Services, Atascadero, CA. *Principal Investigator.* Dr. Bell provided environmental services, including preparation of all California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) documentation, technical studies, and permitting, for the replacement of the El Camino Real Bridge over Santa Margarita Creek in Atascadero.

Appendix B
Record Search Results

Natural History Museum
of Los Angeles County
900 Exposition Boulevard
Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

31 August 2017

ESA PCR
2121 Alton Parkway, Suite 100
Irvine, CA 92606

Attn: Fatima Clark, Archaeologist

re: Paleontological Records Check for the proposed Omni LA Times Square Project, in the City of Los Angeles, Los Angeles County, project area

Dear Fatima:

I have conducted a thorough search of our Vertebrate Paleontology records for the proposed Omni LA Times Square Project, in the City of Los Angeles, Los Angeles County, project area as outlined on the portion of the Los Angeles USGS topographic quadrangle map that you sent to me via e-mail on 11 August 2017. We do not have any vertebrate fossil localities that lie directly within the proposed project area, but we do have localities nearby from the same sedimentary deposits that probably occur subsurface in the proposed project area.

The entire proposed project site area has surficial deposits of younger Quaternary Alluvium, derived as fluvial deposits from the flood plain of the Los Angeles River that currently flows in a concrete channel just to the east. These younger Quaternary deposits usually do not contain significant fossil vertebrates, at least in the uppermost layers, but the underlying older sedimentary deposits found at varying depths may well contain significant vertebrate fossils.

Our closest vertebrate fossil locality from the older Quaternary deposits is LACM 1755, southwest of the proposed project area near the intersection of Hill Street and 12th Street, that produced a fossil specimen of horse, *Equus*, at a depth of 43 feet below the street. Our next closest vertebrate fossil locality from older Quaternary deposits beneath the younger Quaternary Alluvium is LACM 2032, east-northeast of the of the proposed project area near the intersection

of Mission Road and Daly Street around the Golden State Freeway (I-5), that produced fossil specimens of pond turtle, *Clemmys mamorata*, ground sloth, *Paramylodon harlani*, mastodon, *Mammut americanum*, mammoth, *Mammuthus imperator*, horse, *Equus*, and camel, *Camelops*, at a depth of 20-35 feet below the surface. The pond turtle specimens from locality LACM 2032 were figured in the scientific literature by B.H. Brattstrom and A. Sturn (1959. A new species of fossil turtle from the Pliocene of Oregon, with notes on other fossil *Clemmys* from western North America. Bulletin of the Southern California Academy of Sciences, 58(2):65-71). At our locality LACM 1023, just north of locality LACM 2032 near the intersection of Workman Street and Alhambra Avenue, excavations for a storm drain recovered fossil specimens of turkey, *Meleagris californicus,* sabre-toothed cat, *Smilodon fatalis*, horse, *Equus*, and deer, *Odocoileus*, at unstated depth. A specimen of the turkey, *Meleagris*, from this locality was published in the scientific literatus by D. W. Steadman (1980. A Review of the Osteology and Paleontology of Turkeys (Aves: Meleagridinae). Contributions in Science, Natural History Museum of Los Angeles County, 330:131-207).

Immediately to the north of the proposed project area, north of the intersection of Broadway and 1st Street, there are exposures of the marine Pliocene Fernando Formation and the marine late Miocene Yorba Member of the Puente Formation (also referred to as an Unnamed Shale in this area), that also may occur at depth in the proposed project area.

We have a series of vertebrate fossil localities from the Fernando Formation nearby including LACM 7730, immediately to the east of the proposed project area near the intersection of Main Street and 2nd Street; LACM 4726, just southwest of the proposed project area near the corner of 4th and Hill Streets; LACM 6971, further to the west of locality LACM 4726 west of Pershing Square near the corner of 6th and Flower Streets; and LACM 3868, due west of the proposed project area north of 6th Street between Lucas Avenue and South Bixel Street. These nearby Fernando Formation localities have produced a composite fauna including fossil specimens of stingray, *Dasyatis*, eagle ray, *Myliobatis*, skate, *Raja*, chimaerid, Chimaeriformes, bull shark, *Carcharhinus leucas*, dusky shark, *Carcharhinus obscurus*, hammerhead shark, *Sphyrna*, sixgill shark, Hexanchiformes, bonito shark, *Isurus oxyrinchus*, salmon shark, *Lamna ditropis*, white sharks, *Carcharodon sulcidens* and *Carcharodon carcharias*, herring, Clupeidae, hake, *Merluccius*, sheepshead, *Semicossyphus*, mackerel, *Scomber*, bird, Aves, rorqual baleen whale, Balaenopteridae, and toothed whale, Odontoceti.

Our Puente Formation locality LACM 5961 occurs just north of the proposed project area just north of the intersection of Hill Street and 1st Street. Locality LACM 5961, discovered during excavation for the Metrorail station at unknown depth, produced a specimen of the fossil bristlemouth fish, *Cyclothone*. Our next closest vertebrate fossil locality from the Puente Formation is LACM 7990, northeast of the proposed project area north of Temple Street between Broadway and Spring Street, that produced fossil fish including slickheads, Alepocephalidae, argentinas, Argentinidae, deep sea smelts, Bathylagidae, viperfish, *Chauliodus*, herring, Clupeidae, cod, Gadiformes, bristlemouths, Gonostomidae, mackerel, Scombridae, and dragonfish, Stomiatidae.

Shallow excavations in the younger Quaternary Alluvium exposed throughout the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations in the proposed project area that extend down into older sedimentary deposits, however, may well encounter significant vertebrate fossils. Any substantial excavations in the proposed project area, therefore, should be closely monitored to quickly and professionally recover any potential vertebrate fossils without impeding development. Also, sediment samples should be collected and processed to determine the small fossil potential in the proposed project area. Any fossils recovered during mitigation should be deposited in an accredited and permanent scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

APPENDIX E

Preliminary Geotechnical Report

ESA

GEOTECHNICAL INVESTIGATION

ONNI TIMES MIRROR SQUARE
"201 WEST FIRST STREET"
100-142 S BROADWAY
202-234 W 1ST STREET
121 & 145-147 S SPRING STREET
205, 211, & 221 W 2ND STREET
LOS ANGELES, CALIFORNIA

TRACT: TIMES SQUARE; LOT: 1-5
TRACT: ORD'S SURVEY; BLOCK: 2; LOTS: FR1, 5 & 8

GEOCON
WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

ONNI GROUP
LOS ANGELES, CALIFORNIA

PROJECT NO. A9521-06-01A

REVISED SEPTEMBER 7, 2017

GEOCON
WEST, INC.
GEOTECHNICAL ■ ENVIRONMENTAL ■ MATERIALS

Project No. A9521-06-01A
May 30, 2017
Revised September 7, 2017

Mr. Mark Spector
ONNI GROUP
315 W 9th Street, Suite 801
Los Angeles, California 90015

Subject: GEOTECHNICAL INVESTIGATION
ONNI TIMES MIRROR SQUARE PROJECT
"201 WEST FIRST STREET"
100-142 S BROADWAY, 202-234 W 1ST STREET,
121 & 145-147 S SPRING STREET 205, 211, & 221 W 2ND STREET
LOS ANGELES, CALIFORNIA
TRACT: TIMES SQUARE; LOT: 1-5
TRACT: ORD'S SURVEY; BLOCK: 2; LOTS: FR1, 5 &8

Dear Mr. Spector:

In accordance with your authorization of our proposal dated November 18, 2016, we have prepared a geotechnical investigation report for the proposed Times Mirror Square project located 201 West First Street in the City of Los Angeles, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed, provided the recommendations of this report are followed and implemented during design and construction.

If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.

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(EMAIL) Addressee

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- PRIOR GEOCON INVESTIGATION (CD Only)

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- PRIOR GEOTECHNICAL DATA REPORT & GEOTECHNICAL BASELINE REPORT (CD only)

GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the proposed Times Mirror Square project located at 201 West First Street in the City of Los Angeles, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and based on assumed conditions, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

The scope of this investigation included a site reconnaissance, review of previous geotechnical reports for developments adjacent to the site, including the MTA Regional Connector – Broadway and 2nd Street Station on the south, the Federal Courthouse on the west, the Los Angeles Police Department Headquarters on the east, and Civic Center Park on the north. We also reviewed information on the City of Los Angeles Navigate LA website and on file at the city records department, we have reviewed historic plans provided to us, and have reviewed existing published geologic information as it pertains to the proposed project, and prepared this report.

Two borings were attempted: one on West First Street immediately adjacent to the northern site boundary and one on South Broadway immediately adjacent to the southwest corner of the site. Multiple attempts were made at each boring location; however, the borings could not be advanced more than a few feet beneath the existing ground surface due to the presence of multiple mapped and unmapped underground utilities.

References reviewed to prepare this report are provided in the *List of References* section. No subsurface explorations were performed as part of this evaluation.

2. SITE AND PROJECT DESCRIPTION

The subject site consists of a city block in downtown Los Angeles bounded by South Broadway to the northwest, by South Spring Street to the southeast, by West 1st Street to the north, and by West 2nd Street to the south. The western half of the site is occupied by a six-story office building (Executive Building) and parking structure. Based on the historic drawings, these existing structures are underlain by up to three subterranean levels. The eastern half of the site is occupied by a ten-story structure underlain by up to three subterranean levels (Mirror Building); a four-story structure underlain by one subterranean level (Plant Building); and an eight-story structure underlain by up to three subterranean levels (Times Building). The site slopes gently to the south, with no pronounced highs or lows. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets.

Based on the information provided by the Client, it is our understanding that the Executive Building and parking structure will be demolished and a new development constructed in its place. The proposed construction consists of two towers (one 37-story and one 53-story tower) underlain by up to nine levels of subterranean parking. The proposed development is depicted on the Site Plan and Geologic Sections

(see Figures 2 and 3). The existing Mirror Building, Plant Building, and Times Building will remain and are proposed for rehabilitation and reuse.

Based on the preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that a bearing pressure of 15,000 psf may be required for support of the proposed towers.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. PRIOR INVESTIGATIONS

Geologic and geotechnical data is available from prior geotechnical investigations on the sites located to the north, south, east and west of the subject site. A summary of the prior geotechnical investigation reports reviewed as a part of this report preparation is provided below.

Geocon West, Inc. has reviewed the referenced reports and addenda by Geocon West, Inc. (2013), Kleinfelder (2005), MACTEC (2003), and The Connector Partnership (2013), and we agree with the recommendations presented therein. Furthermore, we assume responsibility for the utilization of the exploration and laboratory data presented within those reports.

Civic Center Park

Geocon previously investigated the site to the north of the subject site for the proposed Civic Center Park. Our prior geotechnical investigation report is entitled:

> *Geotechnical Investigation, Proposed 1st and Broadway Civic Center Park, 217 West 1st Street, Los Angeles, California, prepared for the City of Los Angeles Geotechnical Engineering Group,* dated December 20, 2013 (Project No. A8950-06-01).

Geocon performed three borings as a part of the study performed in 2013. Sedimentary bedrock of the Fernando Formation was encountered at depths ranging between 20 and 23 feet beneath the existing ground surface, corresponding to elevations of 273 to 277 feet Mean Sea Level (MSL). The bedrock is reported to be massive siltstone. Groundwater seepage was encountered above the bedrock contact. Laboratory testing performed included direct shear, grain size analysis, consolidation, plasticity index, corrosivity, and insitu density and moisture content. The prior geotechnical investigation addressed the demolition and backfill of the prior structure, including subterranean levels, which occupied the site for the construction of the proposed park. A copy of the previous Geocon West, Inc. report (2013) is presented in Appendix A.

Los Angeles Police Department Headquarters

Kleinfelder performed a geotechnical investigation for the Los Angeles Police Department Headquarters, located to the east of the subject site. The prior geotechnical investigation report is entitled:

> *Geotechnical Engineering Report, New Police Headquarters Facility, City Block Bounded by First Street on the North, Main Street on the East, Second Street on the South, and Spring Street on the West (120 South Spring Street, 141 South Main Street, and 106 through 132 West First Street), Tract L A C A Map No. 94, Lots PCL 14 and 15 and Ord's Survey Tract, Block 1, Lots 4 and 8), Downtown Los Angeles,* prepared by Kleinfelder, dated February 15, 2005, WO E170910B, GED File 04-120.

Multiple addenda and response letters were prepared subsequent to the above referenced report, and copies are included in Appendix B.

Kleinfelder performed 15 borings as a part of the study performed in 2005; however, several of the borings encountered relatively shallow refusal. The borings were advanced to depths between 2 and 81½ feet below the ground surface. Based on our review of the report, Fernando Formation was encountered at elevations of approximately 251 to 269½ feet MSL (depths of 8 to 28½ feet beneath the existing ground surface). The bedrock is generally described as massive, and lacking distinct discontinuities and bedding planes. However, locally, some weakly developed bedding is reported. Minor groundwater seepage was encountered above the bedrock contact in several borings. Laboratory testing performed included direct shear, grain size analysis, consolidation, plasticity index, and in-situ density and moisture content. The prior geotechnical investigation addressed the construction of an eleven-story structure underlain by three levels of subterranean parking. Based on the depth of the proposed structure, an evaluation of liquefaction was not necessary. Initial recommendations included foundations deriving support in bedrock. In a later addendum report, additional recommendations were provided for foundations deriving support in alluvium. Copies of the previous Kleinfelder report (2005) and addenda are presented in Appendix B.

Los Angeles Federal Courthouse

MACTEC Engineering and Consulting (MACTEC) performed a geotechnical investigation for the Los Angeles Federal Courthouse, located to the west of the subject site. The prior geotechnical investigation report is entitled:

> *Report of Geotechnical Investigation, Proposed Los Angeles Federal Courthouse, Between Broadway and Hill Street and First and Second Streets, Los Angeles, California, Prepared for General Services Administration, San Francisco, California,* prepared by MACTEC Engineering and Consulting, dated January 15, 2003 (MACTEC Project No. 4953-03-3881).

MACTEC performed four borings as a part of the study performed in 2003. The borings were advanced to depths between 25 and 75 feet below the ground surface. In addition, MACTEC had previously investigated the site by drilling 16 prior borings to depths ranging from 14 to 68 feet below the ground surface. Based on our review of the report, Fernando Formation was encountered at elevations of approximately 262 to 273 feet MSL, corresponding to 9 to 52 feet beneath the existing ground surface. The bedrock is described as generally massive, and lacking distinct discontinuities and bedding planes. Locally, the bedrock is described as laminated. Minor groundwater seepage was encountered several feet above the bedrock contact in the majority of the borings. Laboratory testing performed included direct shear, consolidation, and insitu density and moisture content. The prior geotechnical investigation addressed the construction of a 24-story structure underlain by four or five levels of subterranean parking. Based on the depth of the proposed structure, an evaluation of liquefaction was not necessary. Recommendations included conventional spread foundations deriving support in bedrock. A copy of the previous MACTEC report (2003) is presented in Appendix C.

MTA Regional Connector – Broadway and 2nd Street Station

The Connector Partnership (TCP) prepared a geotechnical data report (GDR) and geotechnical baseline report (GBR) for the Regional Connector Transit Corridor Project, which includes an MTA station at the intersection of South Broadway and West 2nd Street, located to the south of the subject site. The GBR is entitled:

> *Geotechnical Baseline Report Rev. 1a, Regional Connector Transit Corridor Project, Task No. PH2.7.9.14, Prepared for METRO (Contract No. E0119),* prepared by The Connector Partnership, dated August 1, 2013.

TCP collected geotechnical data along the Regional Connector Transit Corridor project from prior projects along the alignment, as well as from the project's geotechnical design report (GDR). Three borings utilized for the GDR (RCT-76, -77, and -78) are historical LeRoy Crandall borings, drilled in 1969 within the limits of the southern portion of the site (see Figure 2). The reports present a summary of available data, and anticipated geologic conditions at the proposed South Broadway and West 2nd Street station. The reports anticipate approximately 15 to 25 feet of artificial fill and alluvial material underlain by Fernando Formation bedrock. Laboratory testing performed included unconfined compressive strength, plasticity index, grain size analysis, and insitu density and moisture content. Copies of the previous TCP reports (2013) are presented in Appendix D.

4. GEOLOGIC SETTING

The site is located along the southern edge of the Elysian Hills, approximately 1 mile west of the Los Angeles River. Locally, the site is situated at the base of the local topographic feature known as Bunker Hill, a bedrock high that has been significantly altered by grading related to previous development in the area (lowered up to 50 feet in elevation). Bunker Hill is composed primarily of sedimentary bedrock of the Miocene age Puente Formation and the Pliocene age Fernando Formation. The Puente Formation is typically well-bedded in contrast to the Fernando Formation that is typically poorly bedded to massive. The structure of the bedrock in the area represents the south limb of an anticline that dips to the south and southeast at inclinations ranging from approximately 65 to 75 degrees (Dibblee, 1989; Lamar, 1970). A thin veneer of Quaternary age alluvium, either Pleistocene age remnant terraces or Holocene age overbank channel deposits, overlie the bedrock in the immediate area as shown on Figure 4, Local Geologic Map.

Regionally, the site is located within the northernmost portion of the Peninsular Ranges geomorphic province. This geomorphic province bounded by the Sierra Madre-Raymond-Hollywood-Santa Monica Fault System on the north, the San Andreas Fault Zone on the east, and the Pacific Ocean on the west and south. The Peninsular Ranges geomorphic province is characterized by northwest-trending physiographic and geologic features such as the Newport-Inglewood Fault Zone located approximately 7.0 miles to the west-southwest.

5. SOIL AND GEOLOGIC CONDITIONS

Based on our review of prior reports prepared for projects to the north, south, east, and west of the site, as well as published geologic maps of the area, we conclude that the site is locally underlain by minor amounts of artificial fill over Holocene age and Pleistocene age alluvial deposits consisting of interbedded sand and silt with varying amounts of gravel, cobbles, and boulders (Lamar, 1970; Dibblee, 1989). The alluvial sediments are underlain by sedimentary bedrock units of the Pliocene age Fernando Formation (Dibblee, 1989; Lamar, 1970).

5.1 Artificial Fill

Only minor amounts of artificial fill are anticipated to exist at the site. In the eastern portion of the site, the structures will remain and, therefore, any artificial fill present at the site will remain. Based on historic drawings for the existing structures at the site, existing foundations appear to derive support in bedrock; however, historic foundation drawings which confirm the depths of the existing foundation system are not available. In the western portion of the site, the existing structures will be demolished and the proposed tower structures are anticipated to have up to nine subterranean levels. It is anticipated that artificial fill present in the western portion of the site will be removed as part of the planned development.

5.2 Alluvium

The Holocene age and Pleistocene age alluvial deposits in the immediate area generally consist of interlayered fine-grained flood plain deposits (sandy silt, sandy clay and clay) and granular stream channel deposits (silty sand and poorly graded to well graded sand with various amounts of gravel. The soils are primarily moist, medium dense to dense or firm to stiff, and become denser with increased depth. Raveling within the alluvial sediments was documented in the majority of the borings drilled at the Federal Courthouse site to the west (MACTEC, 2003) and in historical borings utilized as part of the Regional Connector Transit Corridor (RCTC) project to the south. Also, cobbles and boulders were locally encountered in the alluvial deposits in the borings drilled for the Civic Center Park project to the north (Geocon West, Inc., 2013), the RCTC project to the south (The Connector Partnership, 2013) and the Federal Courthouse project (MACTEC, 2003) to the west.

5.3 Fernando Formation

The Fernando Formation was encountered in the field explorations on the adjacent sites at elevations ranging from 256 feet MSL (boring RCT-6 located near the intersection of Spring Street and 2nd Street) to 277 feet MSL (at the Civic Center Park site to the north). Based on the geotechnical reports for the adjacent sites, the bedrock consists predominantly of olive brown or brownish gray to dark gray, massive to poorly bedded siltstone and clayey siltstone. The bedrock is predominantly massive (lacking through-going bedding), but locally it is described as thinly laminated, slightly fractured, and weakly to moderately jointed (MACTEC, 2003; The Connector Partnership, 2013) and locally bedded (Kleinfelder, 2005). The bedrock can be characterized as moderately to highly weathered and predominantly soft. Locally, well-cemented beds were encountered in the adjacent borings Also, because of the primarily soft nature and high silt and clay content of the siltstone, the bedrock is prone to slaking (The Connector Partnership, 2013).

Although published geologic maps indicate the bedrock underling the site and in the general site vicinity generally strikes East-West to N85°E and dips of 65° to 75° to the south (Dibblee 1989; Lamar, 1970), the prior reports for the Police Headquarters to the east (Kleinfelder, 2005), the Civic Center Park to the north (Geocon West, Inc. 2013), the Federal Courthouse to the west (MACTEC, 2003) and the GDR (The Connector Partnership, 2013) describe the bedrock as predominantly massive and lacking distinct discontinuities and bedding planes. Consequently, no bedding orientations were reported in these previous reports. Also, photographs of core samples presented in the GDR for boring GS-8, located immediately adjacent to the southern site boundary confirm that the Fernando Formation bedrock is primarily massive to the total depth explored (120 feet).

6. GROUNDWATER

Based on a review of the Seismic Hazard Zone Report for the Los Angeles 7.5 Minute Quadrangle, Los Angeles County, California (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is reported to be approximately 20 to 25 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990's. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever reach the historic high levels.

Considering the shallow depth to bedrock, the reported historic high groundwater level in the area is interpreted to represent to be perched water on top of the less permeable bedrock, and not the true groundwater table. This interpretation is evidenced by the seepage encountered approximately ½-foot to 4 feet above the bedrock contact in the majority of borings drilled on adjacent sites. Localized seepage was encountered within the bedrock in the historical borings RCT-76, RCT-77, and RCT-78 drilled within the southwestern portion of the site either at or within 2 feet above the bedrock contact. Also, it should be noted that in several of the borings, localized seepage was encountered at random depths within the bedrock, occurring along joints or fractures in the bedrock. Based depth of the proposed excavations, it is anticipated that seepage will be encountered during construction of the proposed subterranean levels. As previously indicated, it is our opinion that the groundwater seepage encountered in borings on the adjacent sites does not represent the static groundwater table, but represents discontinuous perched zones within the saturated granular soils overlying the relatively impermeable siltstone.

It should be noted that it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils or bedrock which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the region. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 8.26).

7. GEOLOGIC HAZARDS

7.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established state-designated Alquist-Priolo Earthquake Fault Zone (CGS, 2017) or a city-designated Preliminary Fault Rupture Study Area (City of Los Angeles, 2017) for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. The site, however, is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 5, Regional Fault Map. A list of major active faults and local potentially active faults in the Los Angeles area are presented on Table 1 and Table 2, respectively.

The closest fault with the potential for surface fault rupture is the active Hollywood Fault located approximately 4.5 miles north of the site (CGS, 2014; CGS, 2017). Other nearby active faults are the Raymond Fault, the Verdugo Fault, the Newport-Inglewood Fault Zone, the Santa Monica Fault, and the Sierra Madre Fault located approximately 5.2 miles north-northeast (CGS, 2017), 6½ miles north, 7 miles west-southwest, 10½ miles west, and 10½ miles north-northeast of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault zone is located approximately 34 miles northeast of the site.

The closest potentially active fault to the site is the MacArthur Park Fault located approximately 0.6 mile to the southwest. Other nearby potentially active faults are the Coyote Pass Fault, the Overland Fault, and the Charnock Fault located 2.1 miles southeast, 9.4 miles southwest, and 10.4 miles southwest of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake, and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. The site is located within the vertical projection of the Los Angeles segment of the Puente Hills Blind Thrust and the Elysian Park Blind Thrust. These thrust faults are not exposed at the surface and do not pose a surface fault rupture hazard at the site. However, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site

7.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 6, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	74	ESE
Near Redlands	July 23, 1923	6.3	57	E
Long Beach	March 10, 1933	6.4	34	SE
Tehachapi	July 21, 1952	7.5	80	NW
San Fernando	February 9, 1971	6.6	28	NNW
Whittier Narrows	October 1, 1987	5.9	10	ENE
Sierra Madre	June 28, 1991	5.8	21	NE
Landers	June 28, 1992	7.3	104	E
Big Bear	June 28, 1992	6.4	82	E
Northridge	January 17, 1994	6.7	21	NW
Hector Mine	October 16, 1999	7.1	119	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

7.3 Seismic Design Criteria

The following table summarizes summarizes site-specific design criteria obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the USGS. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2016 CBC and Table 20.3-1 of ASCE 7-10. The values presented below are for the risk-targeted maximum considered earthquake (MCE_R).

2016 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2016 CBC Reference
Site Class	C	Table 1613.3.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.434g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.854g	Figure 1613.3.1(2)
Site Coefficient, F_A	1.0	Table 1613.3.3(1)
Site Coefficient, F_V	1.3	Table 1613.3.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.434g	Section 1613.3.3 (Eqn 16-37)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.110g	Section 1613.3.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.623g	Section 1613.3.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.740g	Section 1613.3.4 (Eqn 16-40)

The table below presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-10.

ASCE 7-10 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.920g	Figure 22-7
Site Coefficient, F_{PGA}	1.0	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.920g	Section 11.8.3 (Eqn 11.8-1)

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2016 California Building Code and ASCE 7-10, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain "Life Safety" during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

Deaggregation of the MCE peak ground acceleration was performed using the USGS online BETA Unified Hazard Tool, 2008 Conterminous U.S. Dynamic edition. The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.66 magnitude event occurring at a hypocentral distance of 5.14 kilometers from the site.

Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.63 magnitude occurring at a hypocentral distance of 7.87 kilometers from the site.

Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

7.4 Liquefaction Potential, Seismically-Induced Settlements, and Lateral Spreading

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The State of California Seismic Hazard Zone Map for the Los Angeles Quadrangle (CGS, 2017; CDMG, 1999) indicates that the site is located in an area identified as having a potential for liquefaction (see Figure 7, Seismic Hazard Zone Map). However, the foundations for the proposed tower structures and subterranean levels are anticipated to extend through the alluvial soils and into bedrock which is not susceptible to liquefaction or lateral spreading. In addition, historic drawings of the three structures to remain (Mirror Building, Plant Building, and Times Building) indicate that existing foundations appear to derive support in bedrock. Therefore, based on the anticipated depth of bedrock (20 to 25 feet below existing ground surface) and the historical perched groundwater depth of 20 to 25 feet, liquefaction and associated ground deformation, including seismically-induced settlements and lateral spreading, is not considered a potential hazard for the proposed structures or existing structures to remain.

7.5 Slope Stability and Landslides

Topography at the site and surrounding vicinity is relatively flat to gently sloping to the south. The site is not located a city-designated Hillside Grading Area or a Hillside Ordinance Area (City of Los Angeles, 2017). According to the County of Los Angeles Safety Element (Leighton, 1990), the site is not within an area identified as being in a Hillside Area or an area having a potential for slope instability. Additionally, a review of the State of California Seismic Hazard Zone Map for the Los Angeles Quadrangle Map (CGS, 2017; CDMG, 1999) indicates that the site is not within an area identified as having a potential for seismic slope instability. There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope instability or landslides to adversely affect the proposed development is considered very low.

The proposed excavation is anticipated to be on the order of 85 feet in depth, including foundation depths and assuming seven levels of subterranean parking is constructed. The upper 20 to 25 feet of the excavation is anticipated to expose artificial fill and granular alluvial deposits. As previously described, caving and raveling of the alluvial deposits was observed in many of the previous borings adjacent to the site. Bedrock of the Fernando Formation will be exposed below a depth of approximately 25 feet. The bedrock is generally massive and bedding is not well-developed. However, the bedrock is documented as locally exhibiting moderately developed to well-developed joints and unsupported joint sets could result in localized wedge failures.

7.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. Review of the Los Angeles County Safety Element (Leighton, 1990), indicates that the site is not located within an area identified as having a potential for inundation. Therefore, the potential for earthquake-induced inundation at the site is considered very low.

7.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Flooding from a seismically-induced seiche is considered unlikely.

The site is within an area of minimal flooding (Zone X) as defined by the Federal Emergency Management Agency (FEMA 2017; LACDPW, 2017b).

7.8 Oil Fields & Methane Potential

According to the California Division of Oil, Gas and Geothermal Resources (DOGGR, 2017), the site is not located within the boundaries of an oil field. No oil wells are located in the immediate vicinity of the site. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map. Undocumented wells could be encountered during construction. Any wells encountered will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is not located within the boundaries of a city-designated methane zone or a methane buffer zone (City of Los Angeles, 2017). Therefore, the potential for methane or other volatile gases to be present at the site is considered very low. However, should it be determined that a methane study is required for the proposed development, we recommend that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

7.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. Also, the foundations of the proposed tower structures will be founded in bedrock. Therefore, there appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases to impact the site.

7.10 Hydroconsolidation

Hydroconsolidation (i.e., collapse) is the tendency of unsaturated soil structure to collapse upon saturation resulting in the overall settlement of the affected soil and overlying foundations or improvements supported thereon. Potentially compressible soils underlying the site are typically removed and recompacted during remedial site grading. However, if compressible soil is left in-place, a potential for settlement due to hydroconsolidation of the soil exists.

Based on the anticipated depth of bedrock (20 to 25 feet below existing ground surface), and proposed depth of excavation, hydrocollapse is not considered a potential hazard.

7.11 Erosion

Based on the consideration of the highly developed and paved nature of the site and surrounding areas, the potential for erosion to occur is considered low. Provided the engineering recommendations are followed to mitigate erosion, and the grading plans are prepared to generally-accepted regional standards, erosion is not expected to be a major impact to development.

7.12 Expansive Soils

Expansive soils are soils that swell when subjected to moisture and shrink when dried, and are typically associated with clayey soils. The effects of expansive soils are most severe when found near the ground surface, where changes in moisture content can be frequent with little to no confinement. The effects of expansive soils can typically be mitigated by construction in accordance with current building codes and engineering practices. Based on depth of the proposed subterranean levels and anticipated building loads, the proposed structure would not be prone to the effects of expansive soils.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 General

8.1.1 It is our opinion that neither soil nor geologic conditions have been encountered during adjacent geotechnical investigations that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction. The geotechnical design parameters presented herein should be reviewed and updated once structural loads are established.

8.1.2 Prior to issuance of grading permits, a final design-level geotechnical investigation report (Final Geotechnical Report) should be submitted to the Los Angeles Department of Building and Safety Grading Department for review and approval. The Final Geotechnical Report shall be used for final design of the foundation system for the structures and should take into consideration the engineering properties beneath the proposed structures and the anticipated loads. The Project shall be subject to the specific performance criteria recommended in the Final Geotechnical Report, in addition to all applicable State and local codes and building standards. The Final Geotechnical Report should contain an analysis of the expected ground motions at the Project Site from known active faults using accepted methodologies; and determination of the final design parameters for walls, foundations, foundation slabs, utilities, roadways, parking, sidewalks, and other related improvements. The final plans for the Project's foundation design, earthwork, and site preparation shall incorporate all of the recommendations in the Final Geotechnical Report.

8.1.3 The purpose of this report is to provide design recommendations and discuss construction considerations based on the boring and laboratory data available from the four adjacent geotechnical investigations located on each side of the property (see Section 3, Prior Investigations).

8.1.4 It is our opinion that neither soil nor geologic conditions are known to exist that would preclude the construction of the proposed project and that the conclusions and recommendations presented herein may be applied to the design of the project. It is recommended that confirmatory borings be performed subsequent to demolition of the existing site structures to verify the assumptions and the recommendations presented herein. Additional and/or revised recommendations may be necessary based on the findings of that exploration.

8.1.5 Artificial fill may be present within the limits of the subject site, and would likely be associated with past grading and construction activities at the site. Furthermore, alluvium on the order of 20 to 25 feet in thickness has been encountered during the adjacent geotechnical investigations. Demolition of the existing structures which occupy the site will likely disturb the upper few feet of soil at the base of the existing structures. It is assumed that existing fill, if present, as well as the existing alluvial soils and bedrock are suitable for re-use as engineered fill provided the recommendations in the *Grading* section of this report are followed (see Section 8.6).

8.1.6 Excavation for the subterranean levels is anticipated to penetrate through the existing artificial fill and alluvium, and is expected to expose Fernando Formation bedrock throughout the excavation bottom.

8.1.7 It is anticipated that the tower structure will be supported on reinforced concrete mat foundations, and that the subterranean parking underlying the podium levels may be supported on conventional spread foundations. All foundations must derive support in competent bedrock generally found at the bottom of subterranean excavation. Recommendations for mat foundations and conventional spread foundations are provided herein as Sections 8.8 through 8.11. For the purposes of this report, the foundation depth has been assumed to be at or below 90 feet below the existing ground surface which corresponds to nine levels of subterranean parking. It is our understanding that up to nine levels of subterranean parking may be constructed; however, the design is still preliminary at this time. Foundations will likely need to be designed to prevent a surcharge on the adjacent MTA Station Box structure. Foundations should be deepened as necessary to extend into satisfactory soils and must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

8.1.8 Once proposed building loads become available, additional analyses may be required to evaluate the anticipated total and differential settlements between the foundation elements for verification that the settlements are in conformance with the City of Los Angeles policy. Updated foundation design recommendations will be provided as necessary in an addendum report.

8.1.9 It is anticipated that the Mirror, Plant, and Times Buildings will be rehabilitated and adaptively reused; however, the scope of the proposed rehabilitation is unknown at this time. The project structural engineer should provide information on the scope of the rehabilitation for our review and development of geotechnical recommendations. Based on our review of the historic foundation drawings, there appears to be sufficient information to perform an analysis of the existing foundation bearing capacity in accordance with ASCE 41-13. These recommendations can be provided under separate cover as the project proceeds.

8.1.10 The existing structures to remain and located immediately to the east of the proposed high-rise structure will require consideration with respect to shoring design, underpinning, and surcharge loads. These design considerations should be addressed by the project structural and shoring engineers. The existing structures to the east (Mirror, Plant, and Times Buildings) are shallower than the bottom of the proposed high-rise structure. Historic foundation drawings from the construction of the Plant and Times Buildings and renovation drawings for the Mirror Building indicate that the existing structures are supported on a combination of belled caissons and conventional foundations at varying elevations, all of which appear to derive support in bedrock (see Site Plan and Cross-Sections, Figures 2 and 3).

8.1.11 Due to the preliminary nature of the design at this time, it is unknown if the proposed high-rise structure will be shallower or deeper than the MTA station and tunnels that are currently under construction to the south (see Site Plan and Cross-Sections, Figures 2 and 3). The MTA station box and tunnels are reported to have a lowest excavation bottom of approximately 199 feet above MSL, where adjacent to the site. Based on the project team's initial conversations with MTA, it is our understanding that MTA will require detailed soil-structure interaction analyses which demonstrate that the proposed structure will not negatively impact the station box and tunnels. These analyses are beyond the scope of work of this report, and cannot be prepared without detailed Project structural plans that are not available at this time.

8.1.12 Groundwater seepage was encountered during adjacent geotechnical investigations at elevations ranging from 261 to 279 feet above MSL. Seepage was primarily encountered above the bedrock contact, but also within the bedrock itself, likely in fractured and granular layers. Excavations for the subterranean levels are anticipated to extend below the encountered groundwater seepage.

8.1.13 Based on the subterranean nature of the proposed structure and the conditions encountered during site exploration of the adjacent properties, groundwater will likely be encountered during construction activities. Temporary dewatering measures will be required to mitigate groundwater seepage during excavation. Recommendations for temporary dewatering are discussed in Section 8.2 of this report.

8.1.14 The Fernando Formation bedrock is reportedly prone to slaking behavior due to changes in the moisture content. The presence of groundwater seepage within the excavation may soften and weaken the bedrock depending on the duration of the exposure. In order to protect the excavation bottom, consideration should be given to the use of waste slabs at the bottom of foundation excavations and exposed concrete slab-on-grade subgrade. Alternatively, the slab subgrade may be left 8 to 12 inches high while foundations are constructed to minimize disturbance to the bedrock which will support the floor slab.

8.1.15 The historic high groundwater level is reported at a depth of 20 to 25 feet below the ground surface. If the subterranean portion of the structure which extends below a depth of 20 feet is not designed for full hydrostatic pressure, a permanent dewatering system will be required to relieve and mitigate the water pressure. Recommendations for permanent dewatering are discussed in Section 8.3 of this report.

8.1.16 Excavations of the proposed subterranean levels will expose bedrock throughout a majority of the sidewalls. Although the bedrock is reported as generally massive and does not have through-going planes of weakness, joint sets and fractures have been observed within the Fernando Formation during the adjacent geotechnical investigations. Excavations must be conducted in a manner that maintains stability. Excavations into bedrock must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.) during excavation in order to identify any unforeseen variations within the bedrock. Any necessary recommendations to eliminate or support unfavorable conditions will be made at that time.

8.1.17 Due to the depth of the excavation and the proximity to the property lines, city streets, and adjacent on-site structures, excavation of the proposed subterranean levels will require sloping and/or shoring measures in order to provide a stable excavation. Where shoring is required it is recommended that a soldier pile shoring system be utilized. Where excavation depths exceed 12 feet or surcharges are imposed on the shoring system, raker braces or tie-back anchors may be required in conjunction with the soldier piles. The need for lateral bracing and the acceptable shoring deflection should be determined by the project shoring engineer.

8.1.18 The utilization of underpinning piles may be considered as a part of the shoring system where adjacent to existing structures which have subterranean components. All piles utilized for shoring can also be incorporated into a permanent shotcrete retaining wall system. The design of the shoring and any underpinning should be performed by a qualified structural and/or shoring engineer.

8.1.19 Due to the nature of the proposed design and intent for a subterranean level, waterproofing of subterranean walls and slabs is suggested. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

8.1.20 Based on the geologic conditions underlying the site, stormwater infiltration is not recommended for this project. It is suggested that stormwater be retained, filtered and discharged in accordance with the requirements of the local governing agency.

8.1.21 Once the design and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

8.2 Temporary Dewatering

8.2.1 Groundwater seepage was encountered during adjacent geotechnical investigations at elevations ranging from 261 to 279 feet above MSL. Seepage was primarily encountered above the bedrock contact, but also within the bedrock itself, likely in fractured and granular layers. Excavations for the subterranean levels are anticipated to extend below the encountered groundwater seepage and groundwater will likely be encountered during construction activities. The depth to groundwater seepage at the time of construction may be further verified during initial dewatering well or shoring pile installation. If groundwater seepage is present above the depth of the subterranean level, temporary dewatering will be necessary to maintain a safe working environment during excavation and construction activities.

8.2.2 It is recommended that a qualified dewatering consultant be retained to design the dewatering system. Recommendations for design flow rates for the temporary dewatering system should be determined by a qualified contractor or dewatering consultant. Temporary dewatering may consist of perimeter wells with interior well points as well as gravel filled trenches (French drains) placed adjacent to the shoring system and interior of the site. The number and locations of the wells or French drains can be adjusted during excavation activities as necessary to collect and control any encountered seepage. The French drains will then direct the collected seepage to a sump where it will be pumped out of the excavation.

8.2.3 The embedment of perimeter shoring piles should be deepened as necessary to take into account any required excavations necessary to place an adjacent French drain system, or sub-slab drainage system, should it be deemed necessary. It is not anticipated that a perimeter French drain will be more than 24 inches in depth below the proposed excavation bottom. If a French drain is to remain on a permanent basis, it must be lined with filter fabric to prevent soil migration into the gravel.

8.2.4 Based on the consideration that the Fernando Formation bedrock is prone to slaking when exposed to changes in moisture content, consideration should be given to the use of waste slabs at the excavation bottom.

8.2.5 Geocon can assist with water quality testing as well as obtaining discharge permits required for dewatering.

8.3 Permanent Dewatering

8.3.1 If the subterranean portion of the structure is not designed for full hydrostatic pressure and buoyancy, a permanent dewatering system will be required to relieve and mitigate the water pressure. A subdrainage system consisting of perforated pipe placed in gravel-filled trenches may be installed beneath the subterranean slab-on-grade to intercept and control groundwater. This system can be combined with the perimeter retaining wall drainage system provided backflow valves are installed at the base of the wall drainage system. It is our understanding that if a permanent dewatering system is implemented, dewatered groundwater will be reinjected or infiltrated back into the ground.

8.3.2 A typical permanent sub-slab drainage system would consist of a 12-inch-thick layer of ¾-inch gravel that is placed upon a layer of filter fabric (Miami 500X or equivalent), and vibrated to a dense state. Subdrain pipes leading to sump areas, provided with automatic pumping units, should drain the gravel layer. The drain lines should consist of perforated pipe, placed with perforations down, in trenches that are at least 6 inches below the gravel layer. The excavation bottom, as well as the trench bottoms should be lined with filter fabric prior to placing and compacting gravel. The trenches should be spaced approximately 40 feet apart at most, within the interior, and should extend along to the perimeter of the building. Subsequent to the installation of the drainage system, the waterproofing system and building slab may then be placed on the densified gravel. A waste slab may be placed over the waterproofing system for protection during placement of rebar and mat slab construction.

8.3.3 Recommendations for design flow rates for the permanent dewatering system should be determined by a qualified contractor or dewatering consultant.

8.4 Soil and Excavation Characteristics

8.4.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Due to the predominantly granular nature of the alluvium, caving should be anticipated in unshored excavations within the alluvium, especially where granular and/or saturated soils are encountered. As encountered in the adjacent geotechnical investigations, cobbles and/or occasional boulders may be encountered within the alluvium. In general, the bedrock is highly weathered and should be rippable with conventional equipment; however, concretions or well cemented layers were encountered during the adjacent geotechnical investigations. Generally, the concretions were less than 1-foot-thick; however, concretions up to 6 feet thick have been observed in the site vicinity. Coring or jack-hammering may be required if concretions are encountered. The contractor should be aware that drilling conditions may be difficult due to the potential for caving, the presence of cobbles and boulders, as well as the potential for concretions within the bedrock and should be prepared for these conditions.

8.4.2 All cuts which expose bedrock must be observed and approved in writing by a Project Geologist (a representative of Geocon) in order to identify any unforeseen variations within the bedrock. Any necessary recommendations to eliminate or support unfavorable conditions will be made at that time.

8.4.3 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

8.4.4 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 8.19).

8.4.5 Expansive soils are soils that swell when subjected to moisture and shrink when dried, and are typically associated with clayey soils. The effects of expansive soils are most severe when found near the ground surface, where changes in moisture content can be frequent with little to no confinement. The effects of expansive soils can typically be mitigated by construction in accordance with current building codes and engineering practices. Based on depth of the proposed subterranean levels and anticipated building loads, the proposed structure would not be prone to the effects of expansive soils.

8.5 Minimum Resistivity, pH, and Water-Soluble Sulfate

8.5.1 Potential of Hydrogen (pH), resistivity testing, and chloride content testing have been performed during the adjacent geotechnical investigations on representative samples to generally evaluate the corrosion potential to surface utilities. The tests indicate that the soils have a pH that range from 6.0 to 7.63; resistivity that ranges from 400 to 1100 ohm-cm; and chloride content that ranges from 0.004 to 0.0095 percent. Based on the results, the soils are considered “severely corrosive” with respect to corrosion of buried ferrous metals on site. The prior results are presented in Appendix A through D and should be considered for design of underground structures.

8.5.2 Laboratory tests were performed during the adjacent geotechnical investigations on representative samples to measure the percentage of water-soluble sulfate content. Results indicate that the soils and bedrock near the site have a water-soluble sulfate content ranging from 0.0252 to 0.6 percent, which is considered a "severe" sulfate expose to concrete structures as defined by 2016 CBC Section 1904.3 and ACI 318-11 Section 4.2 and 4.3. The following table presents a summary of concrete requirements set forth by 2016 CBC Section 1904.3 and ACI 318. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations.

REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS

Sulfate Exposure	Exposure Class	Water-Soluble Sulfate Percent by Weight	Cement Type	Maximum Water to Cement Ratio by Weight	Minimum Compressive Strength (psi)
Not Applicable	S0	0.00-0.10	--	--	2,500
Moderate	S1	0.10-0.20	II	0.50	4,000
Severe	S2	0.20-2.00	V	0.45	4,500
Very Severe	S3	> 2.00	V+Pozzolan or Slag	0.45	4,500

8.5.3 It should be noted that the samples on which the corrosivity tests results are associated with range from near the ground surface to up to 80 feet below the existing ground surface.

8.5.4 If corrosion sensitive improvements are planned, a corrosion engineer should be retained to perform testing on representative samples of the onsite soil and bedrock, evaluate the test results, and provide recommendations to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils. Corrosion mitigation recommendations can be provided once utility and building materials are established.

8.6 Grading

8.6.1 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

8.6.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill and alluvial soil encountered during exploration are suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed. If bedrock is to be utilized as an engineered fill, it may be blocky and may have to be crushed, moisture conditioned, and well blended with other onsite material prior to utilization.

8.6.3 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.) and the City of Los Angeles Inspector.

8.6.4 Excavations of the proposed subterranean levels will expose bedrock throughout a majority of the sidewalls. Although the bedrock is reported as generally massive and does not have through-going planes of weakness, joint sets and fractures have been observed within the Fernando Formation during the adjacent geotechnical investigations. Excavations must be conducted in a manner that maintains stability. Excavations into bedrock must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.) during excavation in order to identify any unforeseen variations within the bedrock. Any necessary recommendations to eliminate or support unfavorable conditions will be made at that time. Recommendations for temporary excavations are provided in Section 8.19 of this report.

8.6.5 All foundations must derive support in the competent bedrock found at the bottom of the subterranean level. For the purposes of this report, the foundation depth has been assumed to be 70 feet below the existing ground surface. Foundations should be deepened as necessary to extend into satisfactory soils and must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

8.6.6 Prior to placing engineered fill over bedrock, the bedrock exposed at the excavation bottom must be cut or benched to create horizontal planes so that fill can be placed and compacted on horizontal surfaces. All excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.) prior to the placement of engineered fill.

8.6.7 The City of Los Angeles Department of Building and Safety requires a minimum compactive effort of 95 percent of the laboratory maximum dry density in accordance with ASTM D 1557 (latest edition) where the soils to be utilized in the fill have less than 15 percent finer than 0.005 millimeters. Soils with more than 15 percent finer than 0.005 millimeters may be compacted to 90 percent of the laboratory maximum dry density in accordance with ASTM D 1557 (latest edition). All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and properly compacted to the required degree of compaction in accordance with ASTM D 1557 (latest edition).

8.6.8 Prior to construction of exterior slabs, the upper 12 inches of the subgrade should be moisture conditioned to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D1557 (latest edition).

8.6.9 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 50 and corrosivity properties that are equally or less detrimental to that of the existing onsite soils.

8.6.10 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry is also acceptable as backfill (see Section 8.7). Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

8.6.11 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding material, fill, steel, gravel or concrete.

8.7 Controlled Low Strength Material (CLSM)

8.7.1 Controlled Low Strength Material (CLSM) may be utilized in lieu of compacted soil as engineered fill where approved in writing by the Geotechnical Engineer. Where utilized within the City of Los Angeles use of CLSM is subject to the following requirements:

Standard Requirements

1. CLSM shall be ready-mixed by a City of Los Angeles approved batch plant;
2. CLSM shall not be placed on uncertified fill, on incompetent natural soil, nor below water;
3. CLSM shall not be placed on a sloping surface with a gradient steeper than 5:1 (horizontal to vertical);
4. Placement of the CLSM shall be under the continuous inspection of a concrete deputy inspector;

5. The excavation bottom shall be accepted by the soil engineer and the City Inspector prior to placing CLSM.

Requirements for CLSM that will be used for support of footings

1. The cement content of the CLSM shall not be less than 188 pounds per cubic yard (min. 2 sacks);
2. The excavation bottom must be level, cleaned of loose soils and approved in writing by Geocon prior to placement of the CLSM;
3. The ultimate compressive strength of the CLSM shall be no less than 100 pounds per square inch (psi) when tested on the 28th-day per ASTM D4832 (latest edition), Standard Test Method for Preparation and Testing of Controlled Low Strength Material Test Cylinders. Compression testing will be performed in accordance with ASTM C39 and City of Los Angeles requirements;
4. Samples of the CLSM will be collected during placement, a minimum of one test (two cylinders) for each 50 cubic yards or fraction thereof;
5. Overexcavation for CLSM placement shall extend laterally beyond the footprint of any proposed footings as required for placement of compacted fill, unless justified otherwise by the soil engineer that footings will have adequate vertical and horizontal bearing capacity.

8.8 Foundation Design

8.8.1 It is anticipated that the tower structure will be supported on reinforced concrete mat foundations, and that the subterranean parking underlying the podium levels may be supported on conventional spread foundations. Recommendations for mat foundations and conventional spread foundations are provided herein as Sections 8.8 through 8.11. All foundations must derive support in competent bedrock generally found at the anticipated bottom of subterranean excavation. For the purposes of this report, the foundation depth has been assumed to be at or below 90 feet below the existing ground surface, which corresponds to nine levels of subterranean parking. It is our understanding that up to nine levels of subterranean parking may be constructed; however, the design is still preliminary at this time. Foundations will likely need to be designed to prevent a surcharge on the adjacent MTA Station Box structure. Foundations should be deepened as necessary to extend into satisfactory soils and must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

8.8.2 Once proposed building loads become available, additional analyses may be required to evaluate the anticipated total and differential settlements between the foundation elements for verification that the settlements are in conformance with the City of Los Angeles policy. Updated foundation design recommendations will be provided as necessary in an addendum report.

8.8.3 The existing structures to remain and located immediately to the east of the proposed high-rise structure will require consideration with respect to shoring design, underpinning, and surcharge loads. These design considerations should be addressed by the project structural and shoring engineers. The existing structures to the east (Mirror, Plant, and Times Buildings) are shallower than the bottom of the proposed high-rise structure. Historic foundation drawings from the construction of the Plant and Times Buildings and renovation drawings for the Mirror Building indicate that the existing structures are supported on a combination of belled caissons and conventional foundations at varying elevations, all of which appear to derive support in bedrock (see Site Plan and Cross-Sections, Figures 2 and 3).

8.8.4 Due to the preliminary nature of the design at this time, it is unknown if the proposed high-rise structure will be shallower or deeper than the MTA station and tunnels that are currently under construction to the south (see Site Plan and Cross-Sections, Figures 2 and 3). The MTA station box and tunnels are reported to have a lowest excavation bottom of approximately 199 feet above MSL where adjacent to the site. Based on the project team's initial conversations with MTA, it is our understanding that MTA will require detailed soil-structure interaction analyses which demonstrate that the proposed structure will not negatively impact the station box and tunnels. These analyses are beyond the scope of work of this report and will be performed by other members of the project team.

8.8.5 No special subgrade presaturation is required prior to placement of concrete. However, the slab and foundation subgrade should be sprinkled as necessary; to maintain a moist condition as would be expected in any concrete placement. Based on the consideration that the Fernando Formation bedrock is prone to slaking when exposed to changes in moisture content, consideration should be given to the use of waste slabs at the excavation bottom to better control the moisture content of the exposed subgrade.

8.8.6 Waterproofing of subterranean walls and slabs is recommended for this project for any portions of the structure that will be constructed below the groundwater table. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

8.8.7 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of the methane system, reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

8.8.8 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

8.9 Conventional Foundation Design

8.9.1 Continuous footings may be designed for an allowable bearing capacity of 4,500 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

8.9.2 Isolated spread foundations may be designed for an allowable bearing capacity of 5,000 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing material.

8.9.3 The allowable soil bearing pressure above may be increased by 350 psf and 700 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 8,500 psf.

8.9.4 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

8.9.5 If depth increases are utilized for the perimeter foundations, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

8.9.6 Continuous footings should be reinforced with four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. Reinforcement for spread footings should be designed by the project structural engineer.

8.9.7 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

8.10 Mat Foundation Design

8.10.1 It is anticipated that the mat foundation constructed for support of the tower will impart an average pressure of approximately 10,000 psf to 15,000 psf. The recommended maximum allowable bearing value is 15,000 psf. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

8.10.2 A vertical modulus of subgrade reaction of 50 pounds per cubic inch (pci) may be used in the design of mat foundations deriving support in competent bedrock generally found at or below the anticipated foundation depth. For the purposes of this report, the foundation depth has been assumed to be 70 feet below the existing ground surface. This value takes into consideration the estimated mat foundation size, but should be reevaluated once foundation loads and dimensions become available.

8.10.3 The thickness of and reinforcement for the mat foundation should be designed by the project structural engineer.

8.10.4 If the proposed structure is to be designed for full hydrostatic pressure, the recommended uplift pressure to be used in design would be 62.4(H) in units of pounds per square foot, where "H" is the height of the water above the bottom of the mat foundation in feet. For design purposes the water table may be assumed at a depth of 25 feet below existing ground surface.

8.10.5 For seismic design purposes, a coefficient of friction of 0.35 may be utilized between the concrete mat and alluvium without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

8.11 Foundation Settlement

8.11.1 The maximum static settlement for conventional foundations deriving support in the recommended bearing materials and designed with a maximum bearing pressure of 8,500 psf is estimated to be negligible based on the overburden to be removed for the subterranean excavation.

8.11.2 The maximum expected static settlement for a mat foundation deriving support in competent bedrock and utilizing a maximum allowable bearing pressure of 15,000 psf is estimated to be less than 3½ inches and occur below the central portion of the mat. The differential settlement between the center and corner of the mat is estimated to be less than 2 inches.

8.11.3 Differential settlement between the mat foundations and conventional foundations is expected to be less than 2 inches.

8.11.4 A majority of the settlement of the foundation system is expected to occur on initial application of loading; however, minor additional settlements are expected within the first 12 months.

8.11.5 Once the design and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. The settlement estimates provided above are based on the assumption that 70 feet of overburden will be removed. Based on the final foundation depths and loading configuration, the potential for settlement should be reevaluated by this office.

8.12 Lateral Design

8.12.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.35 may be used with the dead load forces in the bedrock.

8.12.2 Passive earth pressure for the sides of foundations and slabs poured against bedrock may be computed as an equivalent fluid having a density of 1,000 pcf with a maximum earth pressure of 10,000 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

8.13 Concrete Slabs-on-Grade

8.13.1 The project structural engineer may determine and design the necessary slab thickness and reinforcing for this structure. Unless specifically analyzed and designed by the project structural engineer, the slab-on-grade and ramp for the subterranean parking garage should be a minimum of 5 inches concrete reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on undisturbed bedrock.

8.13.2 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; recycled content or woven materials are not recommended. The material should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the Los Angeles Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the Los Angeles Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4-inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

8.13.3 Waterproofing of subterranean walls and slabs is recommended for this project for any portions of the structure that will be constructed below the groundwater table. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

8.13.4 For seismic design purposes, a coefficient of friction of 0.35 may be utilized between concrete slabs and soil without a moisture barrier and 0.15 for slabs underlain by a vapor retarder or methane barrier.

8.13.5 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moisture conditioned to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

8.13.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

8.14 Retaining Walls Design

8.14.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 75 feet. In the event that walls significantly higher than 75 feet are planned, Geocon should be contacted for additional recommendations.

8.14.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 8.8 through 8.11).

8.14.3 Excavations into bedrock must be observed and approved in writing by the Project Geologist (a representative of Geocon West, Inc.) during excavation in order to identify any unforeseen variations within the bedrock which may require revised retaining wall recommendations.

8.14.4 Assuming that proper drainage and permanent dewatering is maintained, retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure) of 30 pcf.

8.14.5 Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure) of 50 pcf. Calculation of the recommended earth pressures is provided as Figure 8.

8.14.6 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

8.14.7 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures. Recommendations for the incorporation of surcharges are provided in section 8.25 of this report. Once the design becomes more finalized, an addendum letter can be prepared revising recommendations and addressing specific surcharge conditions throughout the project, if necessary.

8.14.8 In addition to the recommended earth pressure, the upper 10 feet of the subterranean wall adjacent to the street and parking lot should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 psf surcharge behind the walls due to normal street traffic. If the traffic is kept back at least 10 feet from the subterranean walls, the traffic surcharge may be neglected.

8.14.9 Seismic lateral forces should be incorporated into the design as necessary, and recommendations for seismic lateral forces are presented below.

8.15 Dynamic (Seismic) Lateral Forces

8.15.1 The structural engineer should determine the seismic design category for the project in accordance with Section 1613 of the CBC. If the project possesses a seismic design category of D, E, or F, proposed retaining walls in excess of 6 feet in height should be designed with seismic lateral pressure (Section 1803.5.12 of the 2016 CBC).

8.15.2 A seismic load of 10 pcf should be used for design of walls that support more than 6 feet of backfill in accordance with Section 1803.5.12 of the 2016 CBC. The seismic load is applied as an equivalent fluid pressure along the height of the wall and the calculated loads result in a maximum load exerted at the base of the wall and zero at the top of the wall. This seismic load should be applied in addition to the active earth pressure. The earth pressure is based on half of two thirds of PGA_M calculated from ASCE 7-10 Section 11.8.3.

8.16 Retaining Wall Drainage

8.16.1 Retaining walls should be provided with a drainage system. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 9). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

8.16.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot-wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 10). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

8.16.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures. Drainage should not be allowed to flow uncontrolled over descending slopes.

8.16.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

8.17 Elevator Pit Design

8.17.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. Elevator pit walls may be designed in accordance with the recommendations in the *Retaining Wall Design* section of this report (see Section 8.14).

8.17.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

8.17.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 8.16).

8.17.4 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

8.18 Elevator Piston

8.18.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation or shoring pile, or the drilled excavation could compromise the existing foundation or pile support, especially if the drilling is performed subsequent to the foundation or pile construction.

8.18.2 Due to the preliminary nature of the project at this time, it is unknown if a plunger-type elevator piston will be included for this project. If in the future it is determined that a plunger-type elevator piston will be constructed, the location of the proposed elevator should be reviewed by the Geotechnical Engineer to evaluate the setback from foundations and shoring piles. Additional recommendations will be provided as necessary.

8.18.3 Casing may be required in the drilled excavation. The contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. The contractor should be prepared to mitigate the buoyant forces on the casing due to groundwater seepage, if encountered. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

8.18.4 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

8.19 Temporary Excavations

8.19.1 Excavations on the order of 85 feet in height are anticipated for excavation and construction of the proposed subterranean level, including foundation excavations. The excavations are expected to expose artificial fill, alluvial soils, and bedrock, which are suitable for vertical excavations up to 5 feet where loose soils or caving sands are not present or where not surcharged by adjacent traffic or structures.

8.19.2 Excavations into bedrock must be observed by the Project Geologist (a representative of Geocon West, Inc.) during excavation to check for the presence of jointing or bedding which may require special recommendations for sloping and/or shoring. Any recommendations deemed necessary will be provided at that time.

8.19.3 Vertical excavations greater than 5 feet will require sloping and/or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter, up to a maximum of 12 feet in height. A uniform slope does not have a vertical portion. Where space is limited, shoring measures will be required. *Shoring* data is provided in Section 8.20 of this report.

8.19.4 Where temporary construction slopes are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary slopes are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

8.20 Shoring – Soldier Pile Design and Installation

8.20.1 The following information on the design and installation of shoring is preliminary. Review of the final shoring plans and specifications should be made by this office prior to bidding or negotiating with a shoring contractor.

8.20.2 One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. The steel soldier piles may also be installed utilizing high frequency vibration. Where maximum excavation heights are less than 12 feet the soldier piles are typically designed as cantilevers. Where excavations exceed 12 feet or are surcharged, soldier piles may require lateral bracing utilizing drilled tie-back anchors or raker braces to maintain an economical steel beam size and prevent excessive deflection. The size of the steel beam, the need for lateral bracing, and the acceptable shoring deflection should be determined by the project shoring engineer.

8.20.3 The design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles should be deepened to take into account any required excavations necessary for foundations and/or adjacent drainage systems.

8.20.4 The proposed soldier piles may also be designed as permanent piles and may be utilized to underpin the existing offsite structures. The required pile depth, dimension, spacing and underpinning connection to existing offsite foundation should be determined and designed by the project structural and shoring engineers. All piles utilized for shoring can also be incorporated into a permanent retaining wall system (shotcrete wall) provided they are designed in accordance with the earth pressure provided in the *Retaining Wall Design* section of this report (see Section 8.14).

8.20.5 Drilled cast-in-place soldier piles should be placed no closer than two diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the soil. For design purposes, an allowable passive value for the soils below the bottom plane of excavation may be assumed to be 1,000 pounds per square foot. Where piles are installed by vibration techniques, the passive pressure may be assumed to mobilize across a width equal to the two times the dimension of the beam flange. The allowable passive value may be doubled for isolated piles spaced a minimum of three the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed bedrock.

8.20.6 Local seepage may be encountered during excavations for the proposed soldier piles, especially if conducted during the rainy season. If more than 6 inches of water is present in the bottom of the excavation, a tremie is required to place the concrete into the bottom of the hole. A tremie should consist of a rigid, water-tight tube having a diameter of not less than 6 inches with a hopper at the top. The tube should be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie should be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end should be closed at the start of the work to prevent water entering the tube and should be entirely sealed at all times, except when the concrete is being placed. The tremie tube should be kept full of concrete. The flow should be continuous until the work is completed and the resulting concrete seal should be monolithic and homogeneous. The tip of the tremie tube should always be kept about 5 feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

8.20.7 A special concrete mix should be used for concrete to be placed below water. The design should provide for concrete with an unconfined compressive strength psi of 1,000 pounds per square inch (psi) over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste should be included. The slump should be commensurate to any research report for the admixture, provided that it should also be the minimum for a reasonable consistency for placing when water is present.

8.20.8 Caving is anticipated to occur where granular soils are encountered and the contractor should have casing available prior to commencement of pile excavation. When casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of Geocon West, Inc.), is required.

8.20.9 The contractor should be aware that some difficult drilling conditions could be encountered in the alluvium and bedrock. Cobbles and/or occasional boulders may be encountered within the alluvium, and concretions or well cemented layers may be encountered in the bedrock. Coring or jack-hammering may be required if concretions or well cemented layers are encountered. The contractor should be prepared for these conditions prior to commencement of drilling activities.

8.20.10 If a vibratory method of solider pile installation is utilized, predrilling may be performed prior to installation of the steel beams. If predrilling is performed, it is recommended that the bore diameter be at least 2 inches smaller than the largest dimension of the pile to prevent excessive loss in the frictional component of the pile capacity. Predrilling should not be conducted below the proposed excavation bottom.

8.20.11 If a vibratory method is utilized, the owner should be aware of the potential risks associated with vibratory efforts, which typically involve inducing settlement within the vicinity of the pile which could result in a potential for damage to existing improvements in the area.

8.20.12 The level of vibration that results from the installation of the piles should not exceed a threshold where occupants of nearby structures are disturbed, despite higher vibration tolerances that a building may endure without deformation or damage. The main parameter used for vibration assessment is peak particle velocity in units of inch per second (in/sec). The acceptable range of peak particle velocity should be evaluated based on the age and condition of adjacent structures, as well as the tolerance of human response to vibration.

8.20.13 Based on Table 19 of the *Transportation and Construction Induced Vibration Guidance Manual* (Caltrans 2013), a continuous source of vibrations (ex. vibratory pile driving) which generates a maximum peak particle velocity of 0.5 in/sec is considered tolerable for modern industrial/commercial buildings and new residential structures. The Client should be aware that a lower value may be necessary if older or fragile structures are in the immediate vicinity of the site.

8.20.14 Vibrations should be monitored and record with seismographs during pile installation to detect the magnitude of vibration and oscillation experienced by adjacent structures. If the vibrations exceed the acceptable range during installation, the shoring contractor should modify the installation procedure to reduce the values to within the acceptable range. Vibration monitoring is not the responsibility of the Geotechnical Engineer.

8.20.15 Geocon does not practice in the field of vibration monitoring. If construction techniques will be implemented, it is recommended that qualified consultant be retained to provide site specific recommendations for vibration thresholds and monitoring.

8.20.16 The frictional resistance between the soldier piles and retained soil may be used to resist the vertical component of the anchor load. The coefficient of friction may be taken as 0.35 based on uniform contact between the steel beam and lean-mix concrete and retained earth. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 1,000 psf per foot.

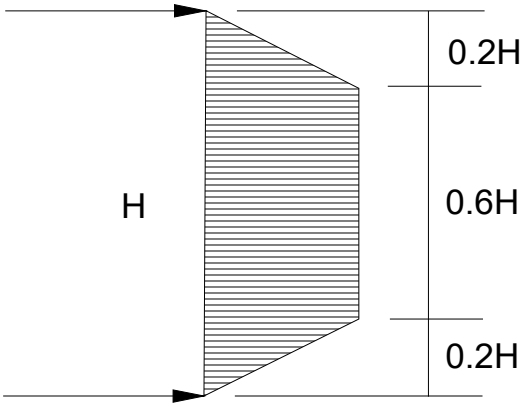
8.20.17 Due to the nature of the site soils and potential for joints and fractures within the bedrock, it is expected that continuous lagging between soldier piles will be required. However, it is recommended that the exposed soils be observed by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify the presence of any competent, cohesive soils and the areas where lagging may be omitted.

8.20.18 The time between lagging excavation and lagging placement should be as short as possible soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. It is recommended that the lagging be designed for the full design pressure but be limited to a maximum of 400 pounds per square foot.

8.20.19 For the design of shoring, it is recommended that an equivalent fluid pressure be utilized for design. A trapezoidal distribution of lateral earth pressure may be used where shoring will be restrained by bracing or tie backs. The recommended active and trapezoidal pressures are provided in the following table. A diagram depicting the trapezoidal pressure distribution of lateral earth pressure is provided below the table Calculation of the recommended shoring pressures is provided as Figure 11.

HEIGHT OF SHORING (FEET)	EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (ACTIVE PRESSURE)	EQUIVALENT FLUID PRESSURE (Pounds Per Square Foot per Foot) Active Trapezoidal (Where H is the height of the shoring in feet)
Up to 95	25	16H

Trapezoidal Distribution of Pressure



8.20.20 It is very important to note that active pressures can only be achieved when movement in the soil (earth wall) occurs. If movement in the soil is not acceptable, such as adjacent to an existing structure, an at-rest pressure of 45 pcf should be considered for design purposes.

8.20.21 Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be added for a surcharge condition due to slopes, vehicular traffic or adjacent structures and should be designed for each condition. The surcharge pressure should be evaluated in accordance with the recommendations in Section 8.25 of this report.

8.20.22 In addition to the recommended earth pressure, the upper 10 feet of the shoring adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least 10 feet from the shoring, the traffic surcharge may be neglected.

8.20.23 It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. Where public right-of-ways are present or adjacent offsite structures do not surcharge the shoring excavation, the shoring deflection should be limited to less than 1 inch at the top of the shored embankment. Where offsite structures are within the shoring surcharge area it is

recommended that the beam deflection be limited to less than ½ inch at the elevation of the adjacent offsite foundation, and no deflection at all if deflections will damage existing structures. The allowable deflection is dependent on many factors, such as the presence of structures and utilities near the top of the embankment, and will be assessed and designed by the project shoring engineer.

8.20.24 Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles.

8.20.25 Due to the depth of the depth of the excavation and proximity to adjacent structures, it is suggested that prior to excavation the existing improvements be inspected to document the present condition. For documentation purposes, photographs should be taken of preconstruction distress conditions and level surveys of adjacent grade and pavement should be considered. During excavation activities, the adjacent structures and pavement should be periodically inspected for signs of distress. In the even that distress or settlement is noted, an investigation should be performed and corrective measures taken so that continued or worsened distress or settlement is mitigated. Documentation and monitoring of the offsite structures and improvements is not the responsibility of the geotechnical engineer.

8.21 Temporary Tie-Back Anchors

8.21.1 Temporary tie-back anchors may be used with the solider pile wall system to resist lateral loads. Post-grouted friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Friction anchors should extend a minimum of 20 feet beyond the potentially active wedge and to greater lengths if necessary to develop the desired capacities. The locations and depths of all offsite utilities should be thoroughly checked and incorporated into the drilling angle design for the tie-back anchors.

8.21.2 The capacities of the anchors should be determined by testing of the initial anchors as outlined in a following section. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. Anchors should be placed at least 6 feet on center to be considered isolated. For preliminary design purposes, it is estimated that drilled friction anchors constructed without utilizing post-grouting techniques will develop average skin frictions as follows:

- 10 feet below the top of the excavation – 1,500 pounds per square foot
- 30 feet below the top of the excavation – 3,000 pounds per square foot
- 50 feet below the top of the excavation – 3,900 pounds per square foot
- 70 feet below the top of the excavation – 4,500 pounds per square foot

8.21.3 Only the frictional resistance developed beyond the active wedge should be utilized in resisting lateral loads.

8.22 Anchor Installation

8.22.1 Tied-back anchors are typically installed between 20 and 40 degrees below the horizontal; however, occasionally alternative angles are necessary to avoid existing improvements and utilities. The locations and depths of all offsite utilities should be thoroughly checked prior to design and installation of the tie-back anchors. Caving of the anchor shafts, particularly within sand and gravel deposits or seepage zones, should be anticipated during installation and provisions should be implemented in order to minimize such caving. It is suggested that hollow-stem auger drilling equipment be used to install the anchors. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

8.23 Anchor Testing

8.23.1 All of the anchors should be tested to at least 150 percent of design load. The total deflection during this test should not exceed 12 inches. The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading.

8.23.2 At least ten percent of the anchors should be selected for "quick" 200 percent tests and three additional anchors should be selected for 24-hour 200 percent tests. The purpose of the 200 percent tests is to verify the friction value assumed in design. The anchors should be tested to develop twice the assumed friction value. These tests should be performed prior to installation of additional tiebacks. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

8.23.3 The total deflection during the 24-hour 200 percent test should not exceed 12 inches. During the 24-hour tests, the anchor deflection should not exceed 0.75 inches measured after the 200 percent test load is applied.

8.23.4 For the "quick" 200 percent tests, the 200 percent test load should be maintained for 30 minutes. The total deflection of the anchor during the 200 percent quick tests should not exceed 12 inches; the deflection after the 200 percent load has been applied should not exceed 0.25 inch during the 30-minute period.

8.23.5 After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. A representative of this firm should observe the installation and testing of the anchors.

8.24 Internal Bracing

8.24.1 Rakers may be utilized to brace the soldier piles in lieu of tieback anchors. The raker bracing could be supported laterally by temporary concrete footings (deadmen) or by the permanent, interior footings. For design of such temporary footings or deadmen, poured with the bearing surface normal to rakers inclined at 45 degrees, a bearing value of 6,000 psf may be used, provided the shallowest point of the footing is at least 1 foot below the lowest adjacent grade. The structural engineer should review the shoring plans to determine if raker footings conflict with the structural foundation system. The client should be aware that the utilization of rakers could significantly impact the construction schedule do to their intrusion into the construction site and potential interference with equipment.

8.25 Surcharge from Adjacent Structures and Improvements

8.25.1 Additional pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

8.25.2 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20 \times \left(\frac{z}{H}\right)}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^2} \times \frac{Q_L}{H}$$

where x is the distance from the face of the excavation or wall to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation or wall, z is the depth at which the horizontal pressure is desired, Q_L is the vertical line-load and $\sigma_{H(z)}$ is the horizontal pressure at depth z.

8.25.3 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28 \times \left(\frac{z}{H}\right)^2}{\left[0.16 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77 \times \left(\frac{x}{H}\right)^2 \times \left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2 + \left(\frac{z}{H}\right)^2\right]^3} \times \frac{Q_P}{H^2}$$

then

$$\sigma'_H\,(z) = \sigma_H(z) cos^2(1.1\theta)$$

where x is the distance from the face of the excavation/wall to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_p is the vertical point-load, $\sigma_H(z)$ is the horizontal pressure at depth z, θ is the angle between a line perpendicular to the excavation/wall and a line from the point-load to location on the excavation/wall where the surcharge is being evaluated, and $\sigma_H(z)$ is the horizontal pressure at depth z.

8.26 Surface Drainage

8.26.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

8.26.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

8.26.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

8.26.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

8.27 Plan Review

8.27.1 Grading, foundation, and shoring plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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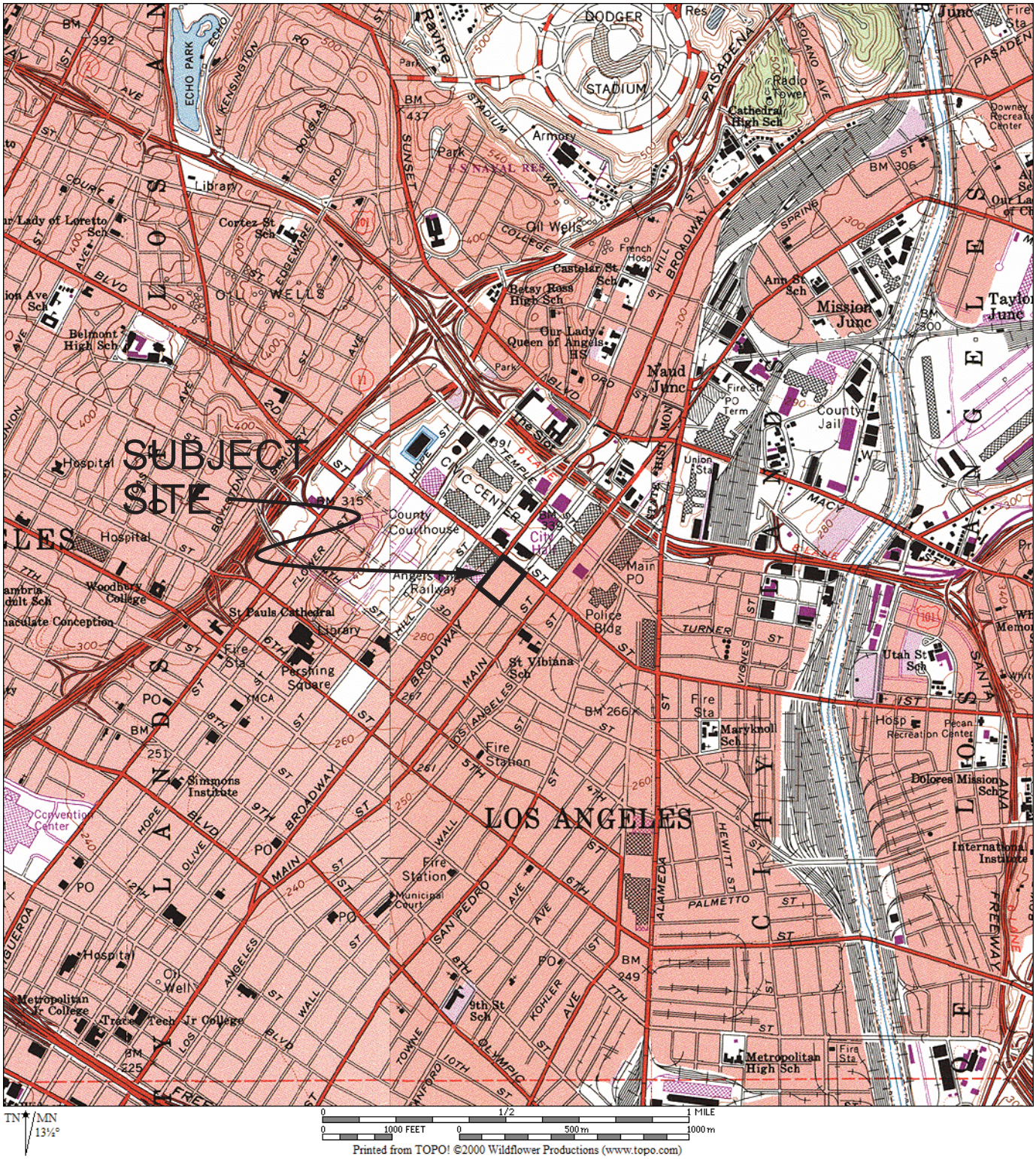

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VICINITY MAP

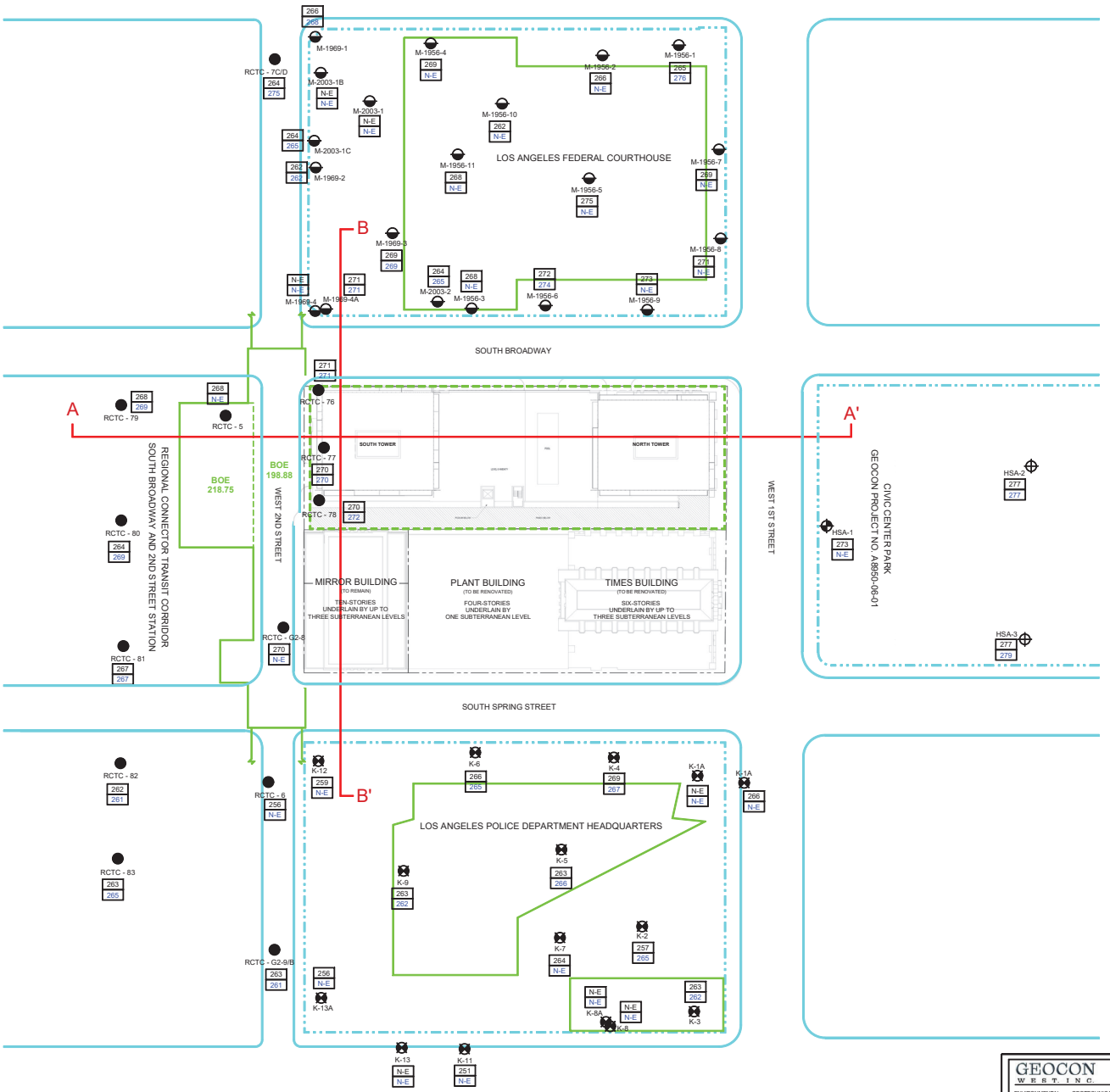
ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 1

LEGEND

- HSA-3 — GEOCON 2013 (A8950-06-01)
- K-13A — KLEINFELDER (2005)
- M-2003-4 — MACTEC (2004)
- RCTC - XXXX — REGIONAL CONNECTOR TRANSIT COORIDOR PROJECT
- XXX / XXX — BEDROCK CONTACT ELEVATION (feet, MSL) / GROUNDWATER SEEPAGE ELEVATION (feet, MSL)

NOTES: Bedrock Contact Elevation Rounded to Nearest Foot
N-E indicates not encountered
Structure footprints are approximate
Subterranean levels of LA Courthouse and Police Headquarters not shown



TRUE NORTH
PROJECT NORTH
0 60' 120'

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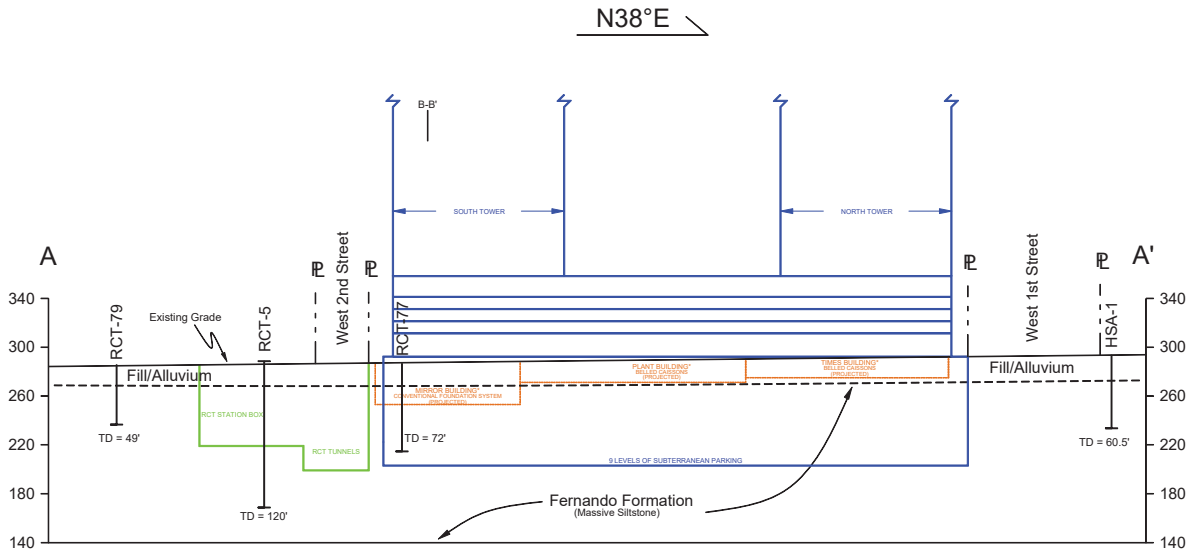
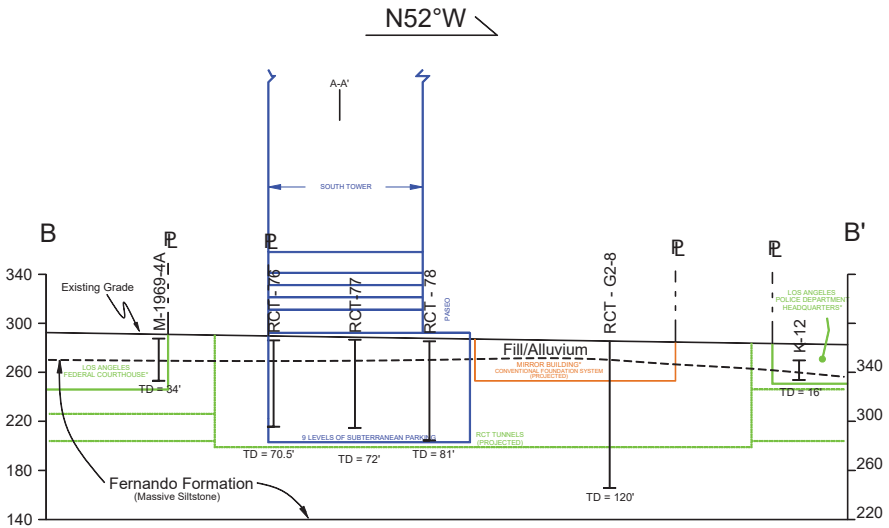
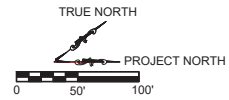
SITE PLAN
ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA
SEPT 2017 | PROJECT NO. A9521-06-01A | FIG. 2



* Projection of Adjacent Buildings depict assumed FFE
Foundation systems are not shown.



* Projection of Buildings depict assumed footprint and FFE
Foundation systems are not shown.



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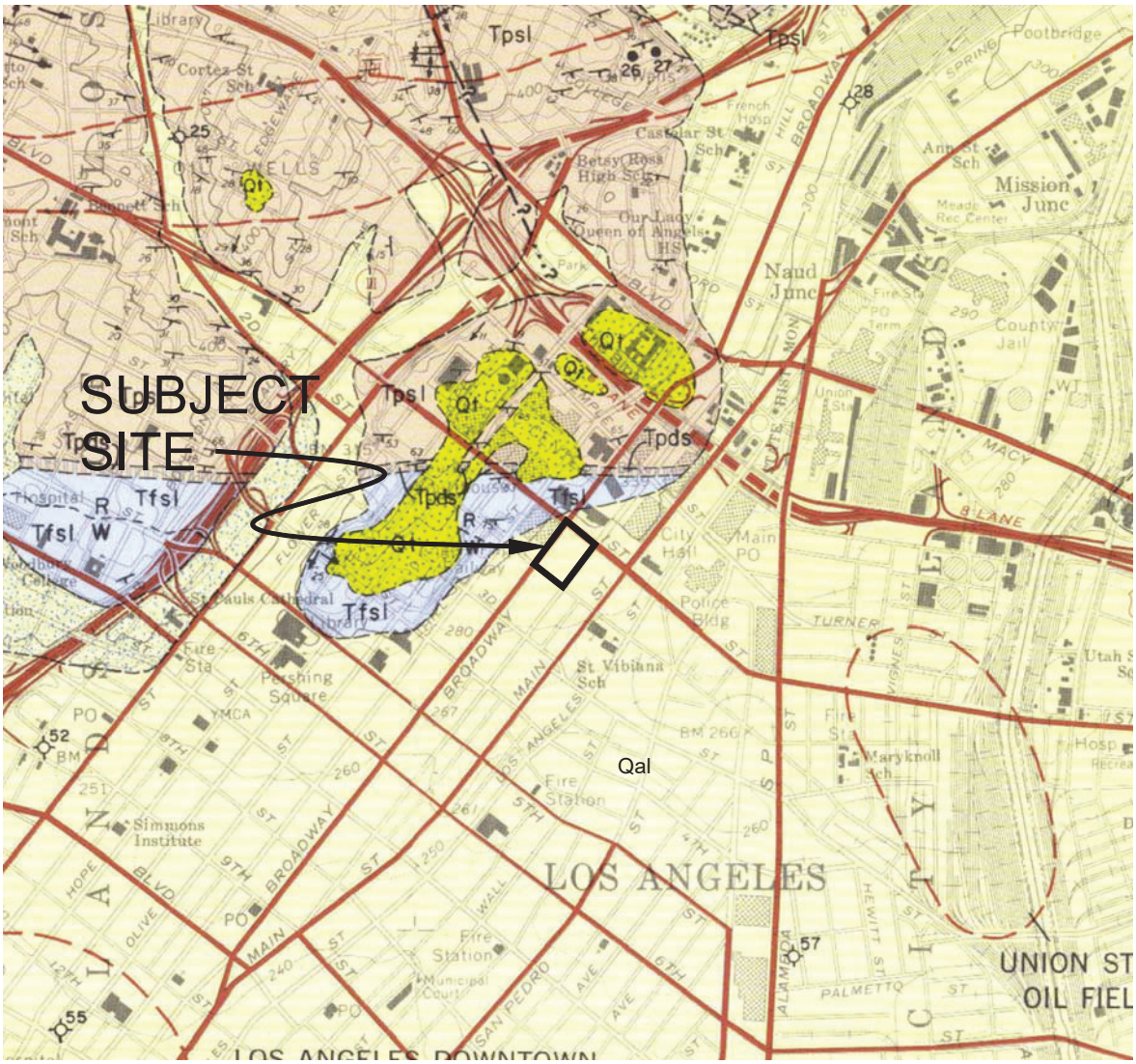
CROSS-SECTIONS
ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017 | PROJECT NO. A9521-06-01A | FIG. 3

REFERENCE: LAMAR, D. L., 1970, GEOLOGIC MAP OF THE ELYSIAN PARK - REPETTO HILLS AREA, LOS ANGELES COUNTY, CALIFORNIA



LEGEND

Qal - (Holocene) Alluvium
Qt - (Pleistocene) Terrace Deposits
Tfsl - (Pliocene) Fernando Formation: Massive Siltstone
Tpsl - (Miocene) Puente Formation: Well bedded Siltstone
Tpds - (Miocene) Puente Formation: Diatomaceous shale
58 - STRIKE AND DIP OF BEDDING
- HORIZONTAL BEDDING
- ANTICLINE
- SYNCLINE

SCALE
0 2000' 4000'

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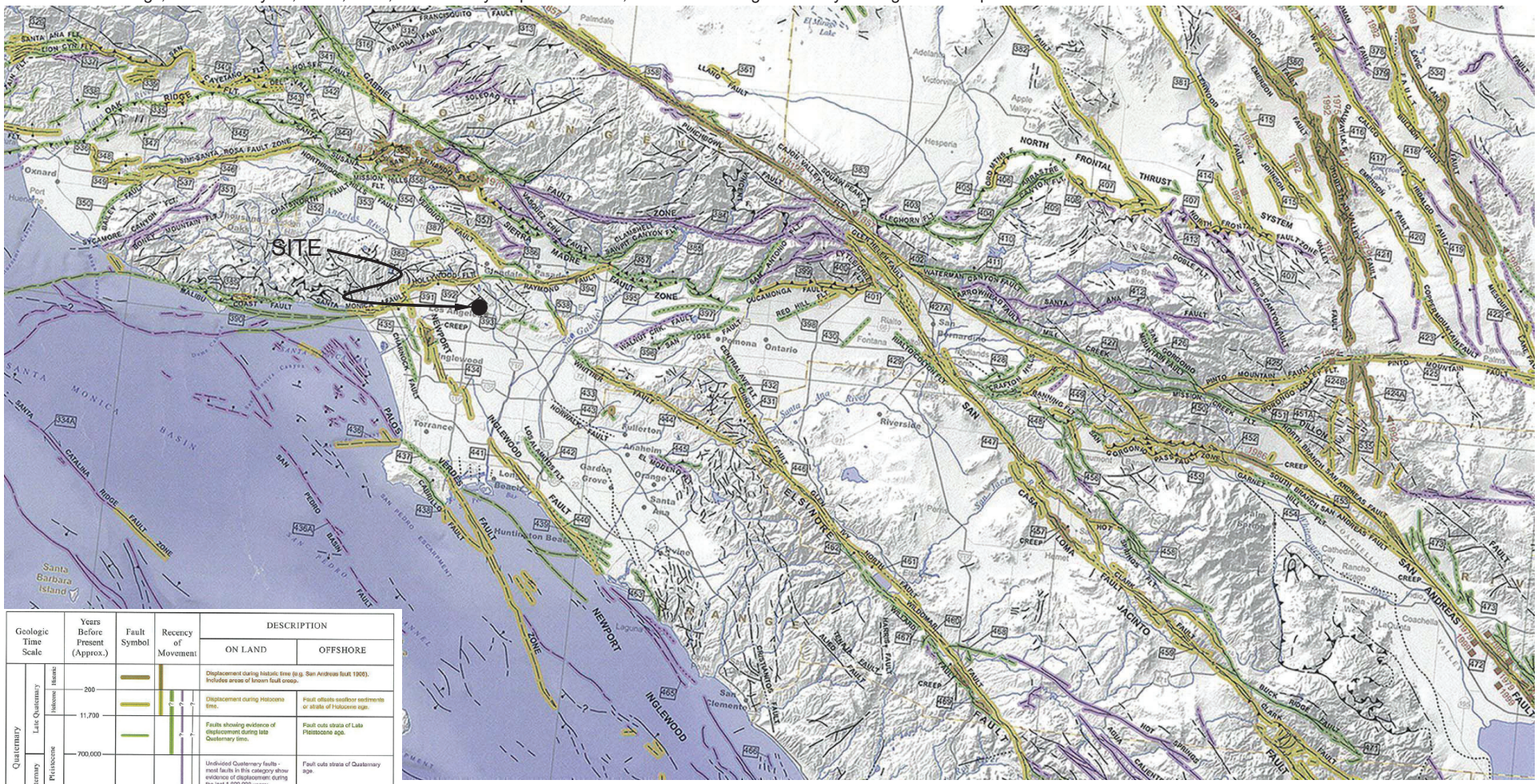
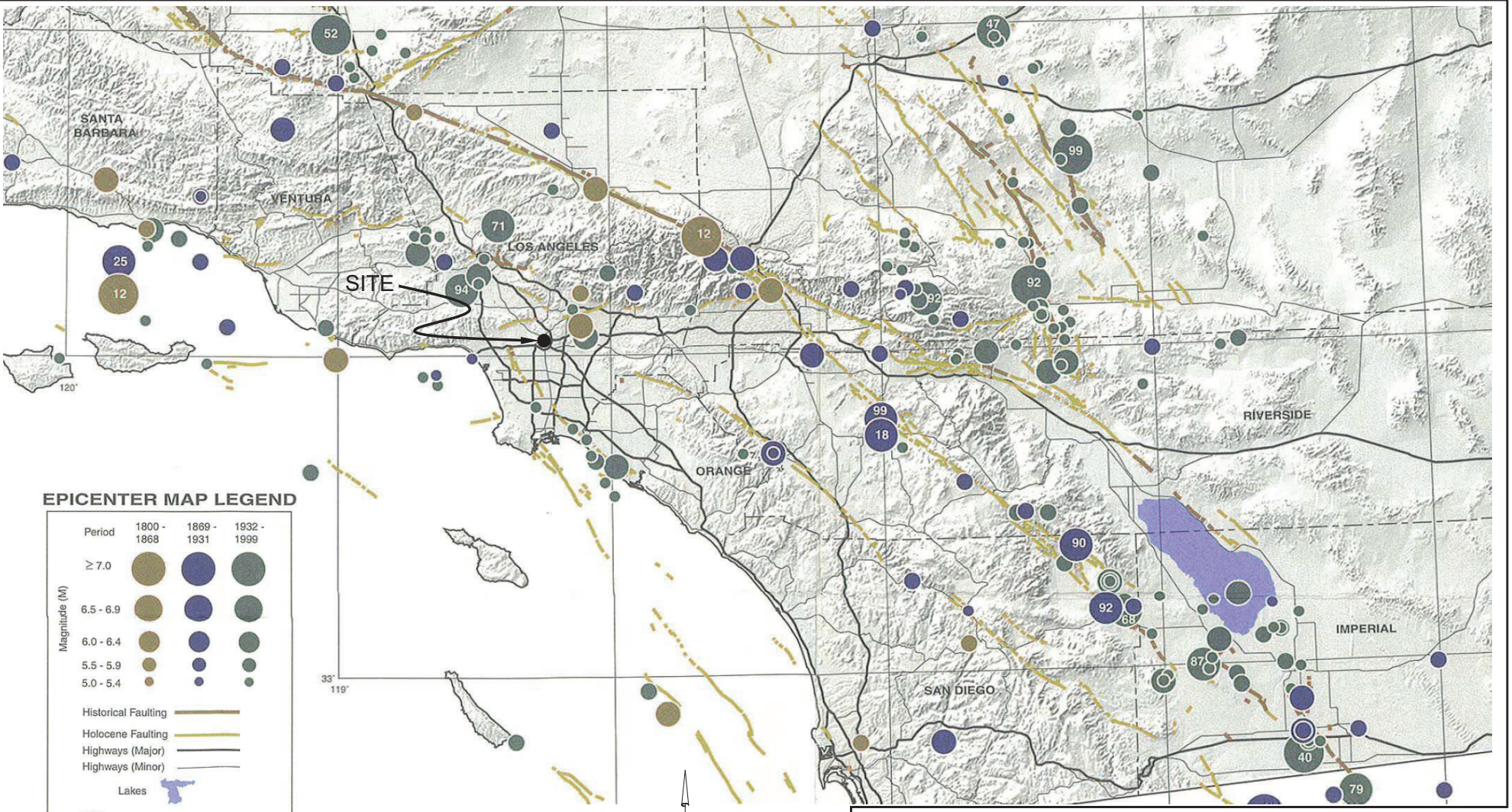
LOCAL GEOLOGIC MAP

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017 | PROJECT NO. A9521-06-01A | FIG. 4

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.


SITE
SANTA MONICA BASIN
SAN PEDRO BASIN
SAN GABRIEL MTNS
SAN BERNARDINO MTNS
SANTA MONICA MTNS
Santa Barbara Island
Oxnard
Port Hueneme
Palmdale
Lancaster
Victorville
Apple Valley
Hesperia
Adelanto
Big Bear Lake
Lake Arrowhead
Lake Elsinore
Lake Perris
Riverside
San Bernardino
Redlands
Rialto
Fontana
Ontario
Pomona
Chino
Corona
Norco
Anaheim
Orange
Santa Ana
Fullerton
Torrance
Inglewood
Long Beach
Huntington Beach
Newport Beach
Laguna Beach
Irvine
Lake Forest
Mission Viejo
San Clemente
Temecula
Murrieta
Hemet
San Jacinto
Banning
Beaumont
Cabazon
Indio
Coachella
Palm Springs
Cathedral City
Rancho Mirage
Palm Desert
La Quinta
Indian Wells
Thousand Oaks
Simi Valley
Moorpark
Camarillo
Ventura
Santa Clarita
Newhall
Saugus
Agua Caliente Springs
Warner Springs
Julian
Borrego Springs
Anza
Idyllwild
Yucaipa
Calimesa
Colton
Loma Linda
Highland
Mentone
Grand Terrace
Bloomington
Rialto
Muscoy
Devore
Cajon Pass
Wrightwood
Phelan
Pinon Hills
Oak Hills
Hesperia
Victorville
Adelanto
Apple Valley
Helendale
Silver Lakes
Baker
Barstow
Yermo
Daggett
Newberry Springs
Ludlow
Amboy
Twentynine Palms
Joshua Tree
Yucca Valley
Morongo Valley
Desert Hot Springs
Whitewater
Mecca
Thermal
Oasis
North Shore
Salton City
Bombay Beach
Niland
Calipatria
Brawley
Imperial
El Centro
Holtville
Calexico
Westmorland
Heber
Seeley
Plaster City
Ocotillo
Jacumba
Boulevard
Campo
Pine Valley
Descanso
Alpine
Lakeside
El Cajon
La Mesa
Spring Valley
Lemon Grove
National City
Chula Vista
Imperial Beach
Coronado
San Diego
Point Loma
Ocean Beach
Mission Bay
Pacific Beach
La Jolla
Del Mar
Solana Beach
Encinitas
Carlsbad
Oceanside
Vista
San Marcos
Escondido
Valley Center
Pauma Valley
Pala
Rainbow
Fallbrook
Bonsall
De Luz
Temecula
Murrieta
Wildomar
Lake Elsinore
Canyon Lake
Menifee
Sun City
Perris
Moreno Valley
Riverside
Norco
Corona
Eastvale
Jurupa Valley
Mira Loma
Ontario
Chino
Chino Hills
Diamond Bar
Walnut
Rowland Heights
La Habra Heights
Whittier
La Mirada
Buena Park
Cypress
Stanton
Garden Grove
Westminster
Fountain Valley
Huntington Beach
Seal Beach
Los Alamitos
Cypress
Fullerton
Brea
La Habra
Yorba Linda
Placentia
Anaheim
Orange
Tustin
Irvine
Lake Forest
Laguna Hills
Laguna Woods
Laguna Niguel
Dana Point
San Juan Capistrano
San Clemente
Rancho Santa Margarita
Mission Viejo
Aliso Viejo
Laguna Beach
Laguna Canyon
Crystal Cove
Corona del Mar
Newport Beach
Balboa Island
Balboa Peninsula
Huntington Harbour
Sunset Beach
Surfside
Long Beach
Signal Hill
Lakewood
Hawaiian Gardens
Artesia
Cerritos
Norwalk
Santa Fe Springs
La Mirada
Whittier
Pico Rivera
Montebello
Commerce
Bell
Bell Gardens
Cudahy
Huntington Park
South Gate
Lynwood
Compton
Carson
Gardena
Hawthorne
Lawndale
Redondo Beach
Torrance
Palos Verdes Estates
Rancho Palos Verdes
Rolling Hills
Rolling Hills Estates
Rancho Palos Verdes
San Pedro
Wilmington
Harbor City
Lomita
Gardena
Inglewood
Culver City
Marina del Rey
Venice
Santa Monica
Pacific Palisades
Malibu
Topanga
Calabasas
Agoura Hills
Westlake Village
Thousand Oaks
Newbury Park
Oak Park
Simi Valley
Moorpark
Camarillo
Oxnard
Port Hueneme
Ventura
Santa Paula
Fillmore
Piru
Castaic
Valencia
Stevenson Ranch
Santa Clarita
Newhall
Saugus
Canyon Country
Acton
Agua Dulce
Lake Hughes
Gorman
Frazier Park
Lebec
Tejon Pass
Grapevine
Tehachapi
Mojave
Rosamond
Edwards AFB
Lancaster
Palmdale
Littlerock
Pearblossom
Llano
Juniper Hills
Valyermo



Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

GEOCON WEST, INC.
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PHONE (818) 841-8388 - FAX (818) 841-1704

DRAFTED BY: JTA | CHECKED BY: SFK

REGIONAL SEISMICITY MAP

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017 | PROJECT NO. A9521-06-01A | FIG. 6

REFERENCE: C.D.M.G. SEISMIC HAZARD ZONE MAP, LOS ANGELES QUADRANGLE, CA



NO SCALE

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Drafted by: RMA	Checked by: SFK

SEISMIC HAZARD ZONE MAP

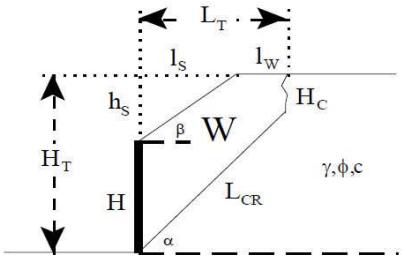
ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 7

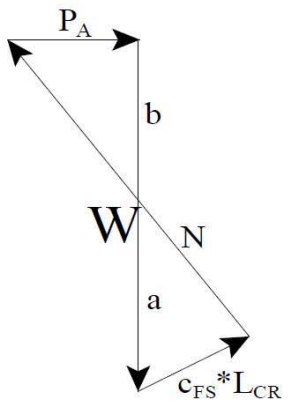
Retaining Wall Design with Transitioned Backfill
(Vector Analysis)

Input:

Retaining Wall Height	(H)	75.00	feet
Slope Angle of Backfill	(b)	0.0	degrees
Height of Slope above Wall	(h_s)	0.0	feet
Horizontal Length of Slope	(l_s)	0.0	feet
Total Height (Wall + Slope)	(H_T)	75.0	feet
Unit Weight of Retained Soils	(g)	120.0	pcf
Friction Angle of Retained Soils	(f)	30.0	degrees
Cohesion of Retained Soils	(c)	1700.0	psf
Factor of Safety	(FS)	1.50	
Factored Parameters:	(f_{FS})	21.1	degrees
	(c_{FS})	1133.3	psf



Failure Angle (a) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	30.7	2341	280918.7	62.6	163215.3	117703.4	52277.7
46	30.1	2279	273489.0	62.4	156582.5	116906.5	54386.0
47	29.5	2216	265912.5	62.2	150265.2	115647.3	56275.8
48	29.1	2152	258243.9	61.8	144258.0	113985.9	57949.2
49	28.7	2088	250525.4	61.4	138551.0	111974.3	59408.2
50	28.3	2023	242789.0	60.9	133131.0	109658.0	60655.0
51	28.1	1959	235059.2	60.4	127983.0	107076.2	61691.7
52	27.8	1895	227354.4	59.8	123090.9	104263.5	62519.8
53	27.7	1831	219688.2	59.3	118438.4	101249.8	63140.9
54	27.6	1767	212070.5	58.6	114009.1	98061.4	63556.0
55	27.5	1704	204508.1	58.0	109786.6	94721.4	63766.1
56	27.5	1642	197005.2	57.3	105755.1	91250.2	63771.4
57	27.6	1580	189564.3	56.6	101898.8	87665.6	63571.9
58	27.7	1518	182186.2	55.8	98202.6	83983.6	63167.4
59	27.8	1457	174870.0	55.0	94651.6	80218.4	62557.0
60	28.0	1397	167614.2	54.2	91231.3	76382.9	61739.6
61	28.3	1337	160415.9	53.4	87927.2	72488.7	60713.8
62	28.6	1277	153271.4	52.5	84725.0	68546.4	59477.9
63	29.0	1218	146176.2	51.6	81610.4	64565.8	58029.9
64	29.5	1159	139125.1	50.6	78568.7	60556.4	56367.6
65	30.1	1101	132111.9	49.6	75584.8	56527.1	54489.1
66	30.7	1043	125129.8	48.5	72643.0	52486.8	52392.1
67	31.4	985	118170.8	47.4	69726.4	48444.3	50075.0
68	32.2	927	111226.0	46.2	66816.9	44409.0	47536.8
69	33.1	869	104285.3	44.9	63894.5	40390.8	44777.1
70	34.2	811	97337.0	43.4	60936.6	36400.3	41797.5



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+f_{FS})/\sin(a-f_{FS})$

$b = W-a$

$P_A = b*\tan(a-f_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\,max}$ 63771.4 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP	22.7 pcf	43.0 pcf
Design Wall for an Equivalent Fluid Pressure:	**30 pcf**	**50 pcf**

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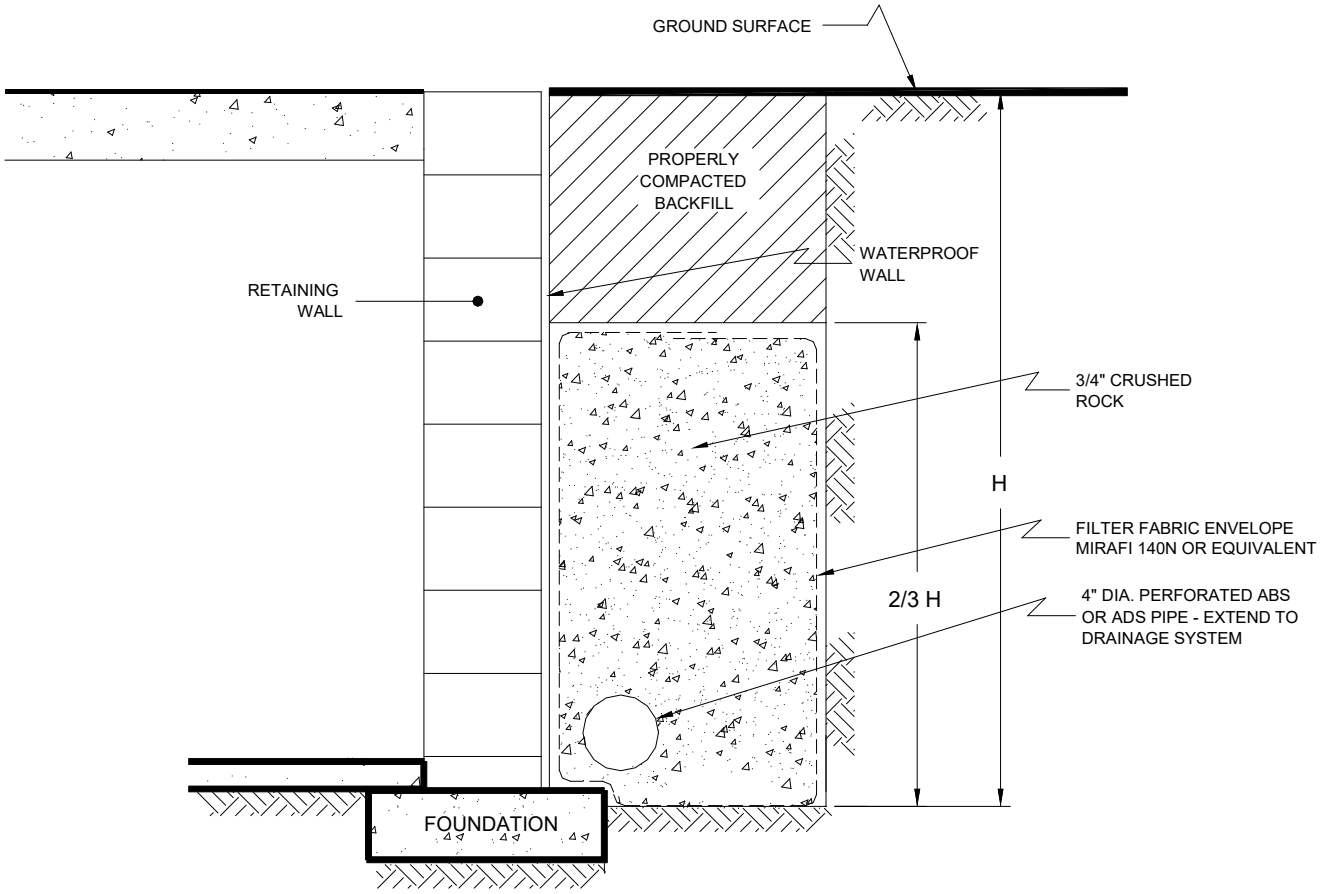
RETAINING WALL PRESSURE CALCULATION

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

Drafted by: JTA	Checked by: NDB	SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 8



NO SCALE

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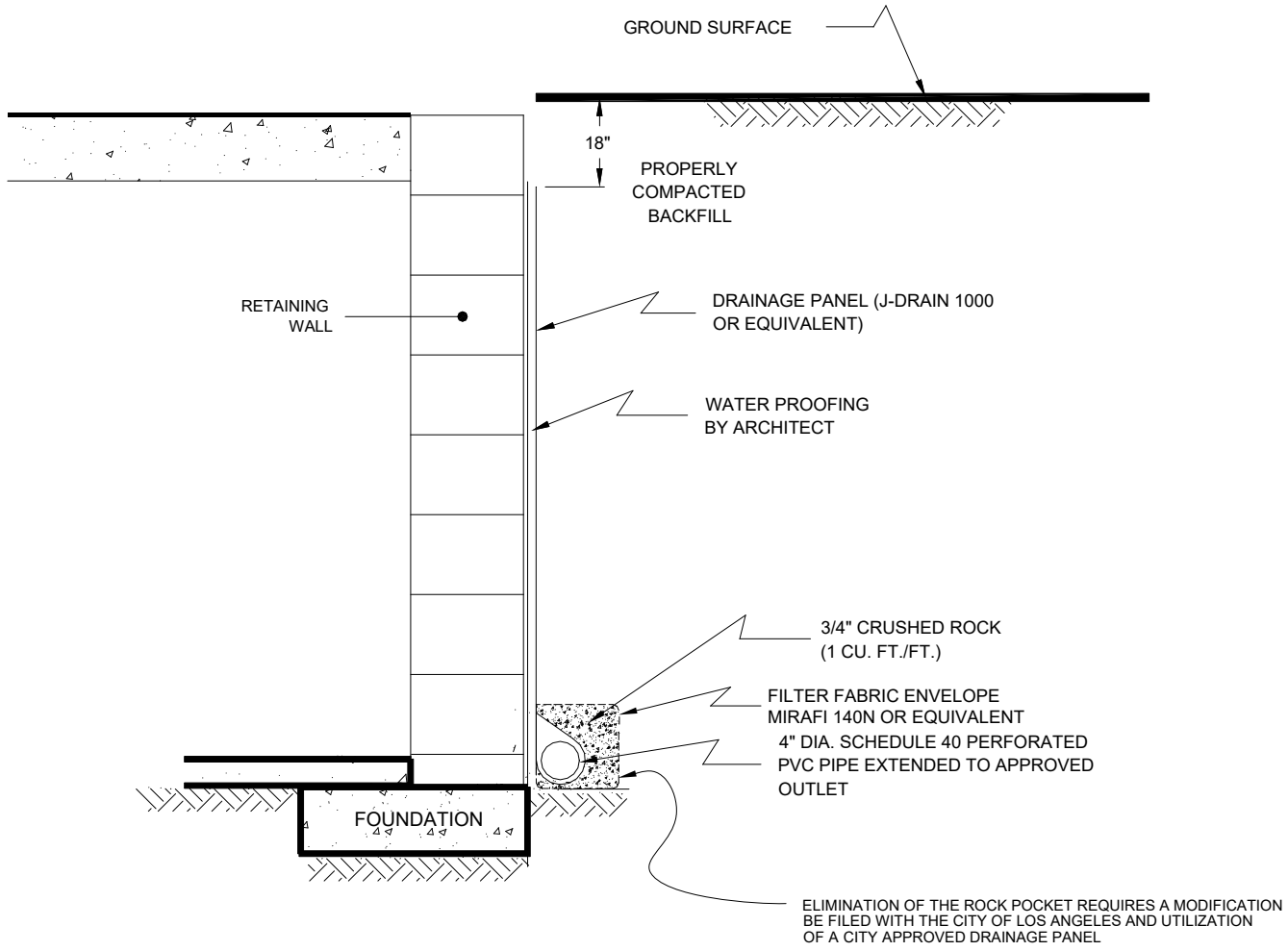
RETAINING WALL DRAIN DETAIL

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 9



NO SCALE

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PHONE (818) 841-8388 - FAX (818) 841-1704

Drafted by: JTA	Checked by: NDB

RETAINING WALL DRAIN DETAIL

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 10

Table 1 – Major Active Faults in Southern California

Fault Name (alphabetical order)	Geometry	M_{max} *	Slip Rate* (mm/yr)	Source	Distance from Site (miles)	Direction from Site
Anacapa-Dume	RO	B	7.5	3.0	41	W
Big Pine	SS	B	6.9	0.8	68	NW
Chino-Central Avenue	RO	B	6.7	1.0	28	E
Clamshell-Sawpit	RO	B	6.5	0.5	15.5	NE
Coronado Bank	SS	B	7.6	3.0	36	S
Cucamonga	N	B	6.9	5.0	33	ENE
Duarte	RO	B	6.7	0.1	16	NE
Elsinore (Glen Ivy)	SS	A	6.8	5.0	37	SE
Elsinore (Temecula)	SS	A	6.8	5.0	67	SE
Hollywood	RO	B	6.4	1.0	4.5	N
Malibu Coast	RO	B	6.7	0.3	24	W
Newport-Inglewood Zone	SS	B	7.1	1.0	7.0	WSW
Northridge	BT	B	7.0	1.5	14.9	NW
Oakridge	RO	B	7.0	4.0	39	NW
Palos Verdes	SS	B	7.3	3.0	18	SSW
Puente Hills Blind Thrust	BT	B	7.1	0.7	---	---
Raymond	RO	B	6.5	1.5	5.2	NNE
Red Mountain	R	B	7.0	2.0	63	NW
Rose Canyon	SS	B	7.2	1.5	78	SSE
San Andreas (Mojave)	SS	A	7.4	30.0	34	NE
San Andreas (San Bernardino)	SS	A	7.5	24.0	48	ENE
San Cayetano	R	B	7.0	6.0	37	NW
San Fernando	R	B	6.7	2.0	15.5	N
San Gabriel	SS	B	7.2	1.0	16.5	NE
San Jacinto (San Jacinto)	SS	A	6.9	12.0	66	ESE
San Jacinto (San Bernardino)	SS	A	6.7	12.0	46	ENE
San Joaquin Hills	BT	B	6.6	0.5	30	S
Santa Cruz Island	RO	B	7.0	1.0	60	E
Santa Monica	RO	B	6.6	1.0	10.5	W
Santa Susana	R	B	6.7	5.0	23	NW
Sierra Madre	R	B	7.2	2.0	10.5	NNE
Simi-Santa Rosa	RO	B	7.0	1.0	29	NW
Upper Elysian Park	BT	B	6.4	1.3	---	---
Verdugo	R	B	6.9	0.5	6.5	N
Whittier	SS	A	6.8	2.5	14.5	ESE

*CGS, 2003

Table 2 – Potentially Active Faults in the Los Angeles Area

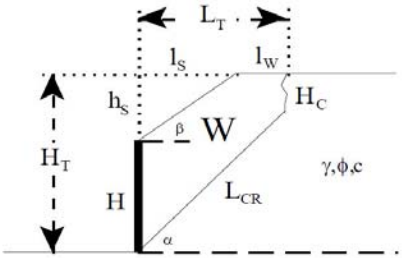
Fault Name (alphabetical order)	Geometry	M_{max} *	Slip Rate* (mm/yr)	Source	Distance from Site (miles)	Direction from Site
Charnock	SS	6.5	0.1	(c)	10.4	SW
Coyote Pass	RO	6.7	0.1	(b)	2.1	SE
El Modeno	NO	6.5	0.1	(b)	26	SE
Holser	RO	6.5	0.4	(a)	35	NNW
Indian Hill	RO	6.6	0.1	(b)	20	ENE
Los Alamitos	SS	6.2	0.1	(b)	16	SE
MacArthur Park	RO	5.7	0.1	(e)	0.6	SW
Northridge Hills	SS	6.6	0.1	(d)	17.5	NW
Norwalk	RO	6.7	0.1	(c)	13	SE
Overland	SS	6.0	0.1	(c)	9.4	SW
San Jose	RO	6.4	0.5	(a)	20.5	E

(a) California Geological Survey, 2003
(b) Mark, 1977
(c) Slemmons, 1979
(d) Wesnousky, 1986
(e) Hummon et al., 1994
SS Strike Slip
NO Normal Oblique
RO Reverse Oblique
BT Blind Thrust

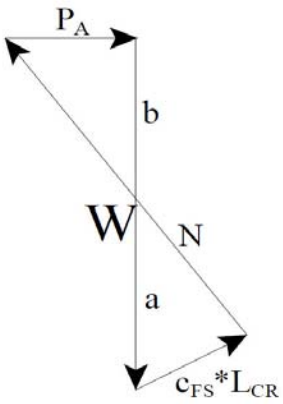
Shoring Design with Transitioned Backfill
(Vector Analysis)

Input:

Shoring Height	(H)	95.00	feet
Slope Angle of Backfill	(b)	0.0	degrees
Height of Slope above Shoring	(h_s)	0.0	feet
Horizontal Length of Slope	(l_s)	0.0	feet
Total Height (Shoring + Slope)	(H_T)	95.0	feet
Unit Weight of Retained Soils	(g)	120.0	pcf
Friction Angle of Retained Soils	(f)	30.0	degrees
Cohesion of Retained Soils	(c)	1700.0	psf
Factor of Safety	(FS)	1.25	
Factored Parameters:	(f_{FS})	24.8	degrees
	(c_{FS})	1360.0	psf



Failure Angle (a) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	42.1	3625	435044.4	74.8	267279.2	167765.1	61754.5
46	40.9	3548	425796.9	75.1	256476.3	169320.6	65704.8
47	39.9	3465	415824.8	75.3	246037.0	169787.8	69319.3
48	39.0	3378	405320.0	75.3	236011.8	169308.2	72596.1
49	38.2	3287	394429.2	75.2	226424.4	168004.8	75535.1
50	37.6	3194	383265.0	75.0	217280.7	165984.3	78137.2
51	37.0	3099	371914.0	74.6	208574.4	163339.6	80403.9
52	36.6	3004	360442.8	74.2	200291.8	160151.0	82337.2
53	36.2	2908	348902.7	73.7	192414.1	156488.6	83939.1
54	35.9	2811	337333.0	73.1	184919.7	152413.2	85211.3
55	35.7	2715	325763.4	72.5	177785.1	147978.2	86155.5
56	35.5	2618	314216.1	71.8	170986.1	143230.0	86773.0
57	35.4	2523	302707.5	71.0	164498.0	138209.5	87064.5
58	35.5	2427	291248.9	70.2	158296.4	132952.5	87030.6
59	35.5	2332	279847.8	69.4	152356.9	127490.8	86671.0
60	35.7	2238	268508.4	68.5	146655.6	121852.8	85985.5
61	35.9	2144	257232.4	67.5	141168.7	116063.7	84972.9
62	36.2	2050	246018.8	66.5	135872.5	110146.3	83632.0
63	36.6	1957	234864.9	65.5	130743.5	104121.4	81961.1
64	37.1	1865	223766.1	64.4	125757.9	98008.2	79958.4
65	37.7	1773	212715.9	63.2	120891.3	91824.6	77621.8
66	38.4	1681	201706.4	62.0	116118.5	85587.9	74949.5
67	39.2	1589	190727.7	60.6	111413.1	79314.6	71940.1
68	40.1	1498	179768.2	59.2	106746.7	73021.6	68592.7
69	41.2	1407	168814.4	57.7	102088.4	66726.0	64907.9
70	42.4	1315	157850.1	56.0	97404.1	60446.1	60888.1



Design Equations (Vector Analysis):

$a = c_{FS} * L_{CR} * \sin(90+f_{FS}) / \sin(a-f_{FS})$

$b = W-a$

$P_A = b * \tan(a-f_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\,max}$ 87064.5 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of shoring)

$EFP = 2*P_A/H^2$

EFP	19.3 pcf	39.9 pcf
Design Shoring for an Equivalent Fluid Pressure:	**25 pcf**	**45 pcf**

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SHORING PRESSURE CALCULATION

ONNI TIMES SQUARE
PROPOSED HIGH-RISE DEVELOPMENT
201 WEST FIRST STREET
LOS ANGELES, CALIFORNIA

Drafted by: JTA	Checked by: JTA	SEPT 2017	PROJECT NO. A9521-06-01A	FIG. 11

APPENDIX A

APPENDIX A

PRIOR GEOCON INVESTIGATION (CD Only)

GEOTECHNICAL INVESTIGATION

PROPOSED 1st AND BROADWAY
CIVIC CENTER PARK
217 WEST 1ST STREET
LOS ANGELES, CALIFORNIA
TRACT: L A C A MAP NO. 94
LOT: PCL 10 ARB: 2
W.O. E1907670 TOS NO. 13-066

GEOCON
WEST, INC.
GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

CITY OF LOS ANGELES, GEOTECHNICAL ENGINEERING GROUP
LOS ANGELES, CALIFORNIA

PROJECT NO. A8950-06-01

REVISED DECEMBER 20, 2013

Project No. A8950-06-01
REVISED December 20, 2013

VIA OVERNIGHT COURIER

Mr. Christopher F. Johnson
City of Los Angeles, Geotechnical Engineering Group
1149 South Broadway, Suite 120
Los Angeles, CA 90015-2213

Subject: GEOTECHNICAL INVESTIGATION
PROPOSED 1ST AND BROADWAY CIVIC CENTER PARK
217 WEST 1ST STREET, LOS ANGELES, CALIFORNIA
TRACT: L A C A MAP NO. 94
LOT: PCL 10 ARB: 2
W.O. E1907670 TOS NO. 13-066

Dear Mr. Johnson:

In accordance with your authorization of our proposal dated August 29, 2013, we have prepared this geotechnical investigation report for the proposed 1st and Broadway Civic Center Park to be located at 217 West 1st Street in Los Angeles, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed provided the recommendations in this report are followed and implemented during design and construction.

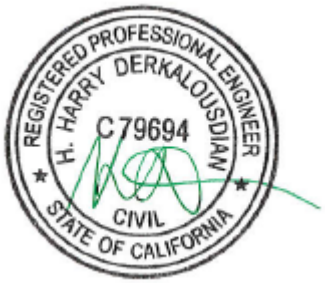
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.



César Larios
CEG 2578



Harry Derkalousdian
PE 79694



Neal D. Berliner
GE 2576

(4+Email) Addressee

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GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the proposed 1st and Broadway Civic Center Park to be located at 217 West 1st Street in Los Angeles, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and based on conditions encountered to provide conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction.

The scope of our investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on October 3 and 4, 2013 by excavating three 8-inch diameter borings utilizing a truck-mounted hollow-stem auger drilling machine. The borings were each excavated to depths of 60½ feet below the existing ground surface. Boring HSA-1 is located approximately 11 feet from the southwest property line along West 1st Street and approximately 160 feet from the northwest property line along North Broadway. Boring HSA-2 is located approximately 21 feet from the northeast property line and approximately 93 feet from the northwest property line along North Broadway. Boring HSA-3 is located approximately 30 feet from the northeast property line and approximately 26 feet from the southeast property line along South Spring Street. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described above, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 217 West 1st Street in Los Angeles, California. The site consists of an approximately 1.96-acre rectangular-shaped parcel which is currently occupied by an existing subterranean parking structure (Structure A) that extends to depths of approximately 34 feet below the existing ground surface, a partially demolished building with a basement level (Structure B) that is anticipated to extend to depths of approximately 25 feet below the existing ground surface, vacant dirt lots, an asphalt paved parking lot, and a concrete ramp with corresponding retaining walls descending from Broadway to the basement of the partially demolished building (see Site Plan and Cross-Sections, Figures 2 and 4). The site is bounded by a

park, concrete driveway and a single-story structure to the northeast; by North Spring Street to the southeast; by West 1st Street to the southwest; and by North Broadway to the northwest. The site is gently sloping to the south with approximately 19 feet of vertical relief across the site. Additionally, there is a small southwest-facing to southeast-facing slope adjacent to the southwestern and southeastern property line, and a small southwestern-facing slope adjacent to the concrete ramp along the northern portion of the site. The slope heights range between 6 and 8 feet, with slope gradients of 2½:1(horizontal to vertical) or flatter. Surface water drainage at the site appears to be by sheet flow along the existing ground contours towards the city streets. Vegetation on the site consists of grasses, shrubs and trees located around the perimeters of the building footprints and in the unpaved portions of the site.

Information concerning the proposed development was furnished by the client. It is our understanding that the proposed project consists of demolishing the existing site structures, backfilling the resulting excavations with site soils and imported soils, and constructing a park at or near the ground surface. The configuration of the proposed park is preliminary at this time; however, it is anticipated to include a small single-story building, shade structures, landscaping, walkways, paving, and light poles. It is unknown at this time where the proposed small single-story building will be located on site; therefore, all engineered fill on site shall be compacted to be primary structural fill. Due to the preliminary nature of the design at this time, it has been estimated that column loads for proposed structures may be up to 50 kips and wall loads may be up to 2 kips per linear foot.

As-built plans of the existing Structure A indicate that the depth to the bottom of the deepest foundation is approximately 34 feet below the ground surface. As-built plans for the existing Structure B were not available, but the subterranean portion is assumed to be two-stories below the existing ground surface. Demolition and removal of the subterranean portions of these structures will require special excavation measures in order to maintain lateral support of adjacent sidewalks, streets, and existing improvements.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located along the southern edge of the Elysian Park Hills. The Elysian Park – Repetto Hills area consist of a series northwest/southeast-trending uplifted hills situated along the northeast edge of the Los Angeles Basin. The Los Angeles River flows along a flood plain channel between the Elysian Park Hills and the Repetto Hills flowing southward into the Los Angeles Basin. The Arroyo Seco flows through the Repetto Hills just south of Mt. Washington and joins the Los Angeles River near the southeastern edge of the Elysian Park Hills. The Elysian Park Hills and the Repetto Hills are predominantly composed of uplifted Pliocene to Miocene Age soft sedimentary bedrock incised by elevated flood plain and uplifted alluvial valley deposits. The site is shown with respect to local and regional geologic features on Figure 3, Local Geologic Map.

4. GEOLOGIC MATERIALS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill over Holocene Age alluvial deposits consisting of varying amounts of sand, silt, and gravel (Lamar, 1970). These Holocene Age sediments are underlain by sedimentary bedrock units of the Pliocene Age Fernando Formation (Lamar, 1970). Detailed stratigraphic profiles of our site explorations are provided on the Boring Logs in Appendix A. Geologic cross-sections are provided on Figure 4, Geologic Sections A-A' & B-B'.

4.1 Artificial Fill

Between 2 and 14 feet of artificial fill was encountered during the site exploration with the thickest accumulations in the vicinity of HSA-1. The artificial fill generally consists of brown to yellowish brown silty sand and sandy silt with various amounts of gravel and construction debris. The artificial fill is characterized as slightly moist and loose or soft to firm, and is likely the result of past grading and or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

The artificial fill is underlain by relatively flat-lying Holocene age alluvial deposits. The alluvium was observed in our field exploration at depths between 2 and 23 feet below the existing ground surface. The alluvium generally consists of approximately 9 to 10 feet of yellowish brown to olive brown sandy silt, sandy clay and clay underlain by approximately 8 to 9 feet of silty sand and poorly graded to well graded sand with varied amounts of gravel and cobbles. The soils are primarily moist, medium dense to dense or firm to stiff, and become denser with increased depth. The soils likely represent interlayered stream channel and flood plain sediments deposited by the ancestral Los Angeles River.

4.3 Fernando Formation

The artificial fill and alluvium are underlain by sedimentary bedrock units of the Pliocene Age Fernando Formation (Lamar, 1970). The Fernando Formation was encountered in our field exploration at depths ranging between 20 and 23 feet below the existing ground surface. As observed during our field investigation, the bedrock mainly consists of olive brown to dark brownish gray, poorly-bedded, massive siltstone. The bedrock is highly weathered, slightly fractured and soft. Based on our review of available geologic maps, the bedrock underling the site generally strikes E-W to N85°E with dips of 65° to 75° to the south (Lamar, 1970 & Dibblee 1989).

5. GROUNDWATER

Based on a review of the Seismic Hazard Zone Report for the Los Angeles 7.5 Minute Quadrangle, Los Angeles County, California (California Division of Mines and Geology, 1998), the historically highest groundwater level in the area is inferred to be approximately 25 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990's. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever reach the historic high levels.

Groundwater seepage was encountered just above the bedrock contact in borings HSA-2 and HSA-3 at depths of 19.8 and 21.0 feet below the ground surface, respectively. It is our opinion that the groundwater seepage encountered does not represent the static groundwater table, but rather exists in discontinuous perched zones within the saturated granular soils overlying the relatively impermeable clayey siltstone bedrock units across the site. It is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils or bedrock which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the region. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.24).

6. GEOLOGIC HAZARDS

6.1 Faulting

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the CGS (California Geological Survey, formerly known as the California Division of Mines and Geology [CDMG]) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (Bryant and Hart, 2007). No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. The site, however, is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 5, Regional Fault Map.

The closest fault with the potential for surface fault rupture is the active Hollywood fault located approximately 4.5 miles north of the site (Ziony and Jones, 1989). Other nearby active faults are the Raymond fault, the Verdugo fault, the Newport-Inglewood fault zone, the Santa Monica fault, and the Sierra Madre fault located 5.2 miles north-northeast (CDMG, 1977), 6.5 miles north, 7.0 miles west-southwest, 10½ miles southeast, and 10½miles north-northeast of the site, respectively (Ziony and Jones, 1989). The active San Andreas Fault zone is located approximately 34 miles northeast of the site.

The closest potentially active fault to the site is the MacArthur Park Fault located approximately 0.6 miles to the southwest (Jennings and Bryant, 2010). Other nearby potentially active faults are the Coyote Pass Fault, the Overland Fault, and the Charnock Fault located 2.1 miles southeast, 9.4 miles southwest, and 10.4 miles southwest of the site, respectively (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake, and the January 17, 1994 M_w 6.7 Northridge earthquake were a result of movement on the buried thrust faults. The site is located within the vertical projection of the Los Angeles segment of the Puente Hills Blind Thrust Fault and the Elysian Park Blind Thrust Fault. These thrust faults are not exposed at the surface and do not present a potential surface fault rupture hazard; however, these active features are capable of generating future earthquakes.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 4.0 within a radius of 60 miles of the site are depicted on Figure 6, Regional Seismicity Map. A partial list of earthquakes of moderate to major magnitude that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	74	ESE
Near Redlands	July 23, 1923	6.3	57	E
Long Beach	March 10, 1933	6.4	34	SSE
Tehachapi	July 21, 1952	7.5	79	NW
San Fernando	February 9, 1971	6.6	26	NNW
Whittier Narrows	October 1, 1987	5.9	10	E
Sierra Madre	June 28, 1991	5.8	20	NE
Landers	June 28, 1992	7.3	104	E
Big Bear	June 28, 1992	6.4	82	E
Northridge	January 17, 1994	6.7	20	NW
Hector Mine	October 16, 1999	7.1	119	NE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Estimation of Peak Ground Accelerations

The seismic exposure of the site may be investigated in two ways. The deterministic approach recognizes the Maximum Earthquake, which is the theoretical maximum event that could occur along a fault. The deterministic method assigns a maximum earthquake to a fault derived from formulas that correlate the length and other characteristics of the fault trace to the theoretical maximum magnitude earthquake. The

probabilistic method considers the probability of exceedance of various levels of ground motion and is calculated by consideration of risk contributions from regional faults.

6.3.1 Deterministic Analysis

Table 1 shows known faults within a 60 mile radius of the site. The maximum earthquake magnitude is indicated for each fault. In order to measure the distance of known faults to the site, the computer program *EQFAULT*, (Blake, 2000), was utilized. Principal references used within *EQFAULT* in selecting faults to be included are Jennings (1994), Anderson (1984) and Wesnousky (1986). For this investigation, the ground motion generated by maximum earthquakes on each of the faults is assumed to attenuate to the site per the attenuation relation by Sadigh et al. (1997). The resulting calculated peak horizontal accelerations at the site are shown on Table 1. These values are one standard deviation above the mean.

Using this methodology, the maximum earthquake resulting in the highest peak horizontal accelerations at the site would be a magnitude 6.4 event on the Upper Elysian Park Blind Thrust Fault. Such an event would be expected to generate peak horizontal accelerations at the site of 0.857g.

While listing of peak accelerations is useful for comparison of potential effects of fault activity in a region, other considerations are important in seismic design, including the frequency and duration of motion and the soil conditions underlying the site.

The site could be subjected to moderate to severe ground shaking in the event of a major earthquake on any of the faults referenced above or other faults in Southern California. With respect to seismic shaking, the site is considered comparable to the surrounding developed area.

6.3.2 Probabilistic Analysis

The computer program *FRISKSP* (Blake, 2000) was used to perform a site-specific probabilistic seismic hazard analysis. The program is a modified version of FRISK (McGuire, 1978) that models faults as lines to evaluate site-specific probabilities of exceedance of given horizontal accelerations for each line source. Geologic parameters not included in the deterministic analysis are included in this analysis. The program operates under the assumption that the occurrence rate of earthquakes on each mapped Quaternary Fault is proportional to the fault's slip rate. The program accounts for fault rupture length as a function of earthquake magnitude, and site acceleration estimates are made using the earthquake magnitude and closest distance from the site to the rupture zone.

Uncertainty in each of following are accounted for: (1) earthquake magnitude, (2) rupture length for a given magnitude, (3) location of the rupture zone, (4) maximum magnitude of a given earthquake, and (5) acceleration at the site from a given earthquake along each fault.

After calculating the expected accelerations from all earthquake sources, the program then calculates the total average annual expected number of occurrences of the site acceleration greater than a specified value. Attenuation relationships suggested by Sadigh et al. (1997) were utilized in the analysis.

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,500 years. According to 2011 Los Angeles Building Code and ASCE 7-05, the MCE is to be utilized for the design of critical structures such as schools and hospitals. The Design-Basis Earthquake Ground Motion (DBE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years. The DBE is typically used for the design of non-critical structures.

Based on the computer program *FRISKSP* (Blake, 2000), the MCE and DBE is expected to generate ground motions at the site of approximately 0.93g and 0.59g, respectively. Graphical representation of the analysis is presented on Figure 7.

6.4 Seismic Design Criteria

The following table summarizes site-specific design criteria obtained from the 2011 Los Angeles Building Code (LABC; Based on the 2009 International Building Code [IBC]), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The values were derived using the computer program Seismic Hazard Curves and Uniform Hazard Response Spectra, provided by the USGS. The short spectral response uses a period of 0.2 second.

LABC SEISMIC DESIGN PARAMETERS

Parameter	Value	2011 LABC Reference
Site Class	D	Table 1613.5.2
Spectral Response – Class B (short), S_S	2.193g	Figure 1613.5(3)
Spectral Response – Class B (1 sec), S_1	0.738g	Figure 1613.5(4)
Site Coefficient, F_a	1.0	Table 1613.5.3(1)
Site Coefficient, F_v	1.5	Table 1613.5.3(2)
Maximum Considered Earthquake Spectral Response Acceleration (short), S_{MS}	2.193g	Section 1613.5.3 (Eqn 16-36)
Maximum Considered Earthquake Spectral Response Acceleration – (1 sec), S_{M1}	1.106g	Section 1613.5.3 (Eqn 16-37)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.462g	Section 1613.5.4 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.738g	Section 1613.5.4 (Eqn 16-39)

Conformance to the criteria in the previous table for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The intent of the code is “Life Safety,” not to completely prevent damage to the structure, since such design may be economically prohibitive.

6.5 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117A, Guidelines for Analyzing and Mitigating Liquefaction in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

According to the County of Los Angeles Seismic Safety Element (Leighton, 1990) and the City of Los Angeles Seismic Safety Element (1996), the subject property is not located within an area identified as having a potential for liquefaction. However, a review of the State of California Seismic Hazard Zone, Los Angeles Quadrangle Map (CDMG, 1999) indicates that the site is situated within an area identified as having a potential for liquefaction. The site is presented with respect to areas identified by the state as having a potential for liquefaction on Figure 8, Seismic Hazard Zone Map.

As discussed in Section 5.0, the historic high groundwater is inferred to be about 25 feet below the ground surface. Our borings encountered Pliocene Age bedrock consisting of well consolidated siltstone between 20 and 23 feet below ground surface. Due to the nature of the project and the requirement for placement of engineered backfill, a large portion of the site will consist of newly placed engineered fill. Neither bedrock nor engineered fill are considered to be liquefiable. Also, the alluvium at depths where water seepage was encountered is not considered to be liquefiable due to the dense nature of the alluvium. Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is considered to be low, and no surface manifestations of liquefaction are expected at the subject site.

6.6 Seismically-Induced Settlement

Dynamic compaction of dry and loose sands may occur during a major earthquake. Typically, settlements occur in thick beds of such soils. The soils underlying the site consist predominantly of silt and sand that is generally dense to very dense and well consolidated. Future grading will consist of the placement and compacted of engineered fill. Based on these conditions, appreciable seismically-induced settlements are not anticipated subsequent to the recommended grading.

6.7 Slope Stability

According to the Los Angeles County Seismic Safety Element (Leighton, 1990), the site is not within an area identified as having a potential for slope instability. Additionally, a review of the State of California Seismic Hazard Zone, Los Angeles Quadrangle Map (CDMG, 1999) indicates that the site is not within an area identified as having a potential for seismic slope instability. The site and surrounding vicinity is relatively flat to gently sloping to the south. There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely affect the proposed development is considered low.

6.8 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. Review of the Los Angeles County Seismic Safety Element (Leighton, 1990), indicates that the site is not located within an inundation boundary. The probability of earthquake-induced inundation is considered very low.

6.9 Tsunamis, Seiches and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Flooding from a seismically-induced seiche is considered unlikely.

The site is in an area of minimal flooding potential (Zone X) as defined by the Federal Emergency Management Agency (FEMA, 2013).

6.10 Oil Fields & Methane

Based on a review of the California Division of Oil, Gas and Geothermal Resources (DOGGR) Oil and Gas Well Location Map W1-5, Sheet 119, the site is not located within the boundaries of an oil field. No oil wells are located in the immediate vicinity of the site. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map. Undocumented wells could be encountered during construction. Any wells encountered will need to be properly abandoned in accordance with the current requirements of the DOGGR.

The site is not located within the boundaries of a methane zone or a methane buffer zone, as defined by the City of Los Angeles (2004).

6.11 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during the investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Up to 14 feet of existing artificial fill was encountered during site exploration. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. The existing fill soils in their present condition are not considered suitable for support of proposed foundations or additional fill; however, the existing fill soils are suitable for re-use as engineered fill provided the recommendations in the *Grading* section of this report are followed (see Section 7.5).

7.1.3 As-built plans of the existing Structure A indicate that the depth to the bottom of the deepest foundation is approximately 34 feet below the ground surface. As-built plans for the existing Structure B were not available, but the subterranean portion is assumed to be two-stories below the existing ground surface. Due to the depth of the excavation and the proximity to the property lines, city streets, and adjacent improvements, excavation and demolition of the subterranean portions of Structures A and B will require sloping and shoring measures in order to maintain a stable excavation. Where shoring is required, it is recommended that a soldier pile shoring system with tie-backs be utilized. Where excavation depths exceed 12 feet or surcharges are imposed on the shoring system, tie-back anchors may be required in conjunction with the soldier piles. Acceptable shoring deflections should be limited to ½-inch. Recommendations for shoring are provided in Section 7.19 of this report.

7.1.4 As an alternative to completely removing the existing subterranean structures, it is considered acceptable to allow the existing perimeter walls and slab-on-grade to remain. The existing perimeter subterranean walls of the structure can be braced and utilized as the temporary shoring system during demolition and backfill. This can be accomplished by bracing the existing perimeter wall with tiebacks, soldier piles, or any combination thereof, to maintain the necessary lateral support. The design of the temporary lateral support components and their connection to the existing perimeter wall should be provided by a qualified Structural Engineer and/or Shoring Engineer.

7.1.5 If the existing slab-on-grade in the lowest portion of the subterranean level is to remain it must be punctured to prevent the accumulation and ponding of water on the slab surface. Therefore, it is recommended that slab be punctured every ten feet on center in each direction (using a typical Hydraulic hammer or breaker) prior to placing any backfill.

7.1.6 Groundwater seepage was encountered just above the bedrock contact in borings HSA-2 and HSA-3 at depths of 19.8 and 21.0 feet below the ground surface, respectively. It is our opinion that the groundwater seepage encountered does not represent the static groundwater table, but rather exists in discontinuous perched zones within the saturated granular soils overlying the relatively impermeable clayey siltstone bedrock units across the site. Groundwater will likely be encountered during demolition and construction activities, and temporary dewatering measures will be required to mitigate groundwater seepage. Recommendations for temporary dewatering are discussed in Section 7.2 of this report.

7.1.7 Once the existing structures have been demolished and removed from the site, the void created by the excavations will be backfilled with site soils or approved import soils. Parameters for suitable import soils are provided in the *Grading* section of this report (see Section 7.5).

7.1.8 Subsequent to demolition and completion of backfilling activities a conventional foundation system may be utilized for support of proposed structures and improvements provided foundations derive support in the newly placed engineered fill. As a minimum, all existing fill materials shall be over-excavated to suitable, undisturbed natural soil and replaced with engineered fill. The site shall be over-excavated to a depth of 5 feet below existing site grade or to a depth of 3 feet below the bottom of proposed footings, whichever is deeper, and replaced with engineered fill. The excavation for building pad areas should extend laterally a minimum distance of 5 feet beyond the building footprint area or for a distance equal to the depth of fill below the foundation, whichever is greater. Recommendations for earthwork are provided in the *Grading* section of this report (see Section 7.5).

7.1.9 Proposed light poles or monument signs may be supported on a deepened foundation system consisting of drilled cast-in-place concrete friction piles or end bearing piers deriving support in newly placed engineered fill and/or undisturbed alluvial soils. Recommendations for design and installation of deepened foundations are provided in the *Deepened Foundations* section of this report (see Section 7.8).

7.1.10 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may bear in the undisturbed alluvial soil at or below a depth of 2 feet. If the soils

exposed in the excavation bottom are soft, over-excavation and re-compaction of the soft soils are required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.1.11 The configuration of the proposed park is preliminary at this time. Once the design and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.2 Temporary Dewatering

7.2.1 Groundwater seepage was encountered just above the bedrock contact in borings HSA-2 and HSA-3 at depths of 19.8 and 21.0 feet below the ground surface, respectively. It is our opinion that the groundwater seepage encountered does not represent the static groundwater table, but rather exists in discontinuous perched zones within the saturated granular soils overlying the relatively impermeable clayey siltstone bedrock units across the site. Excavation for the demolition of the subterranean level is anticipated to extend below the encountered groundwater seepage. Based on the conditions encountered at the time of exploration, groundwater will likely be encountered during construction activities. The depth to groundwater at the time of construction can be further verified during initial dewatering well or shoring pile installation. If groundwater is present above the depth of the lowest subterranean level, temporary dewatering will be necessary to maintain a safe working environment during excavation and construction activities.

7.2.2 It is recommended that a qualified dewatering consultant be retained to design the dewatering system. Temporary dewatering may consist of perimeter wells with interior well points as well as gravel filled trenches (French drains) placed adjacent to the shoring system and interior of the site. The number and locations of the wells or French drains can be adjusted during excavation activities as necessary to collect and control any encountered seepage. The French drains will then direct the collected seepage to a sump where it will be pumped out of the excavation.

7.2.3 The embedment of perimeter shoring piles should be deepened as necessary to take into account any required excavations necessary to place an adjacent French drain system should it be deemed necessary. It is not anticipated that a perimeter French drain will be more than 24 inches in depth below the proposed excavation bottom. The temporary French drain shall be removed prior to commencement of backfilling operations.

7.2.4 Appreciable settlement is not expected as a result of the temporary dewatering system.

7.3 Soil and Excavation Characteristics

7.3.1 The in-situ soils can be excavated using conventional excavation equipment. Caving should be anticipated in unshored excavations, especially where granular soils are encountered.

7.3.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped, shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

7.3.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.18).

7.3.4 The soils encountered during the investigation are variable and range from a "non-expansive" (EI=3) to "expansive" (EI=71) based on the 2011 Los Angeles Building Code (LABC) Section 1803.5.3. Recommendations presented herein assume that the future building foundations and slabs will derive support in these materials.

7.4 Minimum Resistivity, pH and Water-Soluble Sulfate

7.4.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site soil to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that a potential for corrosion of buried ferrous metals exists on site. The results are presented in Appendix B (Figure B7) and should be considered for design of improvements in contact with the site soils.

7.4.2 Laboratory tests were performed on one sample of the on-site soil to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B7) and indicate that the on-site soil possess a "severe" sulfate exposure to concrete structures as defined by 2011 LABC Section 1904.3 and ACI 318-08 Section 4.2 and 4.3. Table 7.2 presents a summary of concrete requirements set forth by 2011 LABC Section 1904.3 and ACI 318-08 Section 4.2 and 4.3. The presence of water-soluble sulfates is not a visually discernible characteristic; therefore, other soil samples from the site could yield different concentrations. Additionally, over time landscaping activities (i.e., addition of fertilizers and other soil nutrients) may affect the concentration.

TABLE 7.2
REQUIREMENTS FOR CONCRETE EXPOSED TO SULFATE-CONTAINING SOLUTIONS

Sulfate Exposure	Water-Soluble Sulfate Percent by Weight	Cement Type	Maximum Water to Cement Ratio by Weight	Minimum Compressive Strength (psi)
Negligible	0.00-0.10	--	--	--
Moderate	0.10-0.20	II	0.50	4000
Severe	**0.20-2.00**	**V**	**0.45**	**4500**
Very Severe	> 2.00	V	0.45	4500

7.4.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.5 Grading

7.5.1 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 3 inches, maximum dimension) and any encountered deleterious debris are removed.

7.5.2 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer, and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

7.5.3 The existing concrete rubble generated during demolition may be crushed and blended into the soils that will be utilized as engineered fill. All imported soil intended for use as engineered fill shall be observed, tested, and approved by Geotechnical Engineer of Record prior to bringing soil to the site. The Geotechnical Engineer of Record shall be notified a minimum of three working days prior to scheduled importing of soil to project site. Rocks or concrete fragments larger than three inches in diameter (maximum dimension) shall not be used in the fill. Import soil shall be free of organic or inorganic debris and contamination. In order to achieve the geotechnical design values provided herein, the imported soil must meet the following soil parameters:

Cohesion: minimum of 200 psf (unless Phi Angle is greater than 33 degrees)
Phi Angle: minimum of 28 degrees
Expansion Index: less than 40

Water-Soluble Sulfate content: less than 0.10 percent (higher sulfate content will require special cement type)

Predominantly granular (minimum 80 percent passing No. 4 sieve and 35 percent or less passing the No. 200 sieve)

7.5.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record) and the City of Los Angeles Grading Inspector.

7.5.5 As a minimum, it is recommended that the upper 5 feet of existing site soils in proposed building footprint areas be excavated, well blended, and properly compacted for foundation and slab support. Excavations should be conducted as necessary to remove all existing fill in building footprint areas at the direction of the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record). The excavation for building pad areas should extend laterally a minimum distance of 5 feet beyond the building footprint area or for a distance equal to the depth of fill below the foundation, whichever is greater.

7.5.6 All fill and backfill soils should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to between 0 and 2 percent above optimum moisture content, and properly compacted. It is unknown at this time where the proposed structures will be located on site; therefore all engineered fill on site shall be compacted to be primary structural fill. Clayey fill soils (soils with 15 percent, or more, finer than 0.005 mm) placed shall be compacted to a minimum of 90 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition). Fill soils with less than 15 percent finer than 0.005 mm shall be compacted to a minimum 95 percent of the maximum dry density in accordance with ASTM D 1557 (latest edition). It is important to note that the direct shear test (see Figure B3) was performed on a soil sample that was remolded to 90 percent of the maximum dry density. Compaction requirements during construction will require that soils be compacted to 95 percent of the maximum dry density; therefore, the results presented are considered to be conservative.

7.5.7 Where new surface paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable alluvial soils in the area of new paving is not required, however, paving constructed over existing unsuitable soils may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased

maintenance costs. As a minimum, the upper twelve inches of soil should be scarified, moisture conditioned to near optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.5.8 Foundations for small outlying structures, such as block walls less than 6 feet high, planter walls or trash enclosures, which will not be structurally supported by the proposed building, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 2 feet below the existing ground surface, and should be deepened as necessary to maintain a minimum 12 inch embedment into undisturbed alluvial soil. If the alluvial soil exposed in the excavation bottom is loose or disturbed, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative.

7.5.9 Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least one foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack Controlled Low Strength Material (CLSM) is also acceptable (see Section 7.6). Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record).

7.5.10 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), prior to placing bedding materials, fill, steel, gravel or concrete.

7.6 Controlled Low Strength Material (CLSM)

7.6.1 Controlled Low Strength Material (CLSM) may be utilized in lieu of compacted soil as engineered fill where approved in writing by the Geotechnical Engineer. Where utilized within the City of Los Angeles use of CLSM is subject to the following requirements:

Standard Requirements

1. CLSM shall be ready-mixed by a City of Los Angeles approved batch plant;
2. CLSM shall not be placed on uncertified fill, on incompetent natural soil, nor below water;

3. CLSM shall not be placed on a sloping surface with a gradient steeper than 5: 1 (horizontal to vertical);

4. Placement of the CLSM shall be under the continuous inspection of a concrete deputy inspector;

5. The excavation bottom shall be accepted by the soil engineer and the City Inspector prior to placing CLSM.

Requirements for CLSM that will be used for support of footings

1. The cement content of the CLSM shall not be less than 188 pounds per cubic yard (min. 2 sacks) with a water cement ratio of 0.5 or less;

2. The excavation bottom must be level, cleaned of loose soils and approved in writing by Geocon prior to placement of the CLSM;

3. The ultimate compressive strength of the CLSM shall be no less than 100 pounds per square inch when tested on the 28th-day per ASTM D4832 (latest edition), Standard Test Method for Preparation and Testing of Controlled Low Strength Material Test Cylinders. Compression testing will be performed in accordance with ASTM C39 and City of Los Angeles requirements;

4. Samples of the CLSM will be collected during placement, a minimum of one test (two cylinders) for each 50 cubic yards or fraction thereof;

5. Overexcavation for CLSM placement shall extend laterally beyond the footprint of any proposed footings as required for placement of compacted fill, unless justified otherwise by the soil engineer that footings will have adequate vertical and horizontal bearing capacity.

7.7 Foundation Design

7.7.1 Subsequent to the recommended grading, a conventional shallow foundation system may be utilized for support of the proposed single-story structure provided foundations derive support in the newly placed engineered fill.

7.7.2 Continuous footings may be designed for an allowable bearing capacity of 2,000 pounds per square foot, and should be a minimum of 18 inches in width, 18 inches in depth below the lowest adjacent grade.

7.7.3 Isolated spread foundations may be designed for an allowable bearing capacity of 2,300 pounds per square foot, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade.

7.7.4 The allowable soil bearing pressure above may be increased by 300 psf and 600 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 4,000 psf.

7.7.5 The allowable bearing pressures for both continuous and isolated spread foundations may be increased by one-third for transient loads due to wind or seismic forces.

7.7.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.7.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.7.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.7.9 No special subgrade presaturation is required prior to placement of concrete. However, the moisture in the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.7.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.7.11 This office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary.

7.8 Deepened Foundations

7.8.1 A deepened foundation system consisting of drilled cast-in-place concrete friction piles or end bearing piers deriving support in undisturbed alluvial soils or newly placed engineered fill may be utilized for support of proposed light poles or monument signs. Piles should be a minimum of 18 inches in diameter, should be embedded a minimum of six feet in depth below the ground surface. If the excavation bottom is cleaned of all loose soils the end bearing properties of the soils may be utilized and foundation may be designed for an allowable bearing capacity of 3,000 pounds per square foot. The allowable soil bearing pressure above may be increased 600 psf for each additional

foot of foundation depth, up to a maximum allowable soil bearing pressure of 5,000 psf. A one-third increase in the capacity may be used for wind or seismic loads.

7.8.2 Light poles may be supported on drilled cast-in-place friction piles deriving support in undisturbed alluvial soils or newly placed engineered fill. For drilled cast-in-place friction piles, the coefficient of friction may be taken as 0.35 based on uniform contact between the concrete and undisturbed alluvium and engineered fill. The piles may be designed based on a skin friction capacity of 250 pounds per square foot, and do not require the complete removal of all loose earth materials from the bottom of the excavation, since end-bearing capacity is not being considered. However, a cleanout of the excavation bottom will be required. Piles may be assumed fixed at an embedment depth of 5 feet below the ground surface. A one-third increase in the capacity may be used for wind or seismic loads.

7.8.3 For design purposes, an allowable passive value in the undisturbed alluvium and engineered fill may be assumed to be 200 pounds per square foot per foot with a maximum allowable passive earth pressure is 2,000 pcf. The allowable passive value may be doubled for isolated piles placed at least three times the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the piles and the undisturbed soils.

7.8.4 All drilled pile excavations should be continuously observed by personnel of this firm to verify adequate penetration into the recommended bearing materials. The capacity presented is based on the strength of the soils. The compressive and tensile strength of the pile sections should be checked to verify the structural capacity of the piles.

7.9 Deepened Foundation Installation

7.9.1 Some caving is anticipated especially where granular soils are encountered. The contractor should have casing available and should be prepared to use it. If casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than five feet. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), is required.

7.9.2 Seepage was encountered during exploration and the contractor should be prepared for groundwater during pile installation. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie shall consist of a water-tight tube, with a hopper at the top. The tube shall be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie shall be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end shall be closed at the start of the work to prevent water entering the tube and shall be entirely sealed at all times, except when the concrete is being placed. The tremie tube shall be kept full of

concrete. The flow shall be continuous until the work is completed and the resulting concrete seal shall be monolithic and homogeneous. The tip of the tremie tube shall always be kept about five feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

7.9.3 A special concrete mix should be used for concrete to be placed below water. The design shall provide for concrete with a strength of 1,000 psi over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste shall be included. The slump shall be commensurate to any research report for the admixture, provided that it shall also be the minimum for a reasonable consistency for placing when water is present. Extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet. Continuous observation of the drilling and pouring of the piles by a representative of this firm is required.

7.9.4 Closely spaced piles should be drilled and filled alternately, with the concrete permitted to set at least eight hours before drilling an adjacent hole. Pile excavations should be filled with concrete as soon after drilling and inspection as possible; the holes should not be left open overnight.

7.10 Miscellaneous Foundations

7.10.1 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied-in to the proposed structure, may be supported on conventional foundations bearing on a minimum of 12 inches of newly placed engineered fill. Where excavation and compaction cannot be performed, foundations may bear in the undisturbed alluvial soils found at or below a depth of 2 feet below the existing ground surface. If the soils exposed in the excavation bottom are loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 pounds per square foot, and should be a minimum of 12 inches in width, 24 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.10.2 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.11 Foundation Settlement

7.11.1 The maximum expected total settlement for a structure supported on a conventional foundation system designed with the maximum allowable bearing value of 4,000 psf and deriving support in newly placed engineered fill is estimated to be approximately ¾ inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ½ inch over a distance of twenty feet.

7.11.2 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions (column loads of up to 50 kips, wall loads of up to 2 kips per linear foot), the potential for settlement should be reevaluated by this office.

7.11.3 The settlement for the 34 feet of backfill compacted to 95 percent is anticipated to be approximately 1 to 3 inches based on typical strength parameters of engineered fill.

7.12 Lateral Design

7.12.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.35 may be used with the dead load forces in the undisturbed alluvial soils and in newly compacted engineered fill.

7.12.2 Based on a factor of safety of 2, the passive earth pressure for the sides of foundations and slabs poured against undisturbed alluvial soils or newly compacted engineered fill may be computed as an equivalent fluid having a density of 200 pcf with a maximum earth pressure of 2,000 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.13 Concrete Slabs-on-Grade

7.13.1 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened between 0 and 2 percent above optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.13.2 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643-09 and the manufacturer's recommendations. If the Los Angeles Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of ½-inch clean aggregate and the vapor retarder should be in direct contact with the concrete slab. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the Los Angeles Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4-inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.13.3 For seismic design purposes, a coefficient of friction of 0.35 may be utilized between concrete slabs and subgrade soils.

7.13.4 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.14 Preliminary Pavement Recommendations

7.14.1 Where new surface paving is to be placed, it is recommended that all existing fill and soft or unsuitable alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable alluvial soils in the area of new paving is not required, however, paving constructed over existing unsuitable soils may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper twelve inches of soil should be scarified and recompacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.14.2 The following pavement sections are based on an assumed R-Value of 20. Once site grading activities are complete, it is recommended that laboratory testing confirm the properties of the soils serving as paving subgrade prior to placing pavement. The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking And Driveways	5	3	7
Trash Truck & Fire Lanes	7	4	12.5

7.14.3 Asphalt concrete should conform to Section 203-6 of the "*Standard Specifications for Public Works Construction"* (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the "*Standard Specifications of the State of California, Department of Transportation"* (Caltrans). Crushed Miscellaneous Base should conform to Section 200-2.4 of the "*Standard Specifications for Public Works Construction"* (Green Book).

7.14.4 Unless specifically designed and evaluated by the project structural engineer, where exterior concrete paving will be utilized for support of vehicles, it is recommended that the concrete be a minimum of 6 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to at least 95 percent relative compaction as determined by ASTM Test Method D 1557 (latest edition).

7.14.5 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.15 Retaining Walls

7.15.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls higher than 6 feet are planned, Geocon should be contacted for additional recommendations.

7.15.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Foundation Design* sections of this report (see Section 7.7). Continuous footings may be designed for an allowable bearing capacity of 2,000 pounds per square foot, and should be a minimum of 18 inches in width, 18 inches in depth below the lowest adjacent grade. The allowable soil bearing pressure above may be increased by 300 psf and 600 psf for each additional foot of foundation width and depth, respectively, up to a maximum allowable soil bearing pressure of 4,000 psf. The allowable bearing pressure may be increased by one-third for transient loads due to wind or seismic forces.

7.15.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure) of 30 pcf.

7.15.4 Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure) of 50 pcf.

7.15.5 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, walls shall be designed for hydrostatic pressures.

7.15.6 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.15.7 Seismic lateral forces should be incorporated into the design as necessary, and recommendations for seismic lateral forces are presented below.

7.16 Dynamic (Seismic) Lateral Forces

7.16.1 In accordance with the 2011 Los Angeles Building Code, if the project possesses a seismic design category of D, E, or F, the proposed retaining walls should be designed with seismic lateral pressure. The structural engineer should determine the seismic design category for the project. The maximum dynamic active pressure is equal to the sum of the initial static pressure and the dynamic (seismic) pressure increment.

7.16.2 Braced retaining walls should be designed for the greater of either the at-rest earth pressure or the dynamic (seismic) lateral earth pressure (sum of the static active pressure and the dynamic (seismic) pressure increment).

7.16.3 The application of seismic loading should be performed at the discretion of the project Structural Engineer and in accordance with the requirements of the Building Official. If seismic loading is to be applied, we recommend a seismic load of 35 pounds per cubic foot be used for design applied as a triangular distribution of pressure along the wall height, in accordance with Chapter 7 of the National Cooperative Highway Research Program (NCHRP), Report 611. This dynamic (seismic) pressure increment is for horizontal backfill behind the wall and does not account for an inclined backfill surface. The seismic pressure is based on a ground acceleration of 0.58 (S_{DS}/2.5 ground motion) and by applying a pseudo-static coefficient of 0.5.

7.17 Retaining Wall Drainage

7.17.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 9). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), prior to placement of gravel or compacting backfill.

7.17.2 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures.

7.18 Temporary Excavations

7.18.1 Excavations on the order of 34 feet in height may be required for demolishing the existing subterranean structures. The excavations are expected to expose artificial fill, alluvial soils, and Fernando Formation bedrock. Unshored vertical excavations up to 5 feet in height may be attempted where loose soils or caving sands are not present, and where excavations are not surcharged. Vertical excavations greater than five feet will require sloping and/or shoring measures in order to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments may be sloped back at a uniform 1.5:1 (H:V) slope gradient or flatter. A uniform slope does not have a vertical portion. Where excavations are surcharged or space is limited, shoring measures will be required. *Shoring* data is provided in Section 7.19 of this report.

7.18.2 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.19 Shoring – Soldier Pile Design and Installation

7.19.1 The following information on the design and installation of shoring is preliminary. Review of the final shoring plans and specifications should be made by this office prior to bidding or negotiating with a shoring contractor.

7.19.2 As an alternative to completely demolishing and removing the existing subterranean structures, the perimeter subterranean walls of the structure can be protected and incorporated into the temporary shoring system. Where necessary, temporary lateral support for the existing wall can be provided by installing tiebacks, soldier piles, or any combination thereof. The design of the temporary lateral support components and their connection to the existing perimeter wall should be provided by a qualified Structural Engineer and/or Shoring Engineer.

7.19.3 One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. Where maximum excavation heights are less than 12 feet the soldier piles are typically designed as cantilevers. Where excavations exceed 12 feet or are surcharged, soldier piles may require lateral bracing utilizing drilled tie-back anchors to maintain an economical steel beam size and prevent excessive deflection. The size of the steel beam, the need for lateral bracing, and the acceptable shoring deflection should be determined by the project shoring engineer.

7.19.4 The design embedment of the shoring pile toes must be maintained during excavation activities. The toes of the perimeter shoring piles should be deepened to take into account any required excavations necessary for foundations or adjacent drainage systems.

7.19.5 Drilled cast-in-place soldier piles should be placed no closer than 2 diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. For design purposes, an allowable passive value for the soils below the bottom plane of excavation may be assumed to be 200 pounds per square foot per foot. The allowable passive value may be doubled for isolated piles, spaced a minimum of three times the pile diameter. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed alluvium and bedrock.

7.19.6 Some caving is anticipated especially where granular soils are encountered. The contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. When casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than five feet. Continuous observation of the drilling and pouring of the piles by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), is required.

7.19.7 The frictional resistance between the soldier piles and retained soil may be used to resist the vertical component of the anchor load. The coefficient of friction may be taken as 0.40 based on uniform contact between the steel beam and lean-mix concrete and retained earth. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using an allowable adhesion of 1,000 pounds per square foot.

7.19.8 Seepage was encountered during exploration and the contractor should be prepared for groundwater during pile installation should the need arise. Piles placed below the water level require the use of a tremie to place the concrete into the bottom of the hole. A tremie should consist of a rigid, water-tight tube having a diameter of not less than 6 inches with a hopper at the top. The tube should be equipped with a device that will close the discharge end and prevent water from entering the tube while it is being charged with concrete. The tremie should be supported so as to permit free movement of the discharge end over the entire top surface of the work and to permit rapid lowering when necessary to retard or stop the flow of concrete. The discharge end should be closed at the start of the work to prevent water entering the tube and should be entirely sealed at all times, except when the concrete is being placed. The tremie tube should be kept full of concrete. The flow should be continuous until the work is completed and the resulting concrete seal should be monolithic and homogeneous. The tip of the tremie tube should always be kept about 5 feet below the surface of the concrete and definite steps and safeguards should be taken to insure that the tip of the tremie tube is never raised above the surface of the concrete.

7.19.9 A special concrete mix should be used for concrete to be placed below water. The design should provide for concrete with an unconfined compressive strength psi of 1,000 pounds per square inch (psi) over the initial job specification. An admixture that reduces the problem of segregation of paste/aggregates and dilution of paste should be included. The slump should be commensurate to any research report for the admixture, provided that it should also be the minimum for a reasonable consistency for placing when water is present.

7.19.10 Due to the nature of the site soils, continuous lagging between soldier piles will be required. However, it is recommended that the exposed soils be observed by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record.).

7.19.11 The time between lagging excavation and lagging placement should be as short as possible. Soldier piles should be designed for the full-anticipated pressures. Due to arching in the soils, the pressure on the lagging will be less. It is recommended that the lagging be designed for the full design pressure but be limited to a maximum of 400 pounds per square foot.

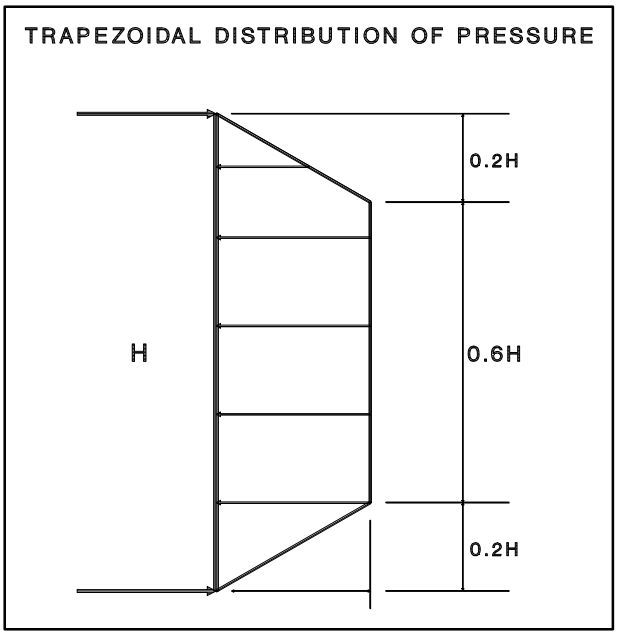
7.19.12 For design of shoring, it is recommended that an equivalent fluid pressure based on the following table, be utilized for design. Calculation of the recommended shoring pressure is provided on Figure 11.

HEIGHT OF SHORING (FEET)	**EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (ACTIVE PRESSURE)**	**EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot) (AT-REST PRESSURE)**
Up to 34	25	45

7.19.13 It is very important to note that active pressures can only be achieved when movement in the soil (earth wall) occurs. If movement in the soil is not acceptable, such as adjacent to an existing structure, or the pile is restrained from movement by bracing or a tie back anchor, the at-rest pressure should be considered for design purposes.

7.19.14 A trapezoidal distribution of lateral earth pressure would be appropriate where shoring is to be restrained at the top by bracing or tie backs. The lateral earth pressure to be used for design of temporary shoring is provided in the table below:

HEIGHT OF SHORING "H" (Feet)	**LATERAL EARTH PRESSURE (Where H is the height of the shoring in feet, plus the surcharge loading occurring due to traffic in the streets or any surcharge loading imposed by any adjacent structures.)**
Up to 34	28.5H



7.19.15 Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic, or adjacent structures and must be determined for each combination.

7.19.16 In addition to the recommended earth pressure, the upper ten feet of the shoring adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least ten feet from the shoring, the traffic surcharge may be neglected.

7.19.17 It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is recommended that the deflection be minimized to prevent damage to existing structures and adjacent improvements. Where public right-of-ways are present or adjacent offsite structures do not surcharge the shoring excavation, the shoring deflection should be limited to less than 1 inch at the top of the shored embankment. Where offsite structures are within the shoring surcharge area it is recommended that the beam deflection be limited to less than ½ inch at the elevation of the adjacent offsite foundation, and no deflection at all if deflections will damage existing structures. The allowable deflection is dependent on many factors, such as the presence of structures and utilities near the top of the embankment, and will be assessed and designed by the project shoring engineer.

7.19.18 Because of the depth of the excavation, some means of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles.

7.20 Tie-Back Anchors

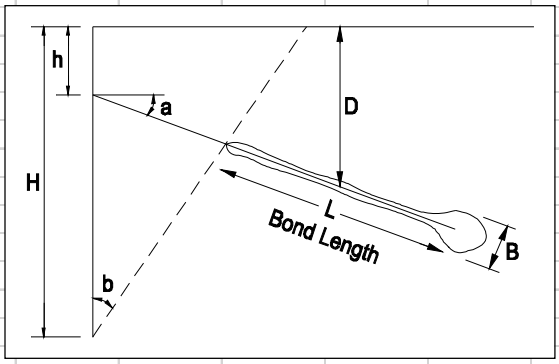
7.20.1 Tie-back anchors may be used to resist lateral loads. Friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Anchors should extend a minimum of 20 feet beyond the potentially active wedge and to greater lengths if necessary to develop the desired capacities.

7.20.2 The locations and depths of all offsite utilities should be thoroughly checked and incorporated into the drilling angle design for the tie-back anchors. Cross sections shall be developed illustrating the existing utilities and structures at the locations of the tiebacks.

7.20.3 The capacities of the anchors should be determined by testing of the initial anchors as outlined in a following section. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. Anchors should be placed at least 6 feet on center to be considered isolated. Based on the height of the proposed excavation, two rows of anchors may be required. For preliminary design purposes, it is estimated that drilled friction anchors constructed utilizing gravity grouting techniques will develop average skin frictions as follows:

- 7 feet below the top of the excavation – 1,000 pounds per square foot (see diagram below).

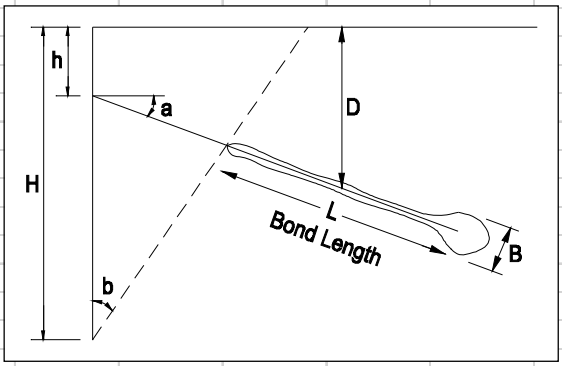
Depth of Tie-back Anchor (ft.)		h =	7.0
Height of Excavation (ft.)		H =	34.0
Bond Length (ft.)		L =	20.0
Shaft or Bell Diameter (ft.)		B =	1.0
Angle of Active Wedge from Vert. (deg.)		b =	35.0
Angle of Anchor below Horiz. (deg.)		a =	20.0
	Wet Density =	125.0	pcf
	Cohesion =	550.0	deg.
	Phi Angle =	29.0	deg.
	Factor of Safety =	1.5	
Unbonded Length =	16.0	ft.	
Total Length =	36.0	ft.	
Depth to Midpoint of Bonded Zone =	15.9	ft.	



Allowable Skin Friction = 1101.3 psf

- Up to 20 feet below the top of the excavation – 1,500 pounds per square foot (see diagram below).

Depth of Tie-back Anchor (ft.)		h =	20.0
Height of Excavation (ft.)		H =	34.0
Bond Length (ft.)		L =	20.0
Shaft or Bell Diameter (ft.)		B =	1.0
Angle of Active Wedge from Vert. (deg.)		b =	35.0
Angle of Anchor below Horiz. (deg.)		a =	20.0
	Wet Density =	125.0	pcf
	Cohesion =	550.0	deg.
	Phi Angle =	29.0	deg.
	Factor of Safety =	1.5	
Unbonded Length =	8.3	ft.	
Total Length =	28.3	ft.	
Depth to Midpoint of Bonded Zone =	26.3	ft.	



Allowable Skin Friction = 1579.8 psf

7.20.4 Depending on the techniques utilized, and the experience of the contractor performing the installation, a maximum allowable friction capacity of 5.0 kips per linear foot for post-grouted anchors (for a 20 foot length beyond the active wedge) may be assumed for design purposes. Only the frictional resistance developed beyond the active wedge should be utilized in resisting lateral loads.

7.21 Anchor Installation

7.21.1 All tieback anchors should be installed and tested in accordance with the requirements of the Los Angeles Department of Building and Safety Research Report No. RR23835 titled "Requirements for Temporary Tieback Earth Anchors".

7.21.2 Tied-back anchors are typically installed between 15 and 30 degrees below the horizontal; however, occasionally alternative angles are necessary to avoid existing improvements and utilities. The locations and depths of all offsite utilities should be thoroughly checked prior to design and installation of the tie-back anchors. Caving of the anchor shafts, particularly within sand and gravel deposits or seepage zones, should be anticipated during installation and provisions should be implemented in order to minimize such caving. It is suggested that hollow-stem auger drilling equipment be used to install the anchors. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the unbound zone. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand or slurry before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

7.22 Anchor Testing

7.22.1 All of the anchors should be tested to at least 125 percent of design load. The total deflection during this test should not exceed 4 inches. The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading.

7.22.2 All anchors shall be proof tested to 150 percent of design load for 15 minutes by the following procedure:

1. A nominal alignment load shall be applied and axial elongation established with respect to a fixed reference point independent of the shoring system.

2. The axial load shall be applied in increments of 25 percent of the design load. Each incremental load shall be maintained for a period of 1 minute with axial elongation measured at the beginning and end of this period.

3. Upon reaching 150 percent of design load, the load shall be maintained for a period of 15 minutes. The axial elongation from the time of application of the 150 percent load to the conclusion of the 15 minutes shall not exceed 0.10 inch. Total elongation from the initial alignment load application to the conclusion of the test shall not exceed 4 inches.

4. If movement exceeds 0.10 inch after 15 minutes, the tieback may be rejected or the load may be reduced and maintained for additional 15 minute increments at the discretion of the Geotechnical Engineer until a load resulting in a movement of less than 0.10 inch during the 15 minute interval is determined. Once the Geotechnical Engineer has determined the sustainable load, the down-rated design load shall be taken as the sustainable load divided by 1.75.

5. If the deflection measurements are acceptable to the Geotechnical Engineer, the tieback shall be locked off at 100 percent of the design load.

7.22.3 After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. A representative of this firm should observe the installation and testing of the anchors.

7.23 Internal Bracing

7.23.1 Internal braced shoring may be utilized to brace the soldier piles in lieu of tieback anchors. A rectangular distribution of lateral earth pressure should be used for design of internal braced shoring system and is provided in the table below:

HEIGHT OF SHORING "H" (Feet)	LATERAL EARTH PRESSURE (Where H is the height of the shoring in feet, plus the surcharge loading occurring due to traffic in the streets or any surcharge loading imposed by any adjacent structures.)
Up to 34	18H

7.24 Surface Drainage

7.24.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the foundation supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.24.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2011 LABC 1804.3 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. The proposed structure should be provided with roof gutters. Discharge from downspouts, roof drains and scuppers not recommended onto unprotected soils within five feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the engineered fill providing foundation support. Landscape irrigation is not recommended within five feet of the building perimeter footings except when enclosed in protected planters.

7.24.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.24.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.25 Plan Review

7.25.1 Grading, foundation and, shoring plans should be reviewed by the Geotechnical Engineer (a representative of the Geotechnical Engineer of Record), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

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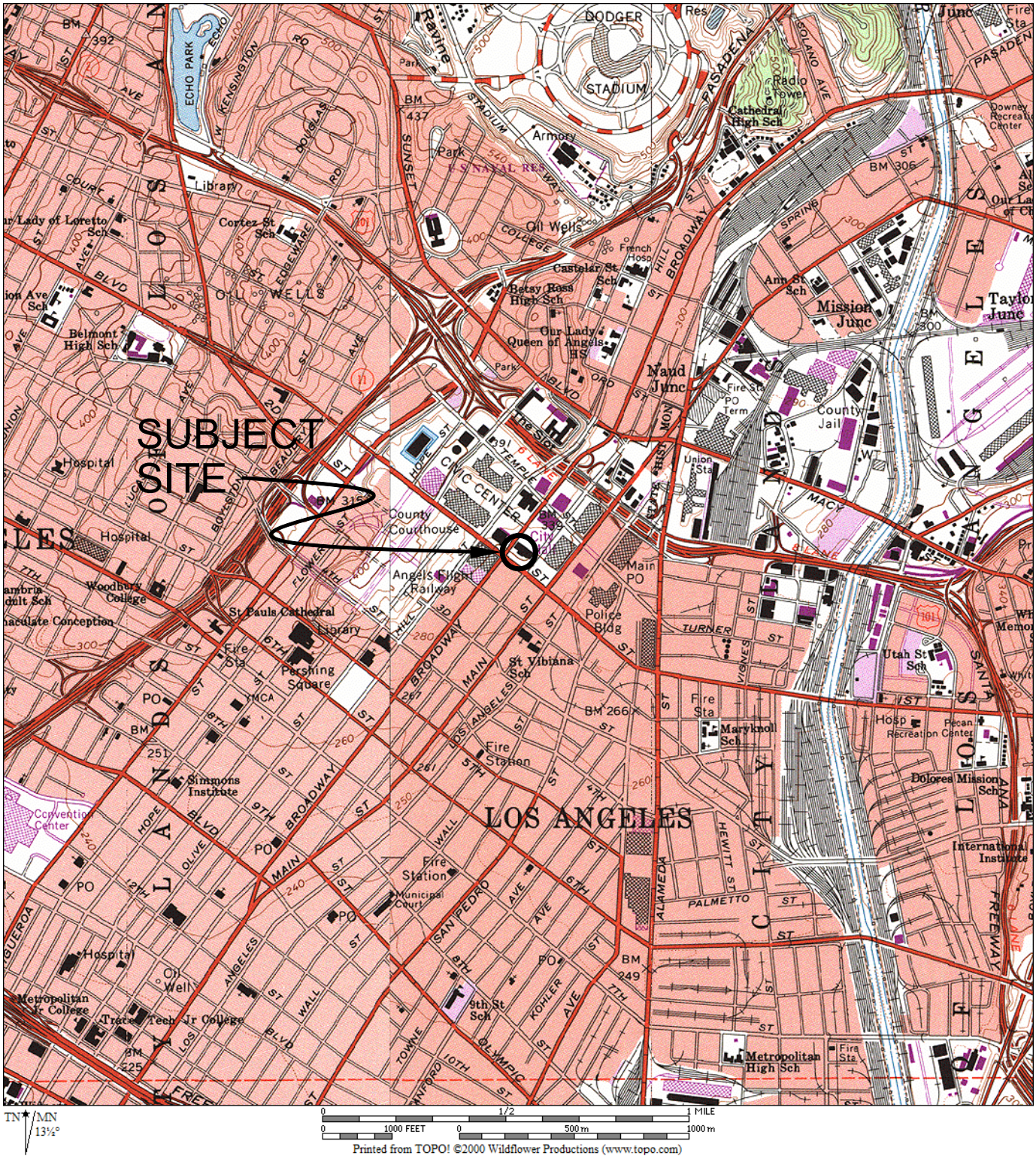

REFERENCE:U.S.G.S. TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, HOLLYWOOD AND LOS ANGELES, CA QUADRANGLE

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AL		8000

VICINITY MAP

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 1

PLAN BY: City of Los Angeles Department of Public Works - Bureau of Engineering

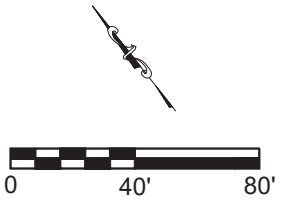
LEGEND

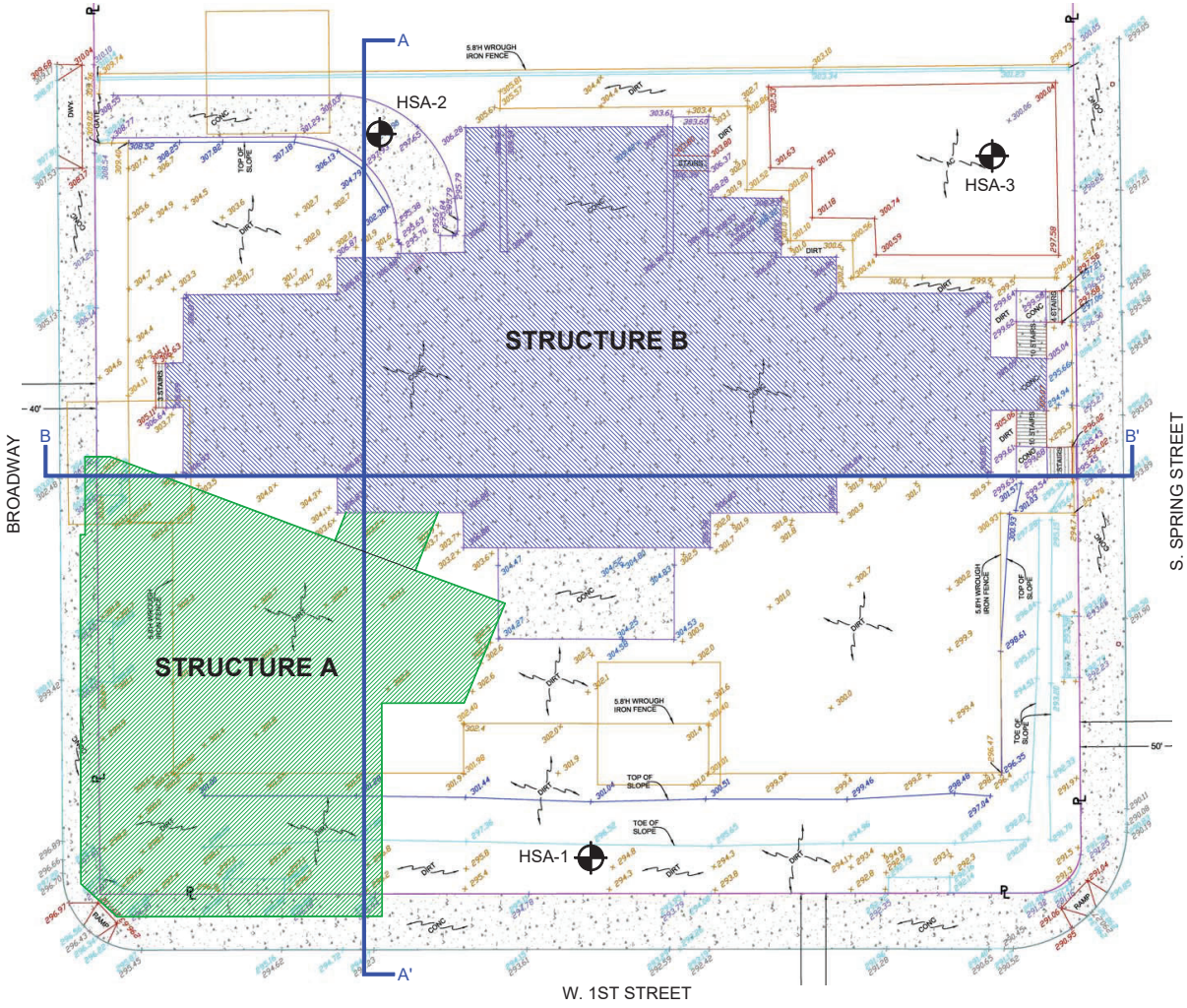
HSA-3 — Approximate Location of Boring

Approximate Limits of Existing Basement

Approximate Limits of Existing Subterranean Parking Structure

B — B' Geologic Section





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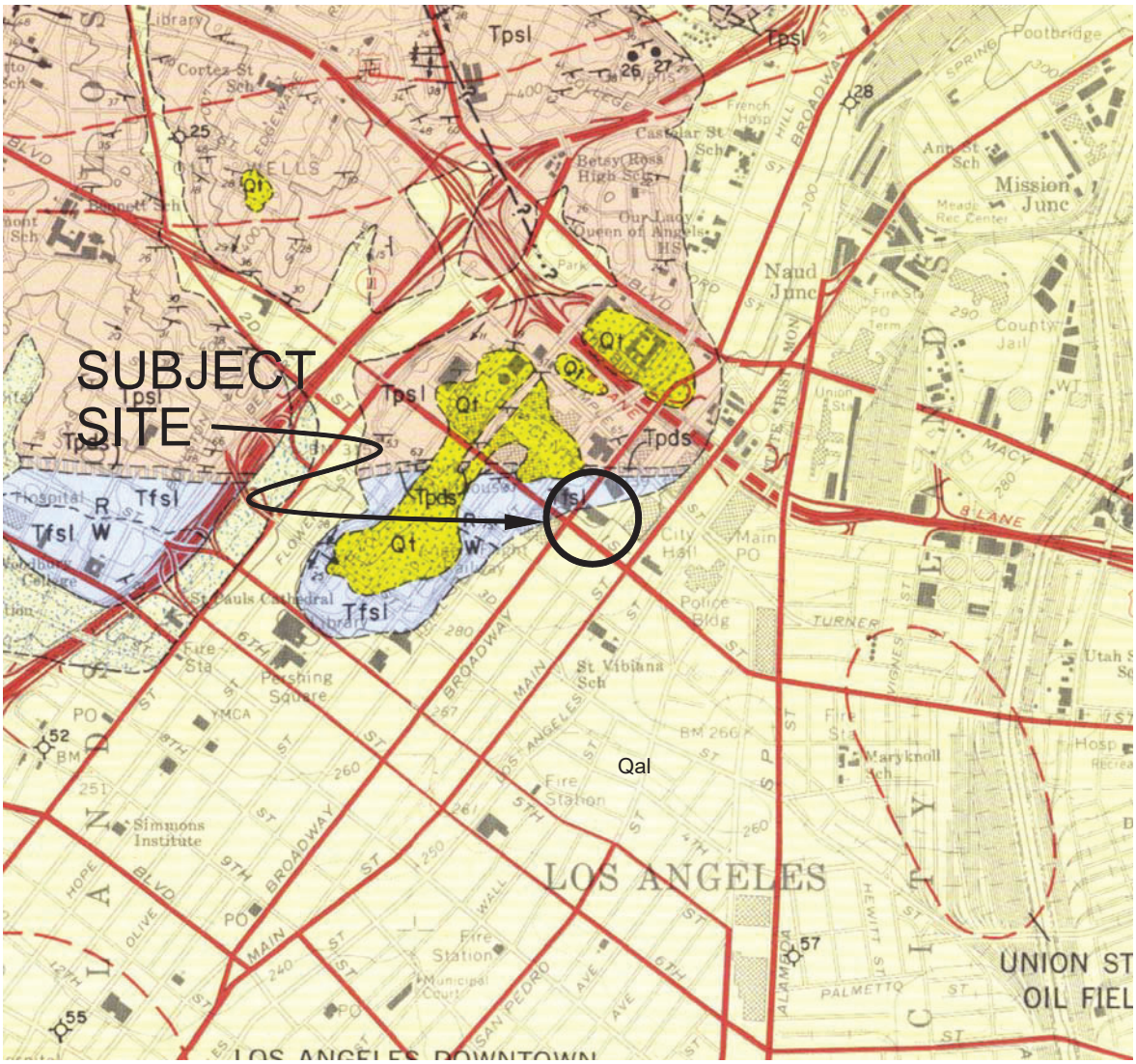
SITE PLAN

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 2

REFERENCE: LAMAR, D. L., 1970, GEOLOGIC MAP OF THE ELYSIAN PARK - REPETTO HILLS AREA, LOS ANGELES COUNTY, CALIFORNIA



LEGEND

Qal - (Holocene) Alluvium
Qt - (Pleistocene) Terrace Deposits
Tfsl - (Pliocene) Fernando Formation: Massive Siltstone
Tpsl - (Miocene) Puente Formation: Well bedded Siltstone
Tpds - (Miocene) Puente Formation: Diatomaceous shale
58 - STRIKE AND DIP OF BEDDING
⊕ - HORIZONTAL BEDDING
- ANTICLINE
- SYNCLINE

SCALE
0 2000' 4000'

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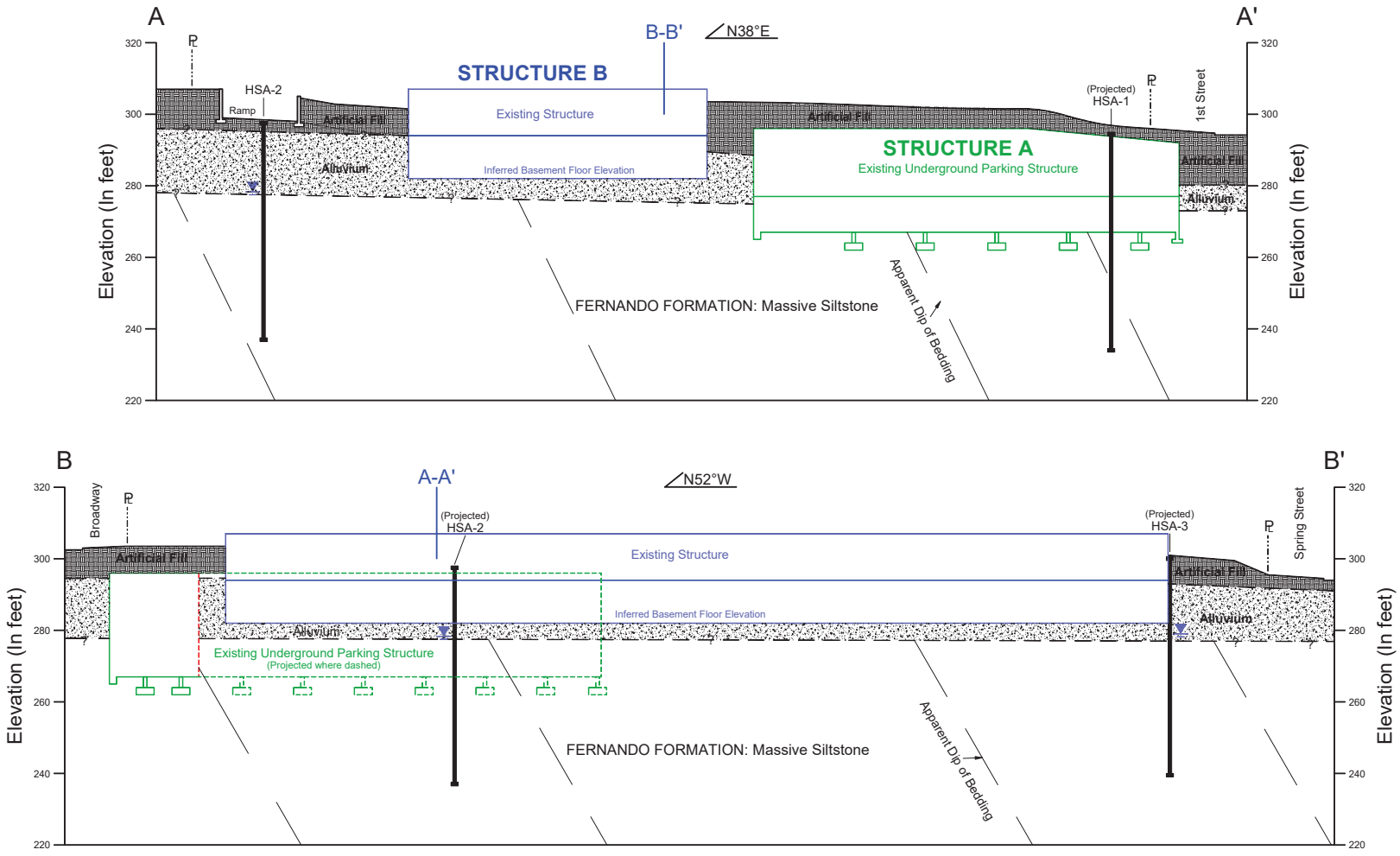
LOCAL GEOLOGIC MAP

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 3



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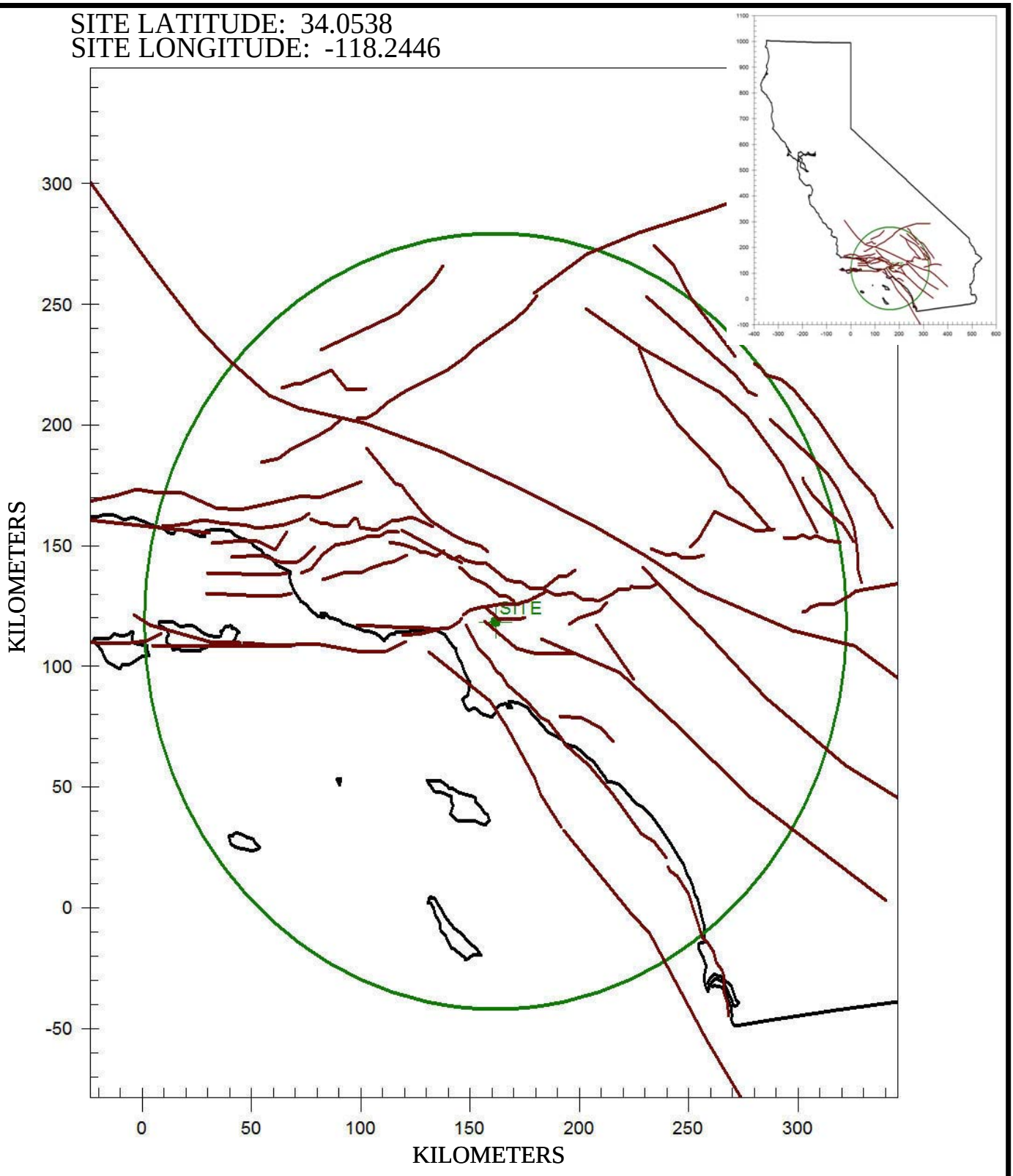
GEOLOGIC SECTIONS A-A' & B-B'

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 4

SITE LATITUDE: 34.0538
SITE LONGITUDE: -118.2446



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AL		8000

REGIONAL FAULT MAP

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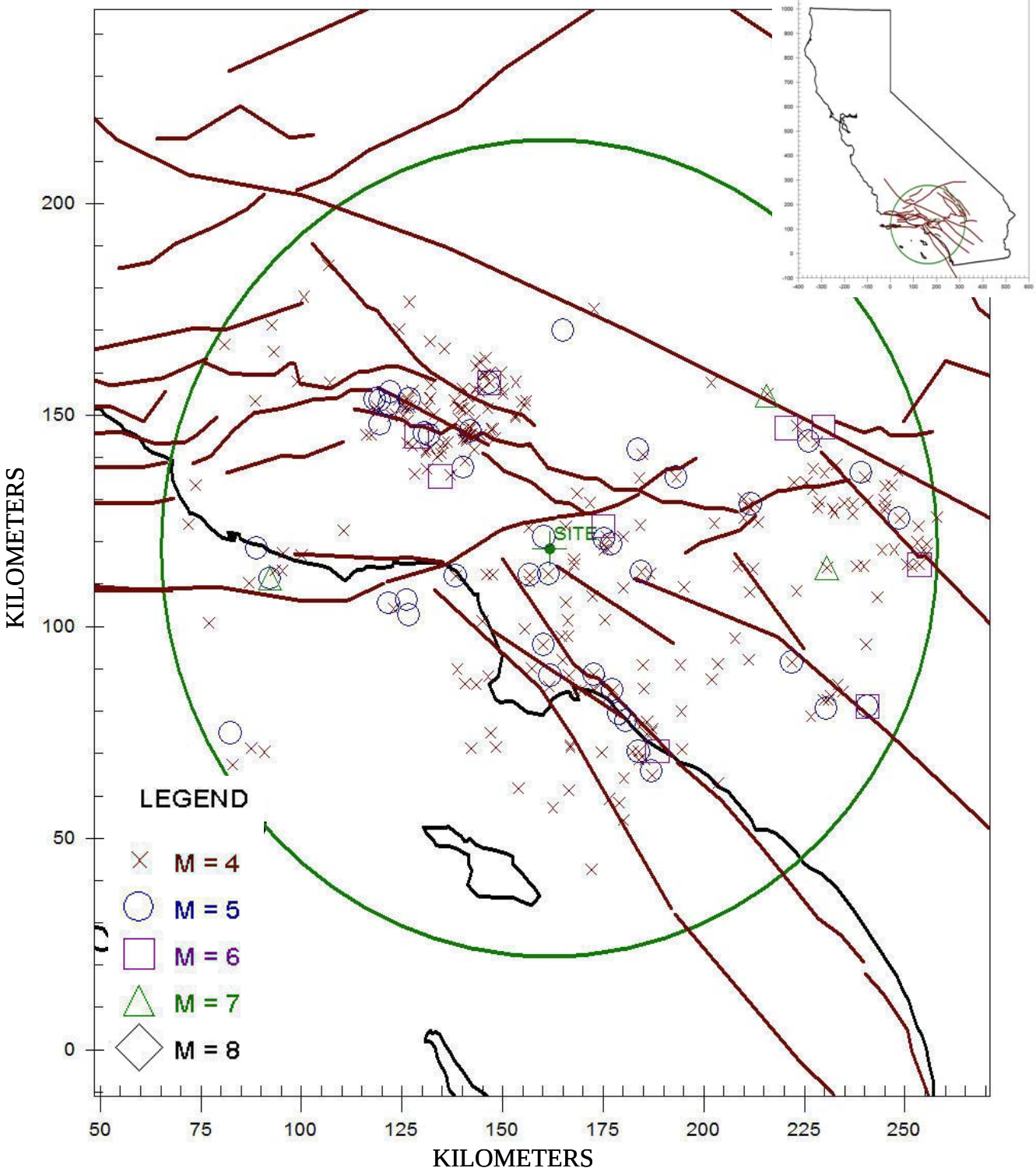
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 5

SITE LATITUDE: 34.0538
SITE LONGITUDE: -118.2446



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AL		8000

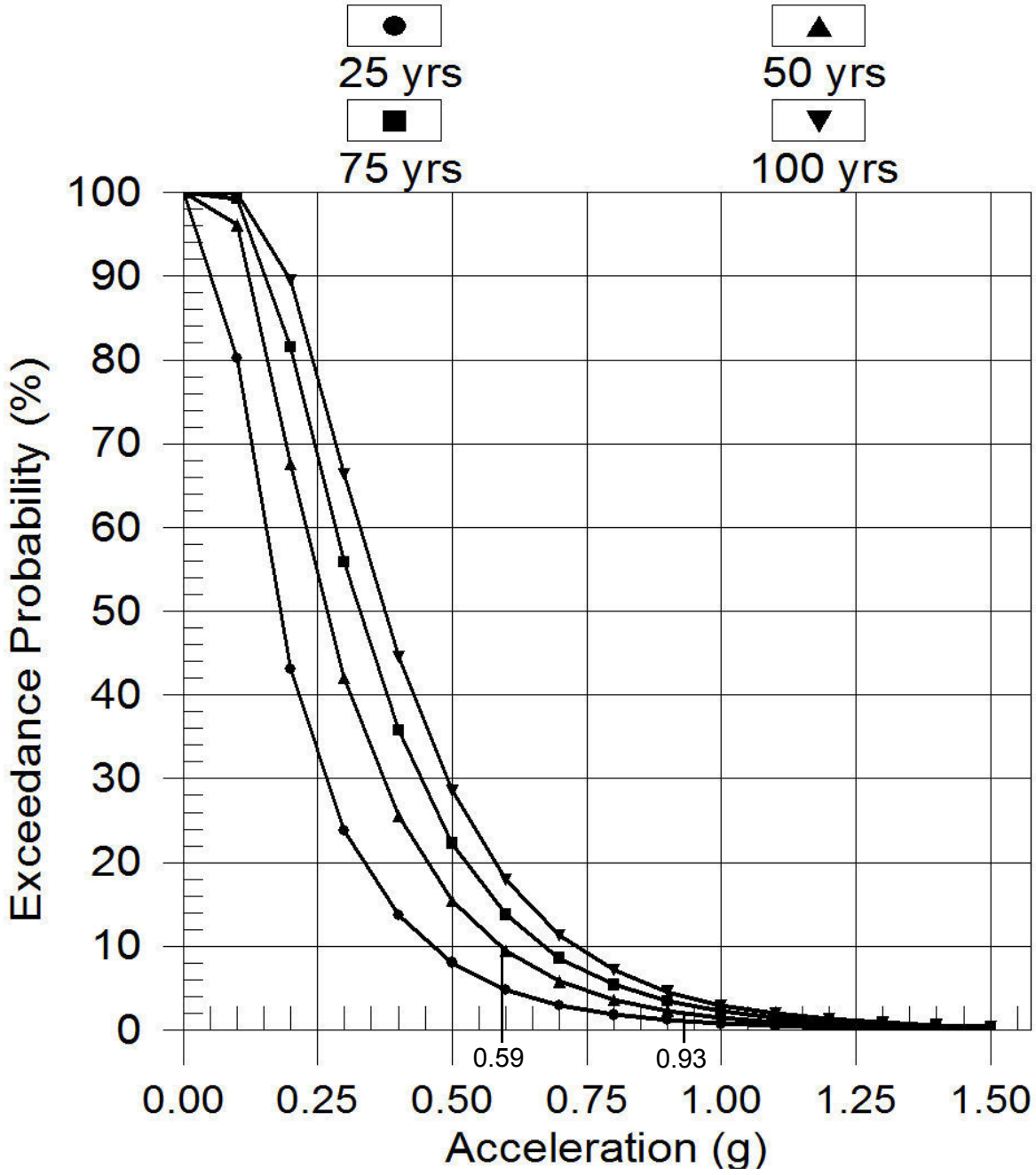
CALIFORNIA SEISMICITY MAP

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 6

PROBABILITY OF EXCEEDANCE

SADIGH ET AL. (1997) DEEP SOIL 1



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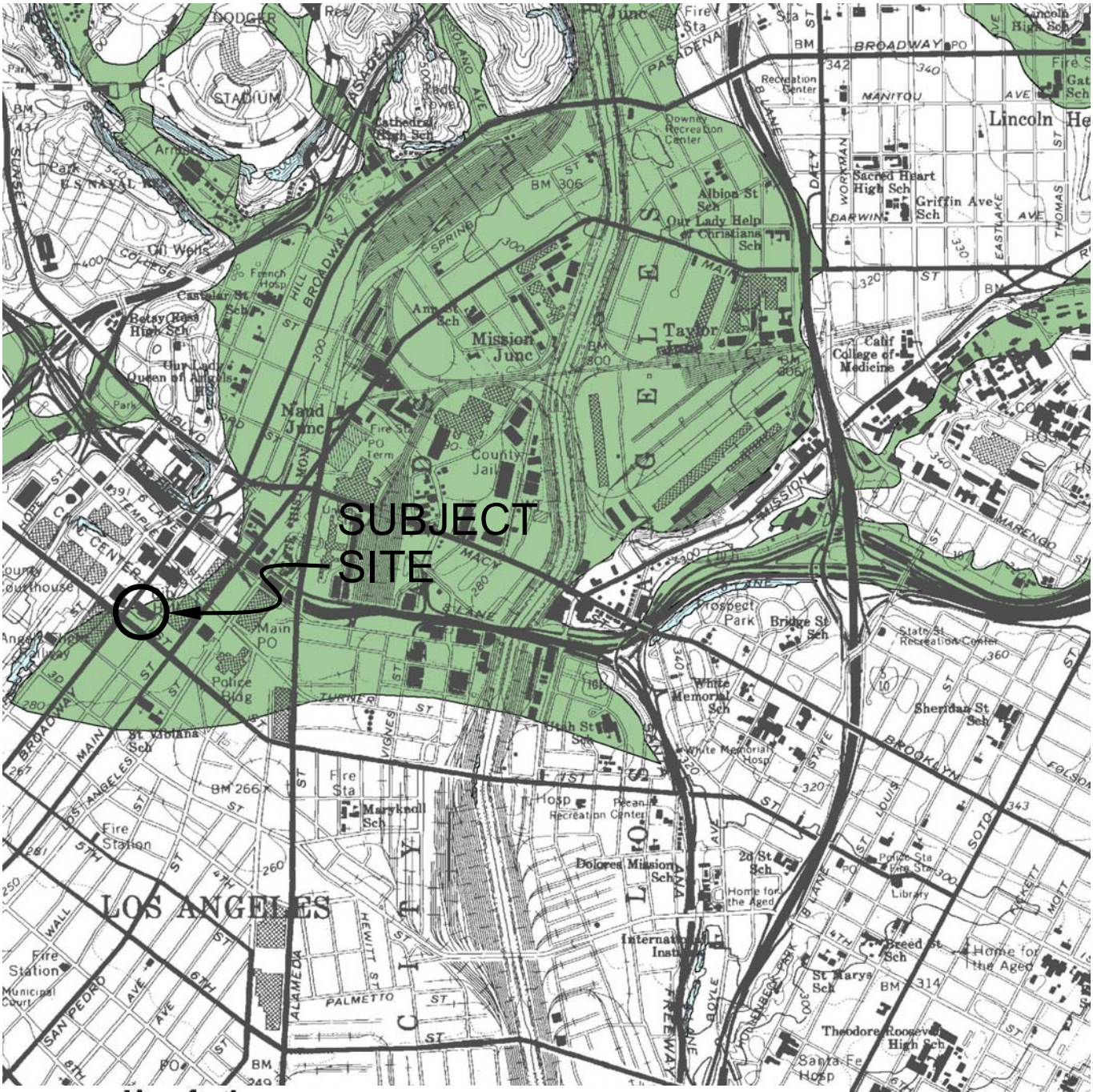
AL		8000

PROBABILITY OF EXCEEDANCE

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 7

REFERENCE: C.D.M.G. SEISMIC HAZARD ZONE MAP, LOS ANGELES QUADRANGLE, CA



Liquefaction

Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

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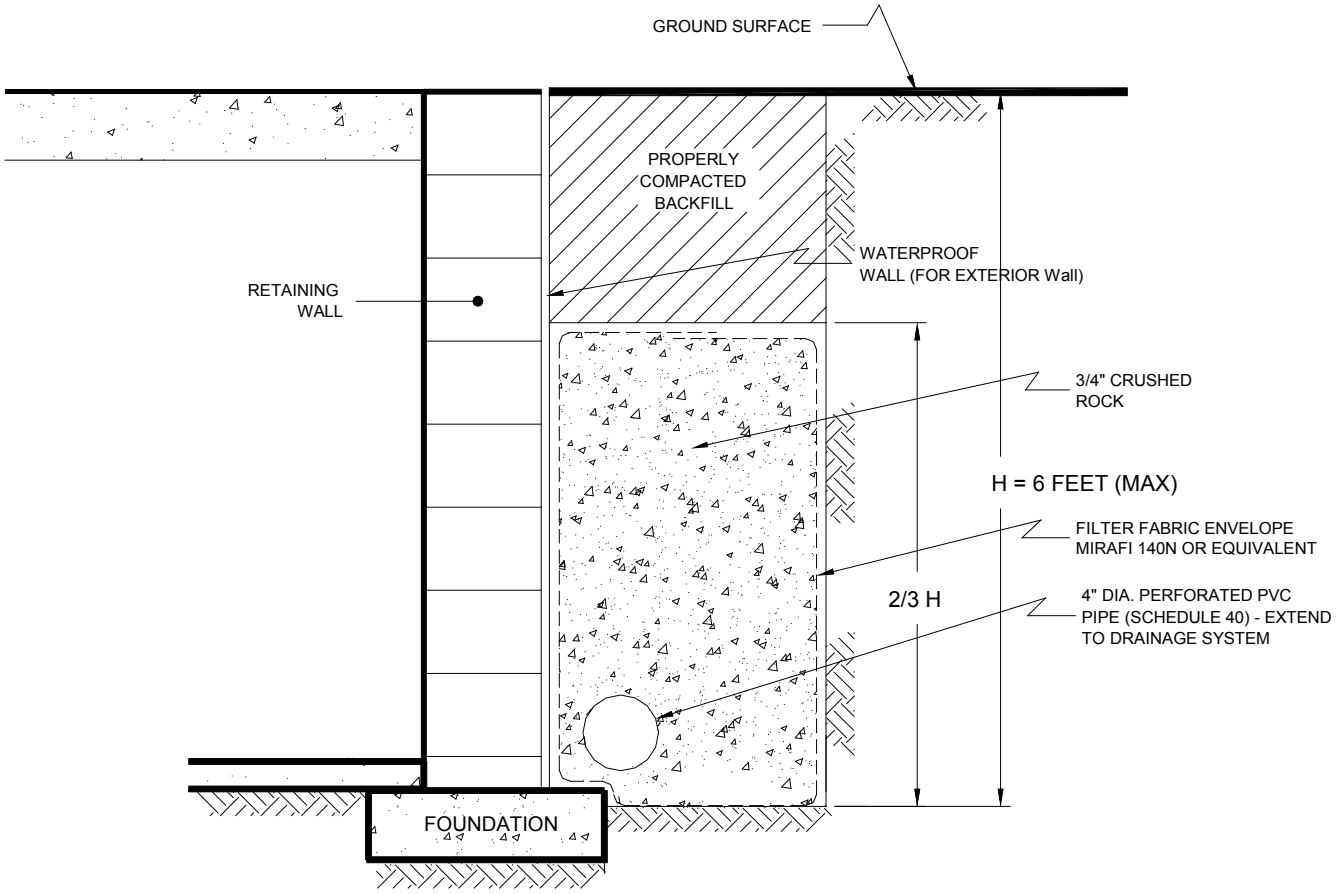
CHL		8000

SEISMIC HAZARD ZONE MAP

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 8



NO SCALE

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RK		8000

RETAINING WALL DRAIN DETAIL

CIVIC CENTER PARK
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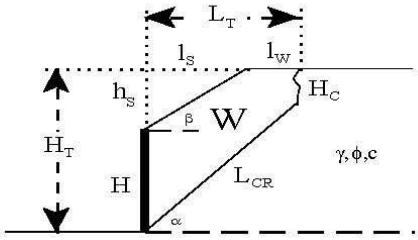
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. 9

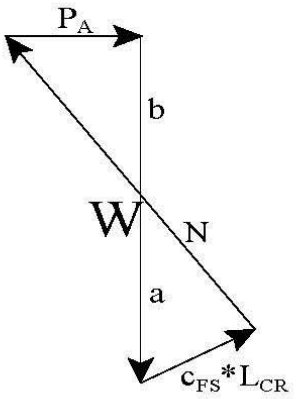
Shoring Design with Transitioned Backfill
(Vector Analysis)

Input:

Shoring Height	(H)	34.00 feet
Slope Angle of Backfill	(β)	0.0 degrees
Height of Slope above Shoring	(h_s)	0.0 feet
Horizontal Length of Slope	(l_s)	0.0 feet
Total Height (Shoring + Slope)	(H_T)	34.0 feet
Unit Weight of Retained Soils	(γ)	125.0 pcf
Friction Angle of Retained Soils	(ϕ)	29.0 degrees
Cohesion of Retained Soils	(c)	550.0 psf
Factor of Safety	(FS)	1.00
Factored Parameters:	(ϕ_{FS})	29.0 degrees
	(c_{FS})	550.0 psf



Failure Angle (α)	Height of Tension Crack (H_C)	Area of Wedge (A)	Weight of Wedge (W)	Length of Failure Plane (L_{CR})	a	b	Active Pressure (P_A)
degrees	feet	$feet^2$	lbs/lineal foot	feet	lbs/lineal foot	lbs/lineal foot	lbs/lineal foot
45	19.7	383	47926.9	20.2	35208.1	12718.8	3647.1
46	18.9	385	48142.6	20.9	34450.3	13692.3	4186.2
47	18.3	384	47980.5	21.5	33523.3	14457.2	4697.4
48	17.7	380	47531.2	22.0	32497.2	15034.0	5176.6
49	17.2	375	46862.1	22.3	31419.2	15443.0	5620.8
50	16.7	368	46023.9	22.6	30320.9	15702.9	6027.8
51	16.3	360	45054.8	22.8	29223.7	15831.1	6396.2
52	16.0	352	43984.4	22.9	28141.4	15843.0	6725.0
53	15.7	343	42835.4	22.9	27083.0	15752.4	7013.4
54	15.5	333	41625.5	22.9	26053.9	15571.6	7261.2
55	15.3	323	40368.3	22.8	25057.0	15311.4	7467.8
56	15.2	313	39074.8	22.7	24093.6	14981.2	7633.3
57	15.1	302	37753.3	22.6	23163.6	14589.7	7757.5
58	15.0	291	36410.4	22.4	22266.2	14144.2	7840.3
59	14.9	280	35051.3	22.2	21399.8	13651.5	7881.7
60	14.9	269	33679.8	22.0	20562.5	13117.3	7881.7
61	15.0	258	32298.9	21.8	19751.9	12547.1	7840.3
62	15.1	247	30910.9	21.5	18965.4	11945.5	7757.5
63	15.2	236	29517.2	21.2	18200.3	11316.9	7633.3
64	15.3	225	28118.7	20.8	17453.6	10665.2	7467.8
65	15.5	214	26716.0	20.4	16721.8	9994.1	7261.2
66	15.7	202	25308.8	20.0	16001.7	9307.1	7013.4
67	16.0	191	23896.9	19.6	15289.3	8607.6	6725.0
68	16.3	180	22479.2	19.1	14580.6	7898.6	6396.2
69	16.7	168	21054.6	18.5	13871.0	7183.6	6027.8
70	17.2	157	19621.2	17.9	13155.2	6466.0	5620.8



Design Equations (Vector Analysis)

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\,max}$ 7881.68 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of shoring)

$EFP = 2*P_A/H^2$

EFP 13.6 pcf

Design Shoring for an Equivalent Fluid Pressure: **25 pcf**
Active

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RETAINING WALL CALCULATION

CIVIC CENTER PARK
CITY OF LOS ANGELES BUREAU OF ENGINEERING
1ST AND BROADWAY
LOS ANGELES, CALIFORNIA

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TABLE 1

FAULTS WITHIN 60 MILES OF THE SITE

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROXIMATE DISTANCE mi (km)	ESTIMATED MAX. EARTHQUAKE EVENT MAXIMUM EARTHQUAKE MAG.(Mw)	PEAK SITE ACCEL. g	EST. SITE INTENSITY MOD.MERC.
UPPER ELYSIAN PARK BLIND THRUST	2.2(3.5)	6.4	0.857	XI
PUENTE HILLS BLIND THRUST	3.5(5.7)	7.1	0.790	XI
HOLLYWOOD	4.4(7.1)	6.4	0.650	X
RAYMOND	4.8(7.8)	6.5	0.649	X
VERDUGO	7.1(11.4)	6.9	0.562	X
NEWPORT-INGLEWOOD (L.A.Basin)	7.6(12.2)	7.1	0.443	X
SANTA MONICA	9.9(15.9)	6.6	0.417	X
SIERRA MADRE	11.3(18.2)	7.2	0.460	X
WHITTIER	13.8(22.2)	6.8	0.263	IX
SIERRA MADRE (San Fernando)	15.8(25.4)	6.7	0.287	IX
CLAMSHELL-SAWPIT	16.5(26.5)	6.5	0.253	IX
MALIBU COAST	16.6(26.7)	6.7	0.274	IX
PALOS VERDES	17.4(28.0)	7.3	0.269	IX
NORTHRIDGE (E. Oak Ridge)	17.7(28.5)	7.0	0.290	IX
SAN GABRIEL	18.3(29.5)	7.2	0.244	IX
SAN JOSE	20.8(33.4)	6.4	0.185	VIII
SANTA SUSANA	23.5(37.9)	6.7	0.190	VIII
ANACAPA-DUME	26.2(42.1)	7.5	0.265	IX
CHINO-CENTRAL AVE. (Elsinore)	27.0(43.4)	6.7	0.162	VIII
CUCAMONGA	29.5(47.5)	6.9	0.162	VIII
HOLSER	29.7(47.8)	6.5	0.129	VIII
SAN JOAQUIN HILLS	30.6(49.2)	6.6	0.132	VIII
SIMI-SANTA ROSA	30.6(49.3)	7.0	0.164	VIII
SAN ANDREAS - Mojave M-1c-3	34.2(55.0)	7.4	0.147	VIII
SAN ANDREAS - Whole M-1a	34.2(55.0)	8.0	0.212	VIII
SAN ANDREAS - 1857 Rupture M-2a	34.2(55.0)	7.8	0.189	VIII
SAN ANDREAS - Cho-Moj M-1b-1	34.2(55.0)	7.8	0.189	VIII
OAK RIDGE (Onshore)	35.2(56.7)	7.0	0.139	VIII
NEWPORT-INGLEWOOD (Offshore)	37.2(59.8)	7.1	0.109	VII
ELSINORE (GLEN IVY)	37.4(60.2)	6.8	0.090	VII
SAN CAYETANO	39.7(63.9)	7.0	0.120	VII
SAN JACINTO-SAN BERNARDINO	44.2(71.1)	6.7	0.068	VI
SAN ANDREAS - SB-Coach. M-2b	45.7(73.6)	7.7	0.129	VIII
SAN ANDREAS - SB-Coach. M-1b-2	45.7(73.6)	7.7	0.129	VIII
SAN ANDREAS - San Bernardino M-1	45.7(73.6)	7.5	0.113	VII
SAN ANDREAS - Carrizo M-1c-2	47.0(75.7)	7.4	0.101	VII
CLEGHORN	48.1(77.4)	6.5	0.053	VI
SANTA YNEZ (East)	52.2(84.0)	7.1	0.071	VI
VENTURA - PITAS POINT	55.1(88.7)	6.9	0.074	VII
OAK RIDGE(Blind Thrust Offshore)	56.8(91.4)	7.1	0.082	VII
CORONADO BANK	57.2(92.1)	7.6	0.092	VII
SAN JACINTO-SAN JACINTO VALLEY	58.0(93.3)	6.9	0.054	VI
CHANNEL IS. THRUST (Eastern)	58.6(94.3)	7.5	0.107	VII
ELSINORE (TEMECULA)	58.7(94.4)	6.8	0.049	VI
NORTH FRONTAL FAULT ZONE (West)	58.7(94.5)	7.2	0.084	VII

45 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.
THE UPPER ELYSIAN PARK BLIND THRUST FAULT IS CLOSEST TO THE SITE.
IT IS ABOUT 2.2 MILES (3.5 km) AWAY.
LARGEST MAXIMUM-EARTHQUAKE SITE ACCELERATION: 0.8568 g

APPENDIX A

FIELD INVESTIGATION

The site was explored on October 3 and 4, 2013 by excavating three 8-inch diameter borings utilizing a truck-mounted hollow-stem auger drilling machine. The borings were excavated to depths of 60½ feet below the existing ground surface. Representative and relatively undisturbed samples were obtained by driving a 3 inch O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2⅜-inch diameter brass sampler rings to facilitate removal and testing.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A-1 through A-3. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The approximate locations of the borings are indicated the Site Plan (see Figure 2).

PROJECT NO. A8950-06-01

HSA - 1

ELEV. (MSL.) **294.5** DATE COMPLETED **10/03/13**

EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	Bulk 0-2				**Latitude: 34.0535, Longitude: -118.2449** **ARTIFICIAL FILL** Sandy Silt and Silty Sand, soft to loose, dry, brown, fine-grained with trace medium- to coarse-grained, trace fine gravel			
2	B1@2.5 0.0 ppm 0.0% LEL					21	76.9	5.4
4					Sandy Silt, soft, moist, mottled olive brown and yellowish brown, fine-grained, trace fine gravel			
6	B1@5 155 ppm 0.0% LEL					7	- -	11.6
8	B1@7.5 320 ppm 0.0% LEL				Sandy Silt and Silty Sand, firm to loose, slightly moist, mottled brown to dark brown to yellowish brown, fine- to coarse-grained, trace fine gravel, some concrete and asphalt fragments	12	105.9	6.7
10	B1@10 98 ppm 0.0% LEL				-Some brick fragments	6	- -	19.3
12	B1@12.5 12 ppm 0.0% LEL					19	105.7	12.2
14					**ALLUVIUM**			
16	B1@15 15 ppm 0.0% LEL			SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, yellowish brown, fine- to medium-grained, trace fine gravel	24	- -	5.4
18	B1@17.5 3.0 ppm 0.0% LEL				-Abundant fine gravel, cobble	88	- -	1.2
20	B1@20 14 ppm 0.0% LEL					79	- -	14.9
22					**FERNANDO FORMATION**			
24	B1@22.5 0.0 ppm 0.0% LEL				Siltstone, poorly bedded, massive, highly weathered, slightly to moderately fractured, soft, moist, dark brownish gray to black, unoxidized, trace shell fragments	42	75.6	40.2
26	B1@25 1.1 ppm 0.0% LEL					28		33.2
28	B1@27.5 0.0 ppm 0.0% LEL					53	80.5	33.8

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A1,
Log of HSA - 1, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A8950-06-01

HSA - 1

ELEV. (MSL.) **294.5** DATE COMPLETED **10/03/13**

EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B1@30 10.0 ppm 0.0% LEL					29	- -	35.5
32	B1@32.5 8.0 ppm 0.0% LEL					79	80.9	33.7
34	B1@35 60 ppm 0.0% LEL					36	- -	34.9
36								
38								
40	B1@40 0.0 ppm 0.0%					31	82.1	32.4
42								
44								
46	B1@45 0.0 ppm 0.0%					42	- -	35.8
48								
50	B1@50 61 ppm 0.0%					45	80.5	33.3
52								
54					-Highly fractured			
56	B1@55 41 ppm 0.0%					13	- -	35.0
58								

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A1,
Log of HSA - 1, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A8950-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**HSA - 1** ELEV. (MSL.) **294.5** DATE COMPLETED **10/03/13** EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
60	B1@60 25 ppm 0.0%				End boring at 60.5 feet. Artificial fill to 14 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. Ground surface restored. *Penetration resistance for 140 pound hammer falling 30 inches by auto-hammer.	53	78.6	35.9

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A1,
Log of HSA - 1, Page 3 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A8950-06-01

HSA - 2

ELEV. (MSL.) **297.5** DATE COMPLETED **10/04/13**

EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	Bulk 0-2				**Latitude: 34.0540, Longitude: -118.2446** **Concrete: 4 inches No Base**			
2					**ARTIFICIAL FILL** Sandy Silt and Clay with Sand, firm, moist, mottled dark brown to olive brown, fine- to medium-grained, trace fine gravel			
	B2@2.5 0.0 ppm 0.0% LEL			CL		18	- -	14.4
4					**ALLUVIUM** Clay with Sand, firm, moist, olive brown with dark yellow oxidation staining, fine-grained			
	B2@5 0.0 ppm 0.0% LEL					35	95.9	15.7
6					Silt with Sand, stiff, moist, olive brown, fine-grained, slightly porous, trace fine-gravel, high plasticity -Trace calcium carbonate deposits, some dark yellowish brown oxidation staining, moderate plasticity			
	B2@7.5 0.0 ppm 0.0% LEL			ML		30	- -	17.1
8					-Yellowish brown			
10	B2@10 0.0 ppm 0.0% LEL				-Sandy Silt, stiff, moist, dark yellowish brown, fine-grained, low to moderate plasticity	28	109.9	16.3
12				SM	Silty Sand, medium dense, moist, yellowish brown, fine- to medium-grained with trace coarse-grained, trace fine gravel			
	B2@12.5 0.0 ppm 0.0% LEL					27	- -	8.2
14				SP-SM	Sand with Silt, poorly graded, medium dense, slightly moist, light yellowish brown, fine- to medium-grained, trace fine gravel -Dark yellowish brown to yellow			
	B2@15 0.0 ppm 0.0% LEL					40	114.3	4.1
16								
	B2@17.5 0.0 ppm 0.0% LEL			SW-SM	Sand with Silt and Gravel, well graded, dense, moist, brown to yellowish brown, fine gravel -Cobble -Minor seepage encountered at 19.7 to 20.0 feet along the bedrock contact	73	- -	4.4
18								
20	B2@20 0.0ppm 0.0% LEL				**FERNANDO FORMATION** Siltstone, poorly bedded, massive, highly weathered, slightly fractured, soft, moist, yellowish brown to olive brown -Dark brownish gray to black, unoxidized -Trace shell fragments	33	85.3	33.0
22								
	B2@22.5 0.0 ppm 0.0% LEL					21	- -	33.0
24								
	B2@25 0.0 ppm 0.0% LEL					52	87.0	30.0
26								
	B2@27.5 0.0 PPM 0.0% LEL					25	- -	32.0
28								

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A2,
Log of HSA - 2, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A8950-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**HSA - 2** ELEV. (MSL.) **297.5** DATE COMPLETED **10/04/13** EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL** MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B2@30 0.0 PPM 0.0% LEL					63	85.8	31.1
32	B2@32.5 0.0 ppm 0.0% LEL					22	- -	31.2
34	B2@35 0.0 ppm 0.0% LEL 0.0% LEL					40	88.1	29.5
36								
38					-Dark olive gray			
40	B2@40 0.0 ppm 0.0% LEL					25	- -	28.8
42								
44								
46	B2@45 0.0 ppm 0.0% LEL					52	92.0	26.6
48								
50	B2@50 0.0 ppm 0.0% LEL					29	- -	29.1
52								
54								
56	B2@55 0.0 ppm 0.0% LEL					61	88.8	30.5
58								

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A2,
Log of HSA - 2, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. A8950-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**HSA - 2** ELEV. (MSL.) **297.5** DATE COMPLETED **10/04/13** EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
60	B2@60 0.0 ppm 0.0% LEL				End boring at 60.5 feet. Artificial fill to 2 feet. Minor seepage encountered at 19.7 to 20.0 feet along the bedrock contact. Backfilled with soil cuttings and tamped. Ground surface restored with concrete patch. *Penetration resistance for 140 pound hammer falling 30 inches by auto-hammer.	31	- -	30.7

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A2,
Log of HSA - 2, Page 3 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
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- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A8950-06-01

HSA - 3

ELEV. (MSL.) **300.0** DATE COMPLETED **10/04/13**

EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0	Bulk 0-2				**Latitude: 34.0537, Longitude: -118.2440** **Asphalt 3.5 inches No Base**			
2					**ARTIFICIAL FILL** Silty Sand, loose, dry, light brown, fine-grained			
4	B3@2.5 3.9 ppm 0.0% LEL				Sandy Clay, firm, moist, dark brown to olive brown, fine- to medium-grained, some roots, some concrete and asphalt fragments	20	109.8	15.9
6	B3@5 1.9 ppm 0.0% LEL			ML	**ALLUVIUM** Silt with Sand, firm, moist, olive brown with yellowish brown oxidation staining, fine- to medium-grained, slightly porous, high plasticity	13	- -	12.4
8	B3@7.5 1.3 ppm 0.0% LEL				Sandy Clay, stiff, moist, dark brown, fine- to coarse-grained	36	112.2	14.4
10	B3@10 3.0 ppm 0.0% LEL			CL	-Fine- to medium-grained	15	- -	15.3
12	B3@12.5 1.0 ppm 0.0% LEL			ML	Sandy Silt, firm, moist, yellowish brown, fine-grained, moderate plasticity	13	109.7	13.8
14	B3@15 0.9 ppm 0.0% LEL			SM	Silty Sand, dense, moist, yellowish brown, fine-grained	22	- -	11.1
16				ML	Sandy Silt, stiff, moist, yellowish brown, fine-grained			
18	B3@17.5 0.0 ppm 0.0% LEL			SW-SM	Sand with Silt and Gravel, dense, yellowish brown, fine-gravel	63	112.8	4.8
20	B3@20 14 ppm 0.0% LEL				-Moderate seepage encountered at 21.0 to 23.0 feet along the bedrock contact	70	- -	5.5
22	B3@22.5 9.0 ppm 0.0% LEL				**FERNANDO FORMATION** Siltstone, poorly bedded, massive, highly weathered, slightly fractured, soft, moist, yellowish brown to olive brown	58	120.6	11.7
24	B3@25 41 ppm 0.0% LEL					17	- -	28.1
26	B3@27.5 10.0 ppm 0.0% LEL					24	89.0	30.1
28								

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A3,
Log of HSA - 3, Page 1 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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PROJECT NO. A8950-06-01

HSA - 3

ELEV. (MSL.) **300.0** DATE COMPLETED **10/04/13**

EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
30	B3@30 0.0 ppm 0.0% LEL					25	- -	29.3
32	B3@32.5 0.0 ppm 0.0% LEL				-Dark brownish gray to black, unoxidized, trace shell fragments	11	88.1	29.8
34	B3@35 0.0 ppm 0.0% LEL					31	- -	29.8
36								
38								
40	B3@40 0.0 ppm 0.0%					43	87.4	30.6
42								
44								
46	B3@45 0.9 ppm 0.0%					36	- -	31.0
48								
50	B3@50 0.0 ppm 0.0%					43	81.8	33.8
52								
54								
56	B3@55 0.0 ppm 0.0%					36	- -	31.2
58								

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A3,
Log of HSA - 3, Page 2 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
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- ◥ ... CHUNK SAMPLE
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PROJECT NO. A8950-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**HSA - 3** ELEV. (MSL.) **300.0** DATE COMPLETED **10/04/13** EQUIPMENT **HOLLOW STEM AUGER** BY: **CHL**	PENETRATION RESISTANCE (BLOWS/FT)*	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
60	B3@60 0.0 ppm 0.0%				End boring at 60.5 feet. Artificial fill to 4.5 feet. Moderate seepage encountered at 21.0 to 23.0 feet along the bedrock contact. Backfilled with soil cuttings and tamped. Ground surface restored with concrete patch. *Penetration resistance for 140 pound hammer falling 30 inches by auto-hammer.	62	88.6	30.8

A8950-06-01 A1-A3 BORING LOGS.GPJ

Figure A3,
Log of HSA - 3, Page 3 of 3

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

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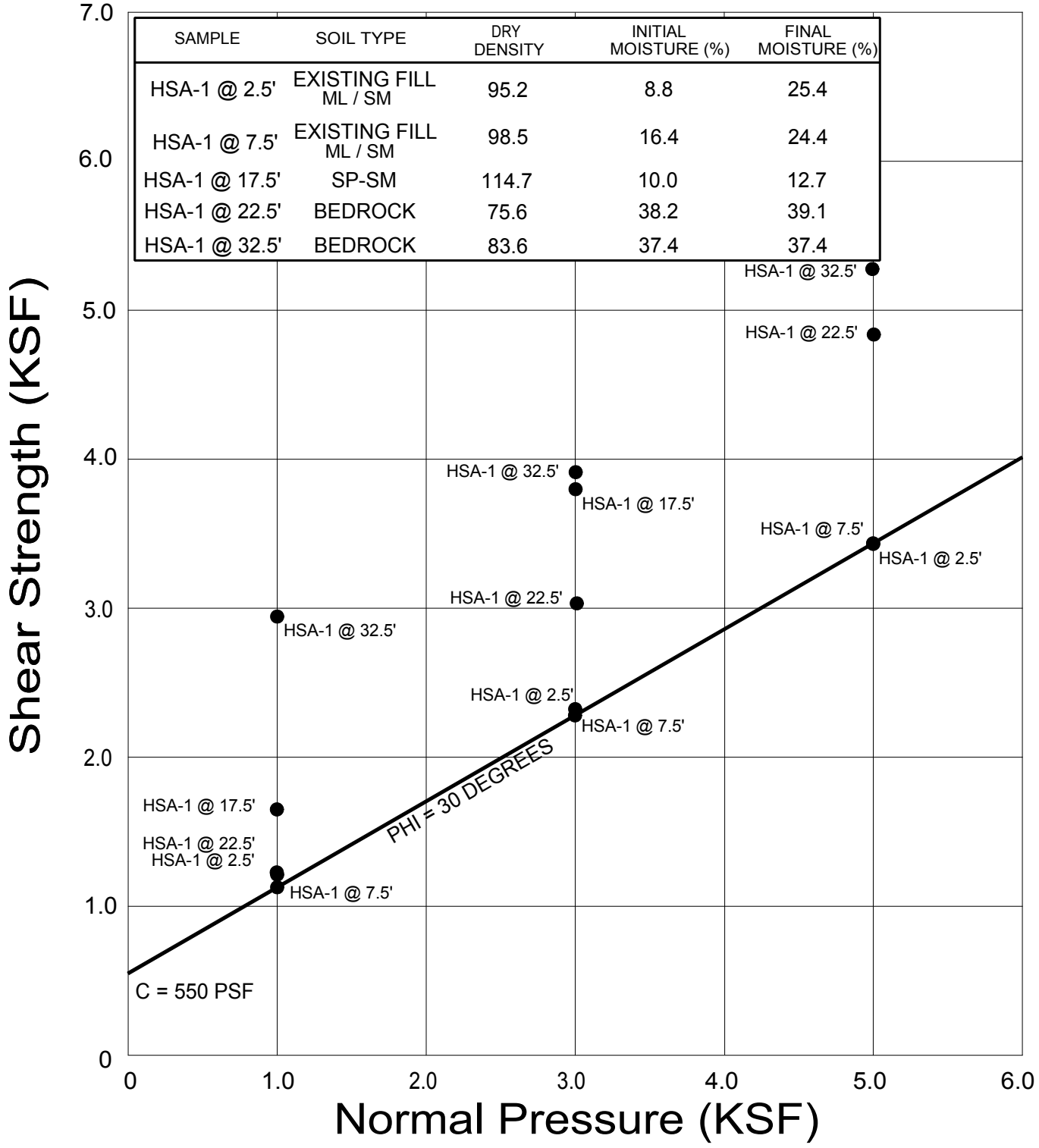
APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation and expansion characteristics, moisture density relationships, Atterberg limits, grain size analysis, grain size distribution, corrosivity, in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B20. The in-place dry density and moisture content of the samples tested are presented in the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
HSA-1 @ 2.5'	EXISTING FILL ML / SM	95.2	8.8	25.4
HSA-1 @ 7.5'	EXISTING FILL ML / SM	98.5	16.4	24.4
HSA-1 @ 17.5'	SP-SM	114.7	10.0	12.7
HSA-1 @ 22.5'	BEDROCK	75.6	38.2	39.1
HSA-1 @ 32.5'	BEDROCK	83.6	37.4	37.4



● Direct Shear, Saturated, Peak Values (ASTM D3080)

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TL		8000

DIRECT SHEAR TEST RESULTS

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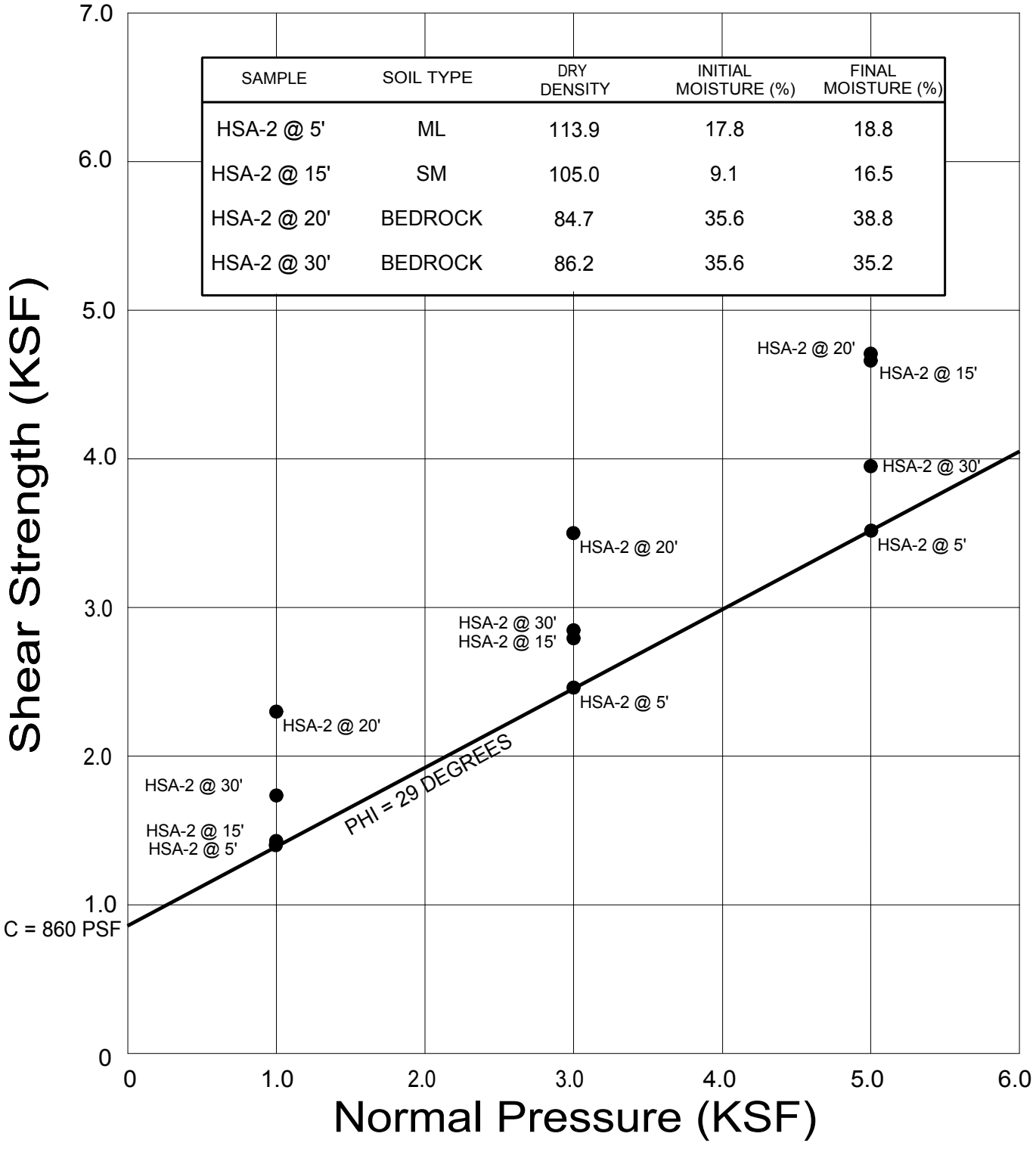
LOS ANGELES, CALIFORNIA

DEC. 10, 2013	PROJECT NO. A8950-06-01	FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
HSA-2 @ 5'	ML	113.9	17.8	18.8
HSA-2 @ 15'	SM	105.0	9.1	16.5
HSA-2 @ 20'	BEDROCK	84.7	35.6	38.8
HSA-2 @ 30'	BEDROCK	86.2	35.6	35.2



● Direct Shear, Saturated (ASTM D3080)

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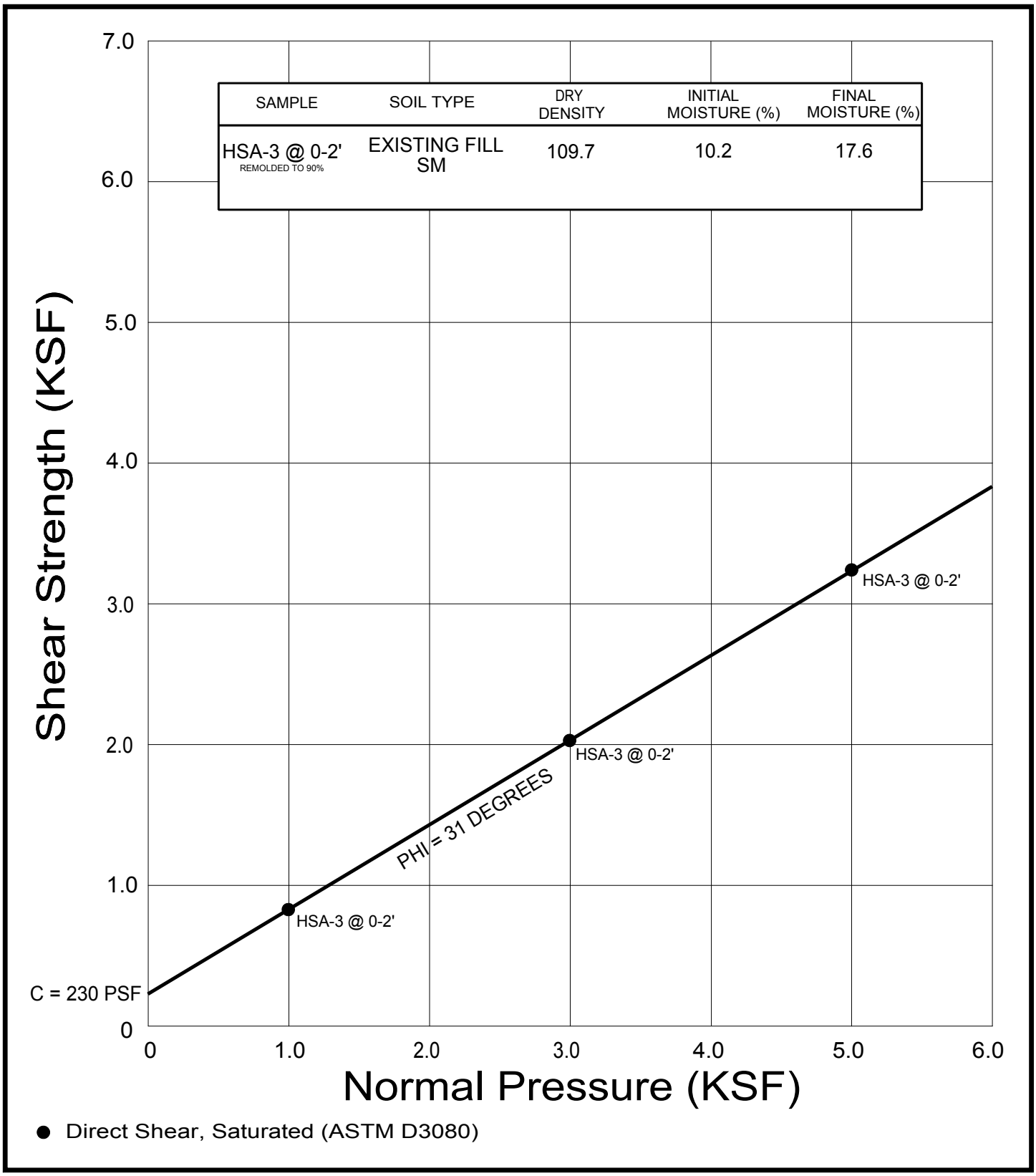
DEC. 10, 2013	PROJECT NO. A8950-06-01	FIG. B2



SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
HSA-3 @ 0-2' REMOLDED TO 90%	EXISTING FILL SM	109.7	10.2	17.6

● Direct Shear, Saturated (ASTM D3080)

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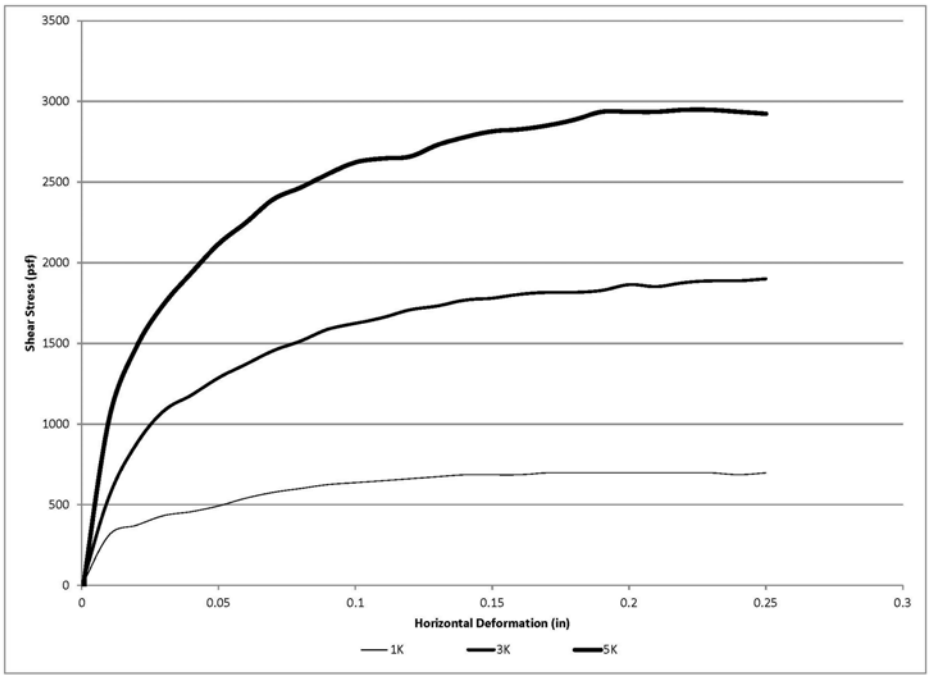
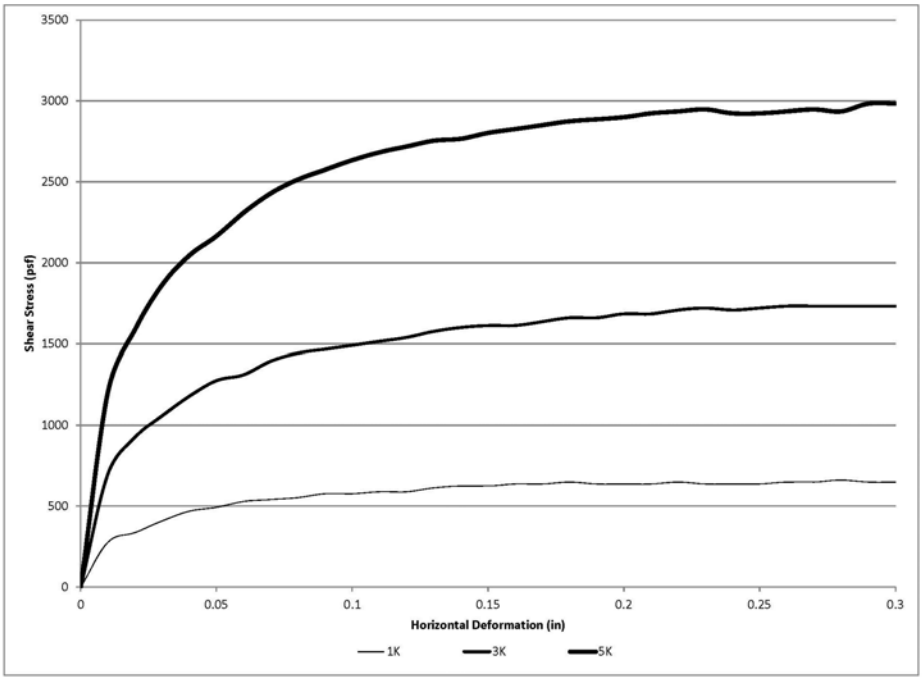
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B3



HSA-1@2.5'



HSA-1@7.5'

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DIRECT SHEAR TEST RESULTS

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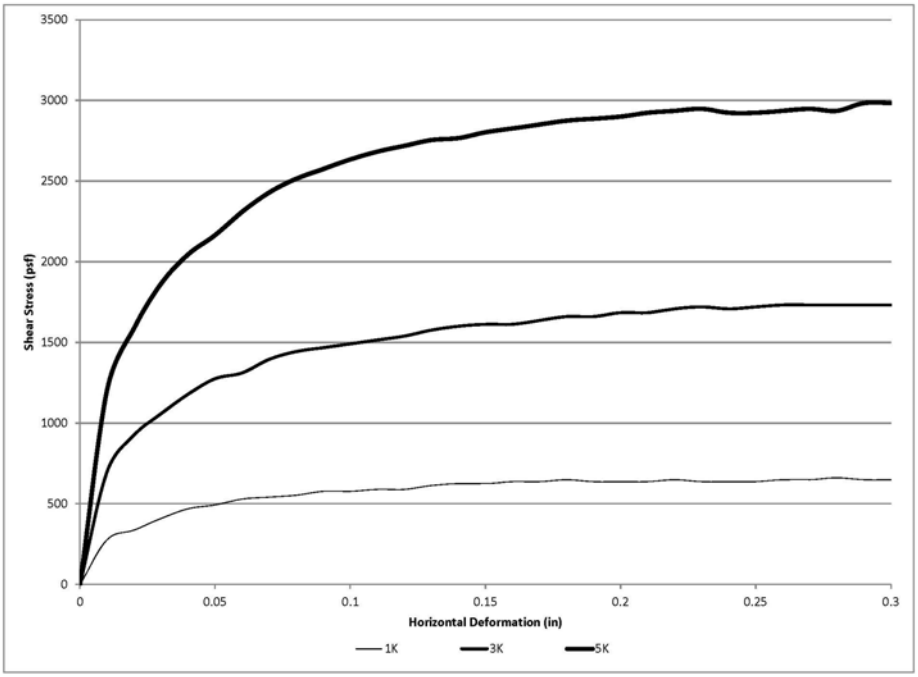
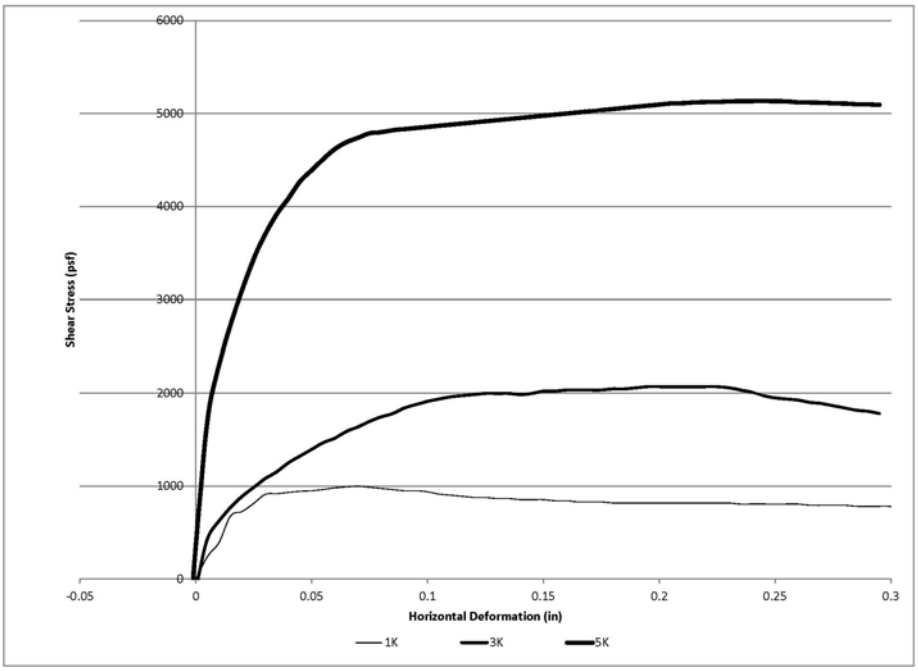
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B4



HSA-1@17.5'



HSA-1@22.5'

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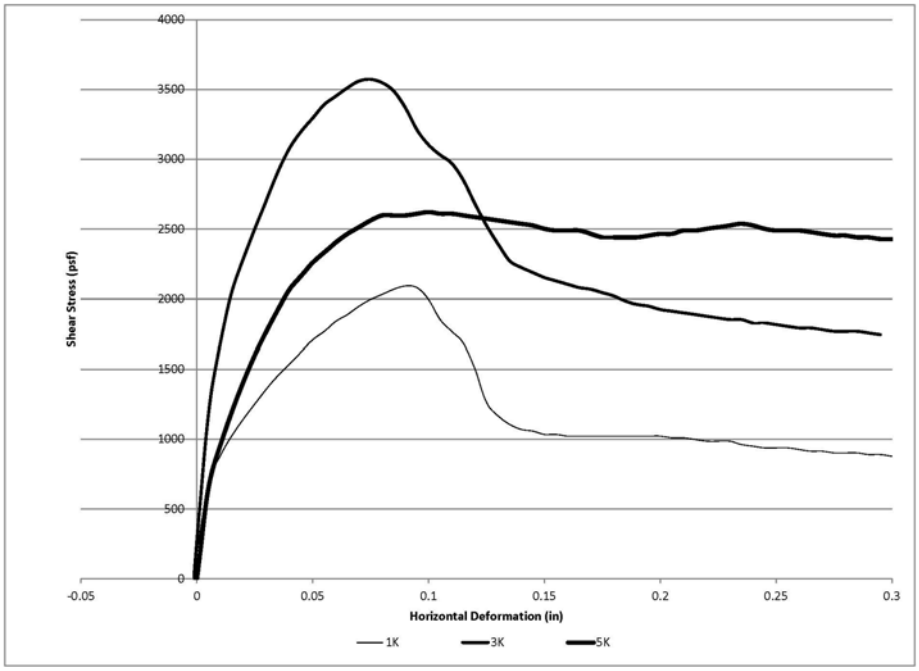
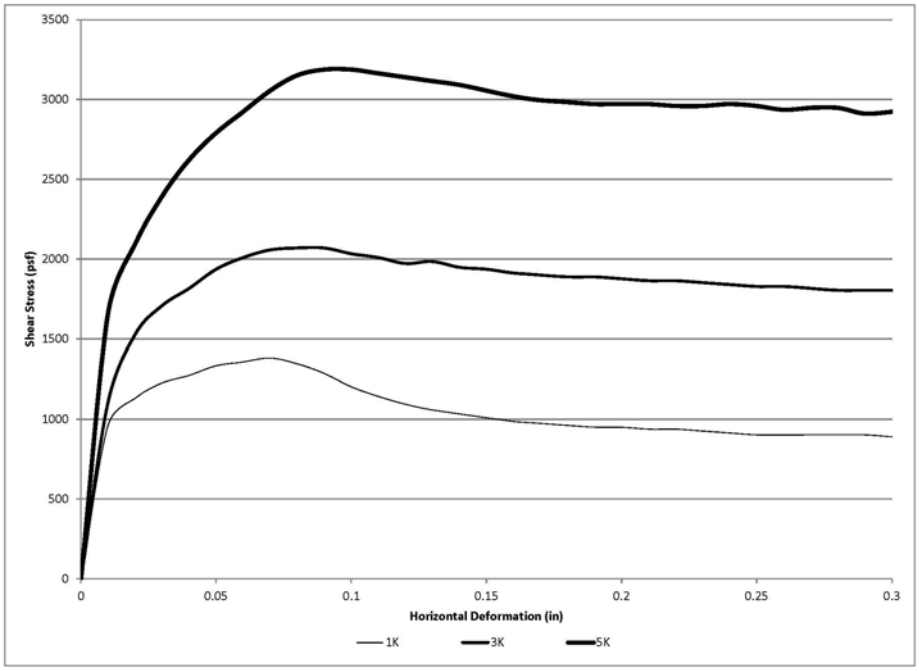
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B5



HSA-1@32.5'



HSA-2@5'

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DIRECT SHEAR TEST RESULTS

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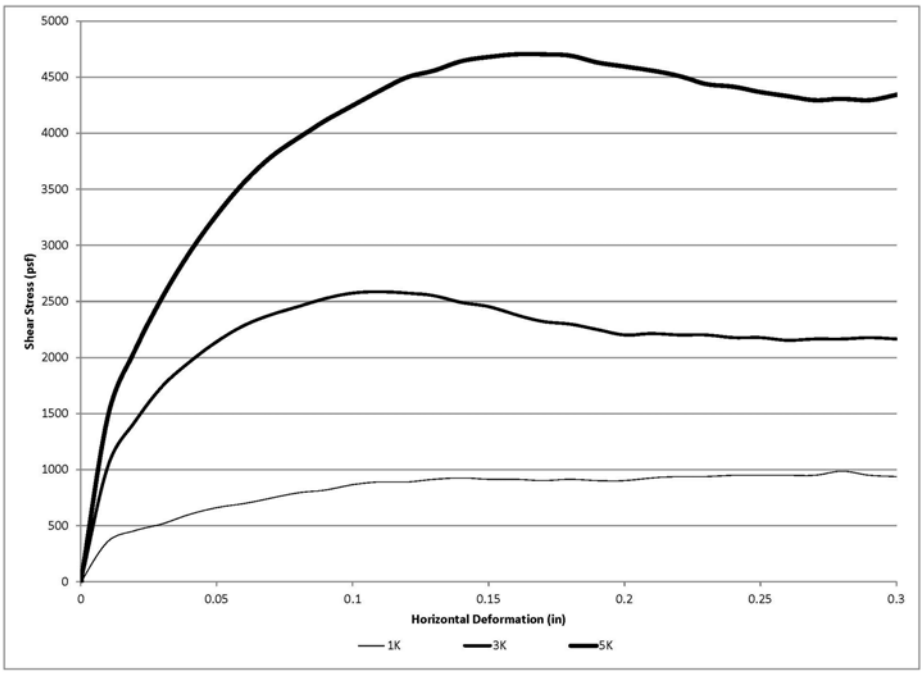
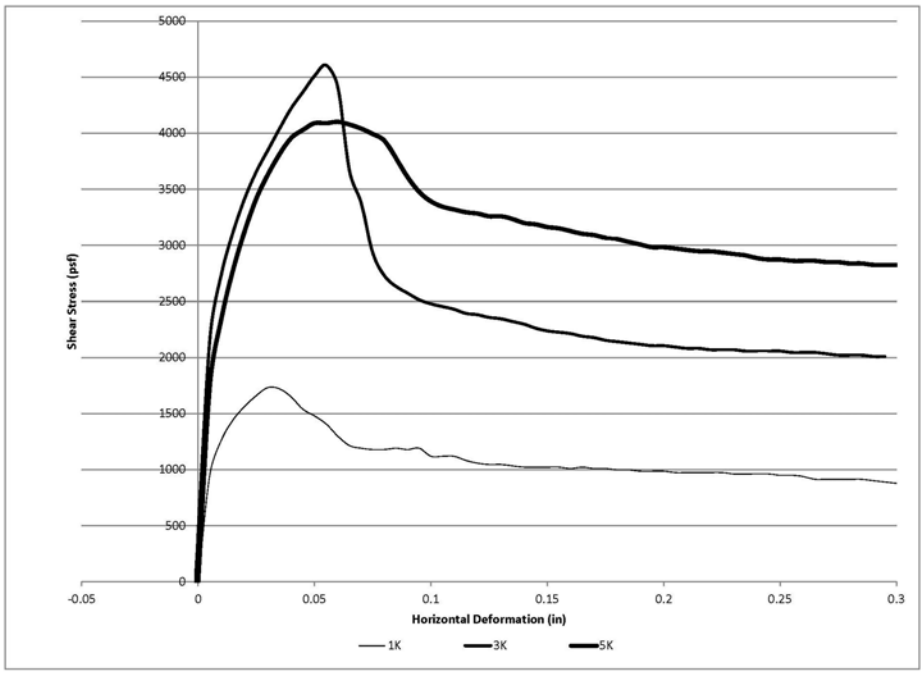
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B6



HSA-2@15'



HSA-2@20'

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DIRECT SHEAR TEST RESULTS

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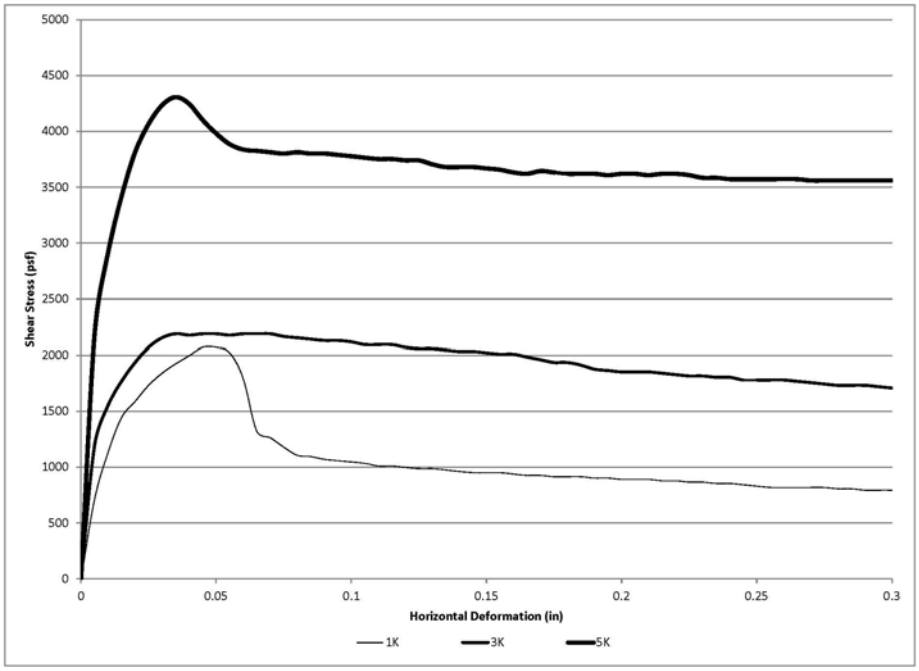
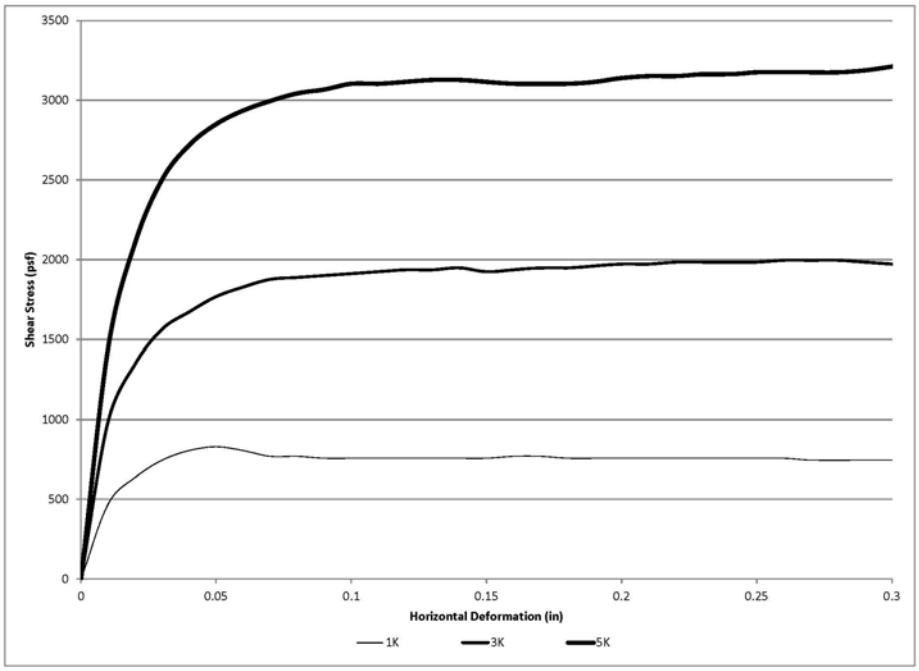
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B7



HSA-2@30'



HSA-3@0-2'

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DIRECT SHEAR TEST RESULTS

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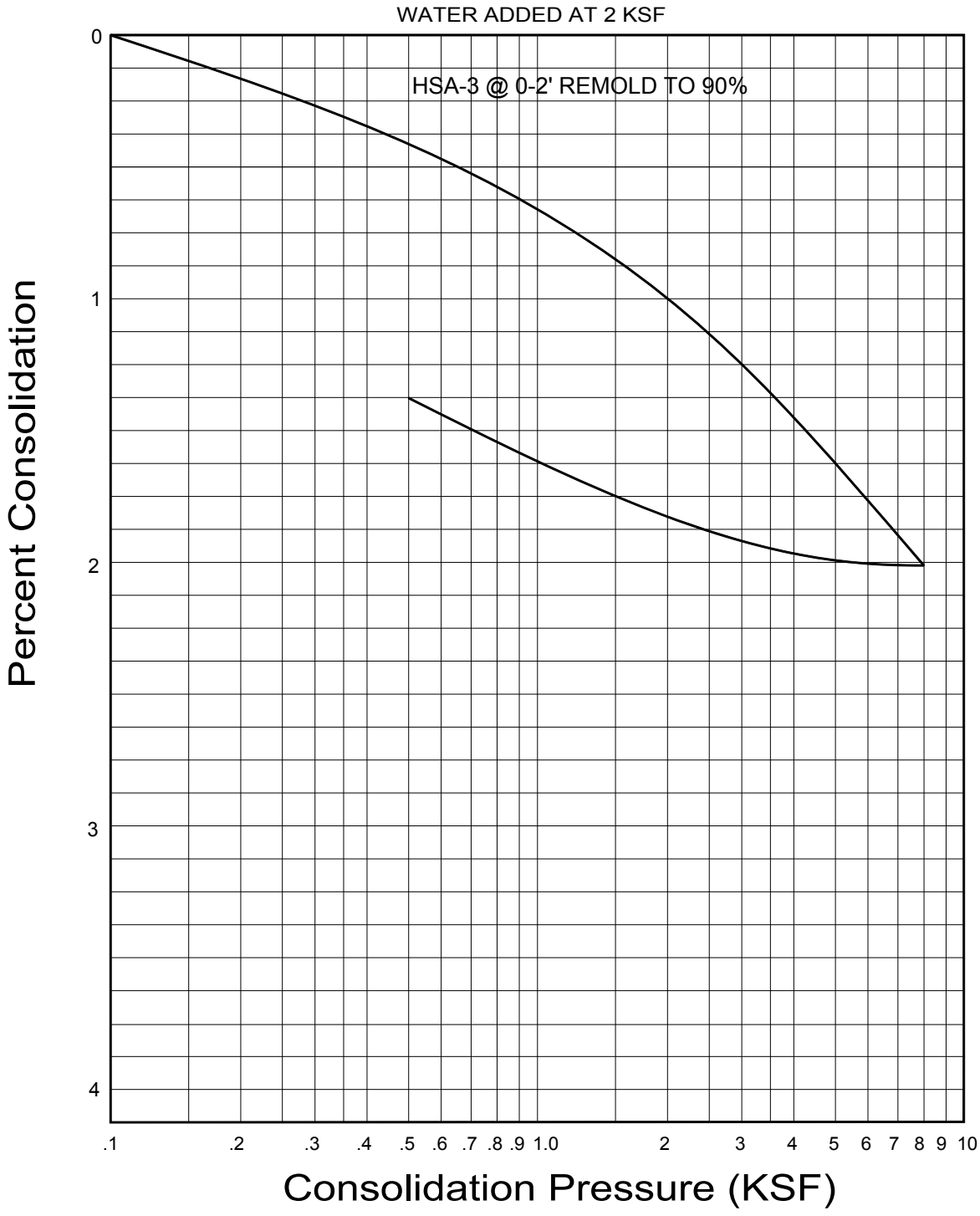
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B8



ASTM D2435

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CONSOLIDATION TEST RESULTS

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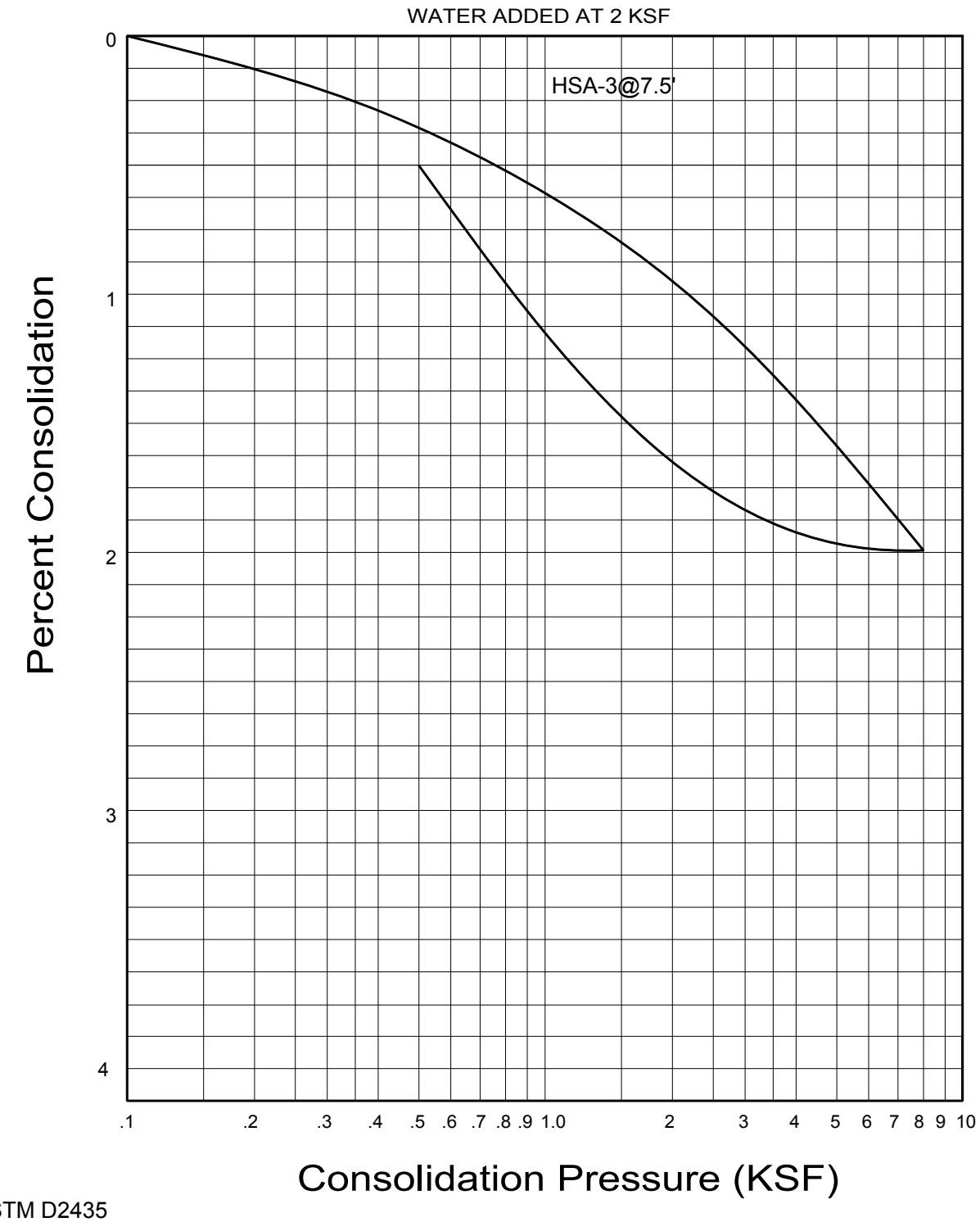
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B9



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CONSOLIDATION TEST RESULTS

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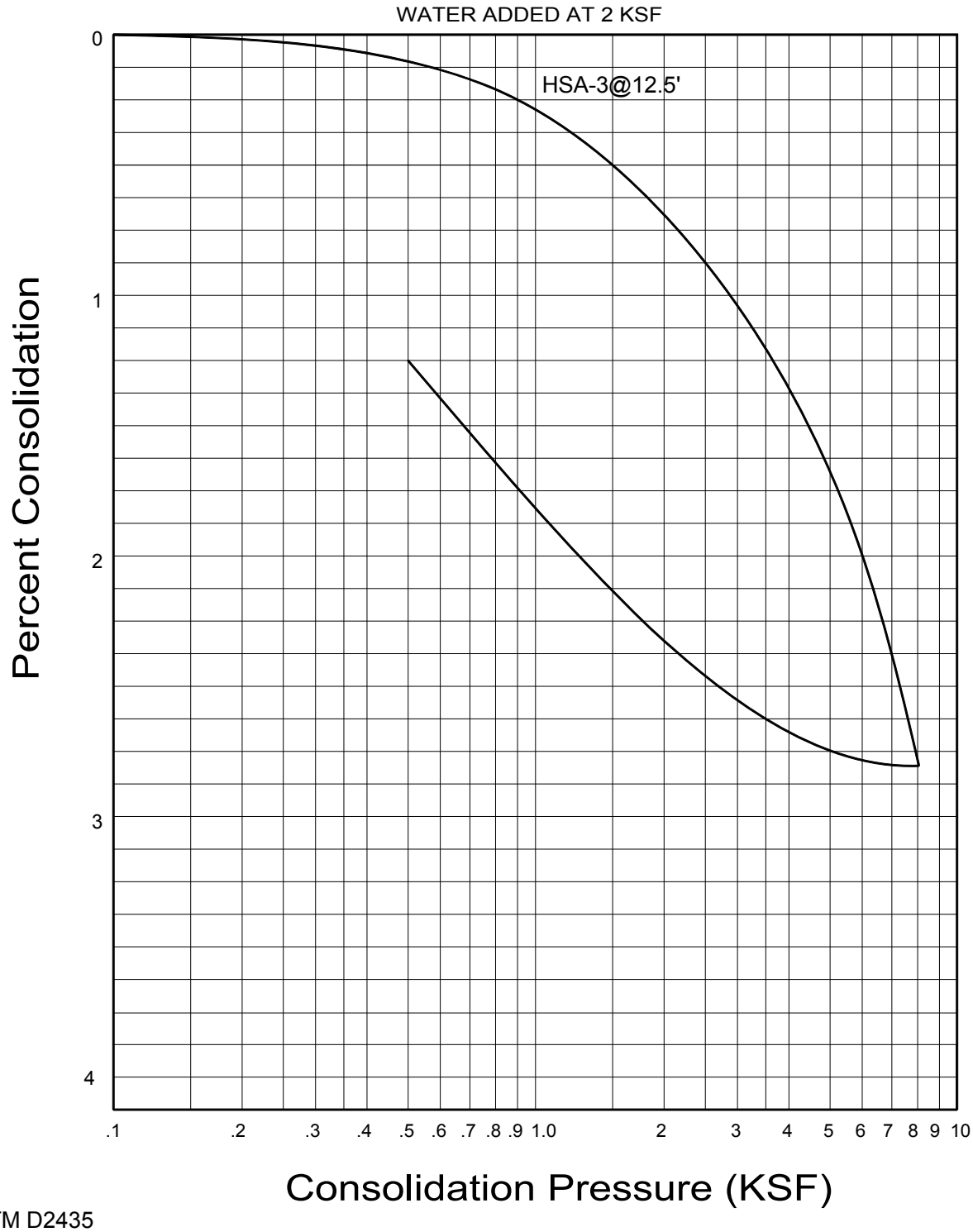
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B10



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CONSOLIDATION TEST RESULTS

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DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B11

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

Sample No.	Moisture Content (%)		Dry Density (pcf)	Expansion Index	*UBC Classification	**CBC Classification
	Before	After				
HSA-2 @ 0-2' (Existing Fill - ML / CL)	15.1	26.2	112.1	71	Moderate	Expansive
HSA-3 @ 0-2' (Existing Fill - SM)	7.8	22.1	111.3	3	Very Low	Non-Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2010 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

Sample No.	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
HSA-2 @ 0-2' (Existing Fill - ML / CL)	Dark Brown - Olive Brown Sandy Silt / Clay with Sand	117.0	10.0
HSA-3 @ 0-2' (Existing Fill - SM)	Light Brown Silty Sand	124.0	8.5

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LABORATORY TEST RESULTS

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DEC. 20, 2013 | PROJECT NO. A8950-06-01 | FIG. B12

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

Sample No.	pH	Resistivity (Ohm Centimeters)
HSA-3 @ 0-2' (Existing Fill - SM)	6.92	830 (Severely Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

Sample No.	Chloride Ion Content (%)
HSA-3 @ 0-2' (Existing Fill - SM)	0.005

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

Sample No.	Water Soluble Sulfate (% SO_4)	Sulfate Exposure*
HSA-3 @ 0-2' (Existing Fill - SM)	0.380	Severe

* Reference: 2010 California Building Code, Section 1904.3 and ACI 381 Section 4.3.

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TL		8000

CORROSIVITY TEST RESULTS

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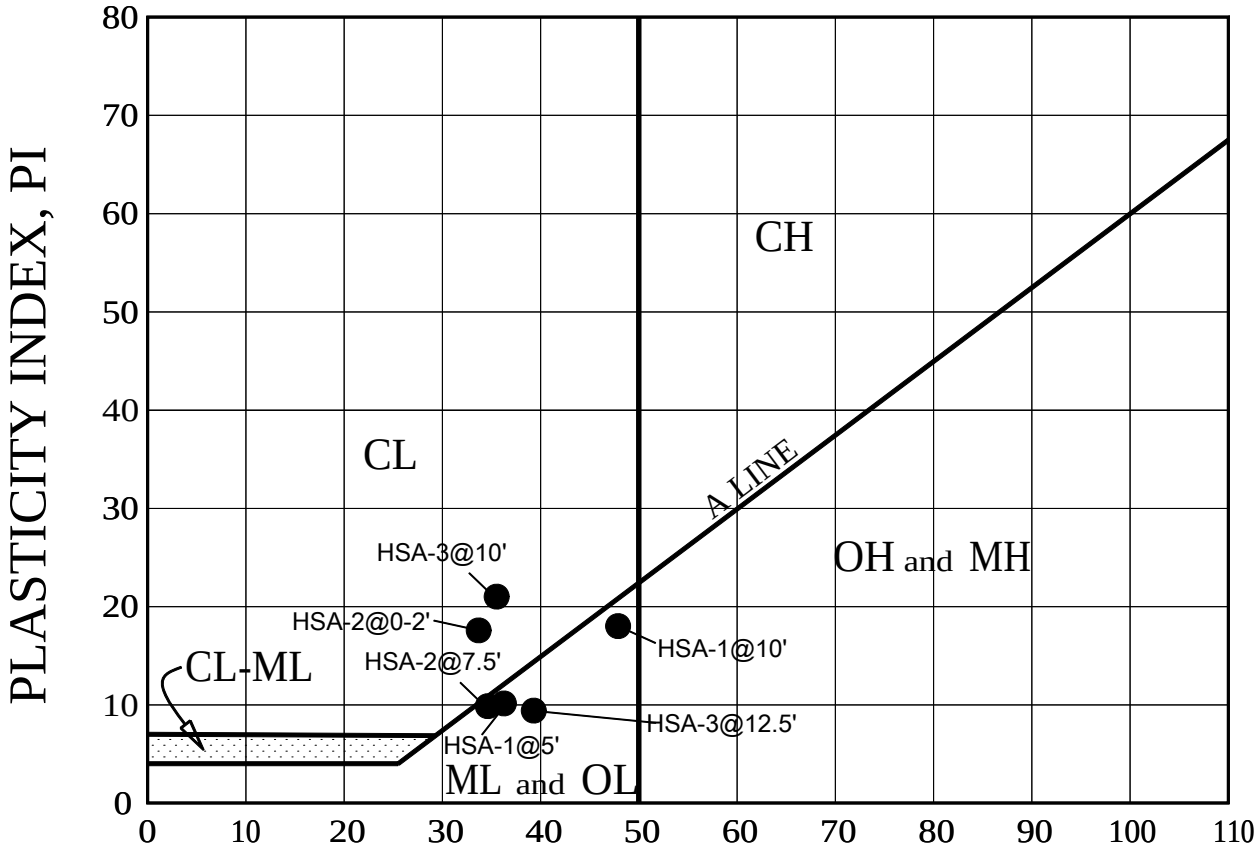
LOS ANGELES, CALIFORNIA

DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B13



BORING NUMBER	DEPTH (FEET)	LL	PL	PI	SOIL BEHAVIOR
HSA-1	**5**	**36.3**	**26.2**	**10.1**	**ML**
HSA-1	**10**	**47.8**	**29.7**	**18.1**	**ML**
HSA-1	**20**	**N/P**	**N/P**	**N/P**	**SP-SM**
HSA-2	**7.5**	**34.6**	**24.8**	**9.8**	**ML**
HSA-2	**15**	**N/P**	**N/P**	**N/P**	**SP-SM**
HSA-3	**10**	**35.5**	**14.3**	**21.2**	**CL**
HSA-3	**12.5**	**39.3**	**19.2**	**20.1**	**ML**
HSA-2	**0-2**	**33.6**	**16.2**	**17.5**	**EXISTING FILL (CL)**
HSA-3	**0-2**	**N/P**	**N/P**	**N/P**	**EXISTING FILL (SM)**

*N/P indicates Non-Plastic

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ATTERBERG LIMITS

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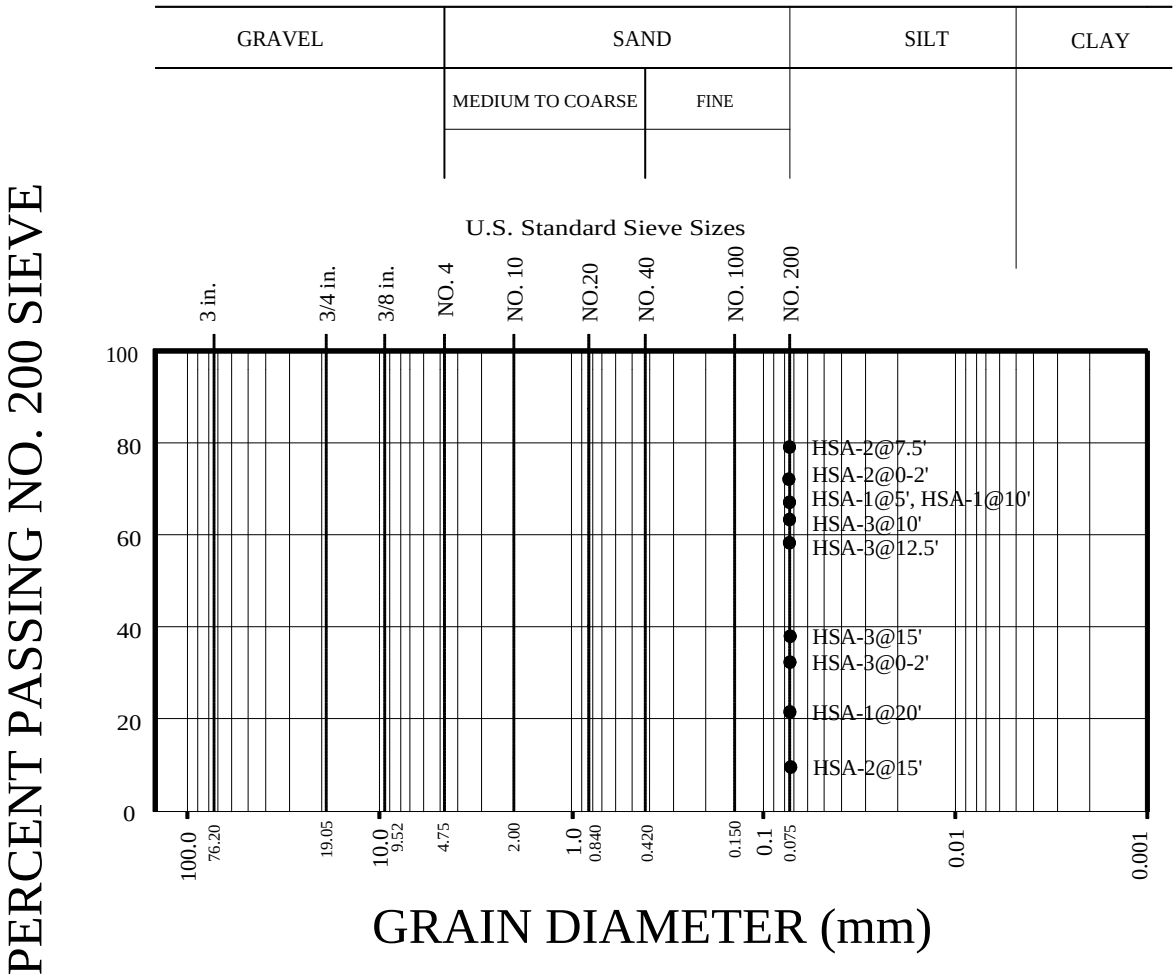
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B14



SAMPLE PERCENT PASSING NO. 200 SIEVE

SAMPLE	PERCENT PASSING NO. 200 SIEVE
HSA-1@5' (EX. FILL - ML/SM)	68.0
HSA-1@10' (EX. FILL - ML/SM)	68.0
HSA-1@20' (SP-SM)	21.5
HSA-2@7.5' (ML)	79.3
HSA-2@15' (SP-SM)	9.50
HSA-3@10' (CL)	63.0
HSA-3@12.5' (ML)	58.5
HSA-3@15' (SM)	32.2
HSA-2@0-2' (EX. FILL - ML/CL)	73.0
HSA-3@0-2' (EX. FILL - SM)	32.5

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GRAIN SIZE ANALYSIS

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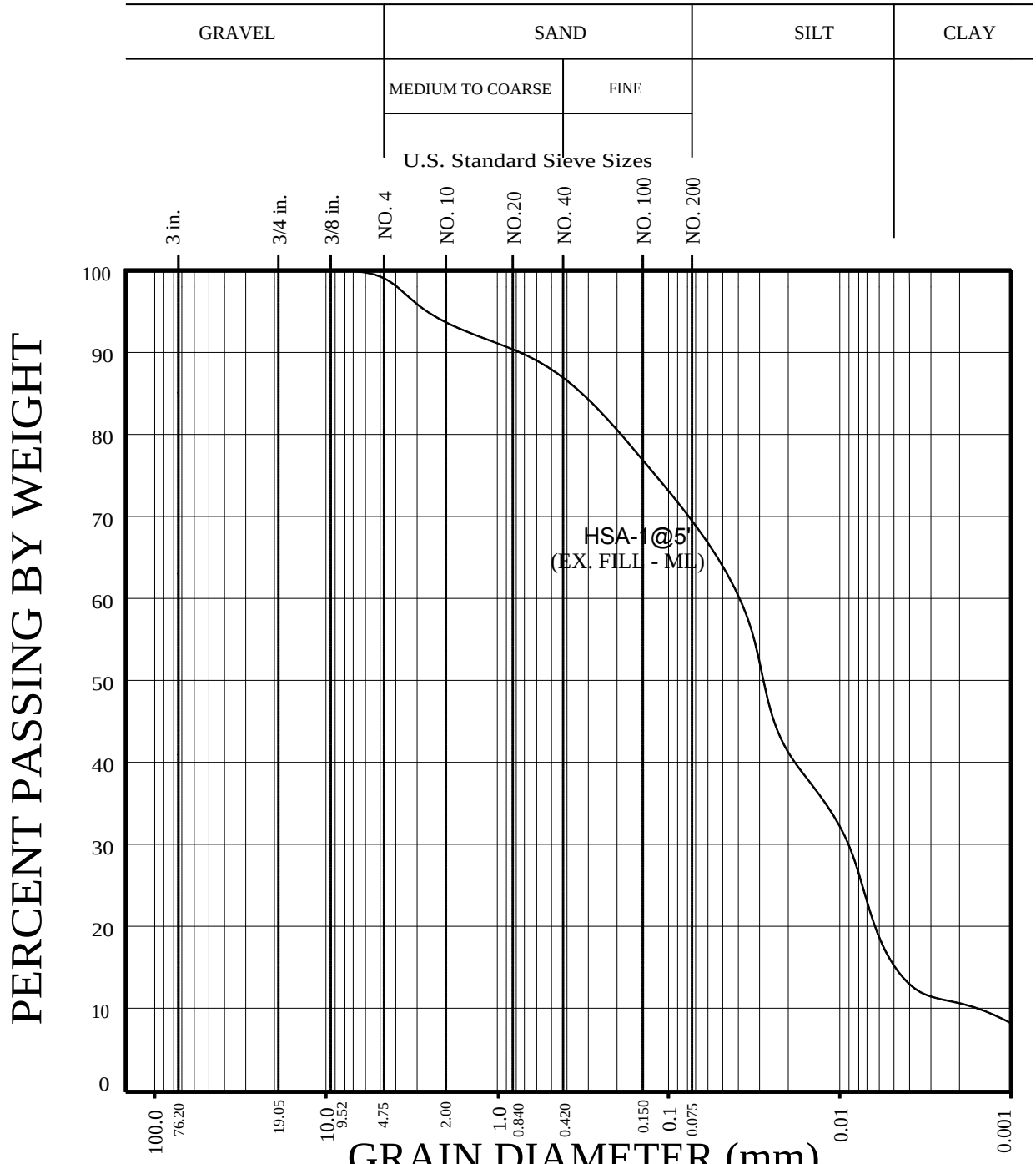
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B15



U.S. SIEVE SIZE	%PASSING	GRAIN DIAM. (mm)	%PASSING
NO. 4	99	0.032	56
NO. 20	91	0.013	35
NO. 100	77	0.0065	20
NO. 200	69	0.005	15

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GRAIN SIZE DISTRIBUTION

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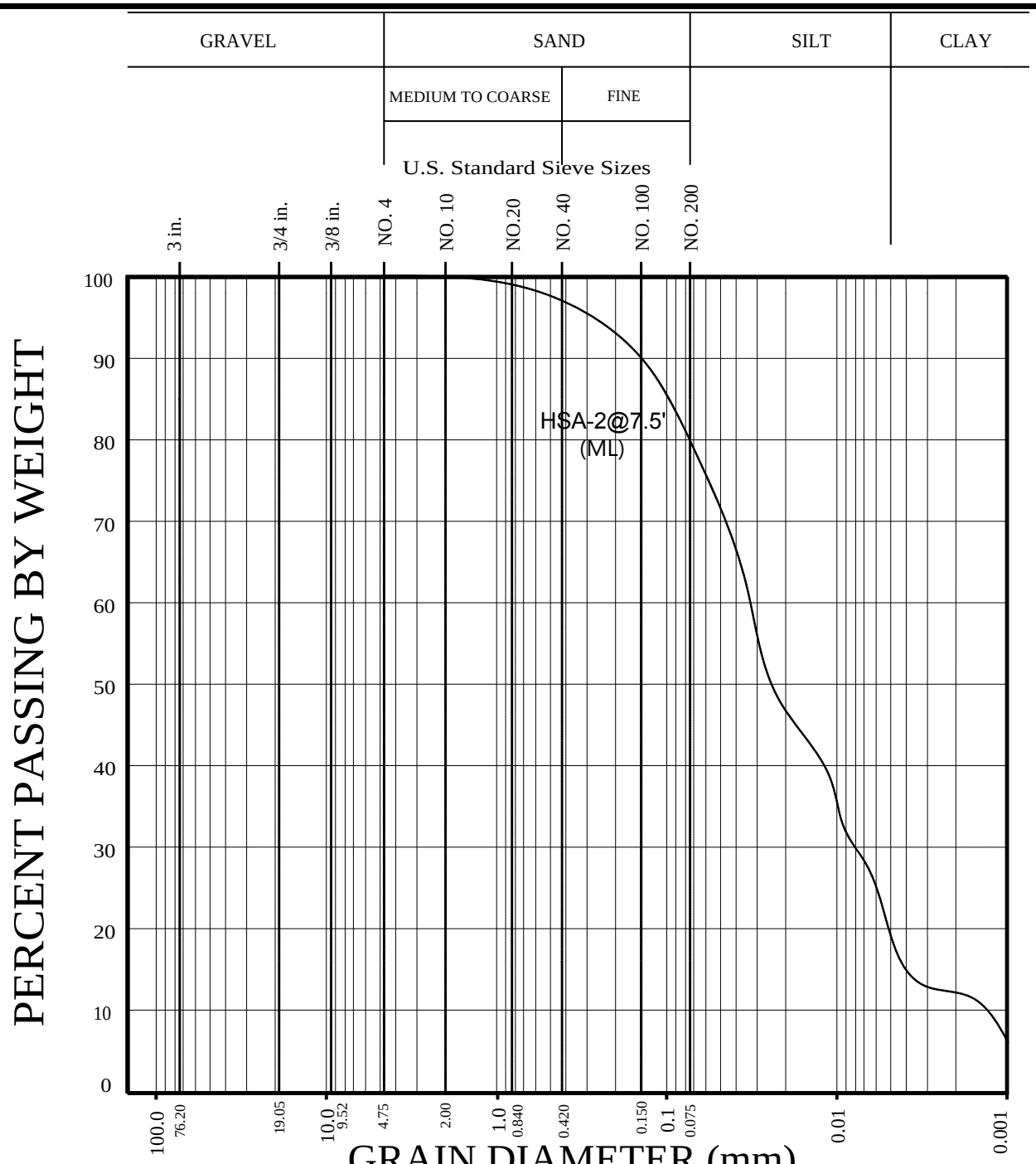
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B16



U.S. SIEVE SIZE	%PASSING	GRAIN DIAM. (mm)	%PASSING
NO. 4	100	0.032	60
NO. 20	99	0.013	40
NO. 100	90	0.0065	26
NO. 200	79	0.005	19

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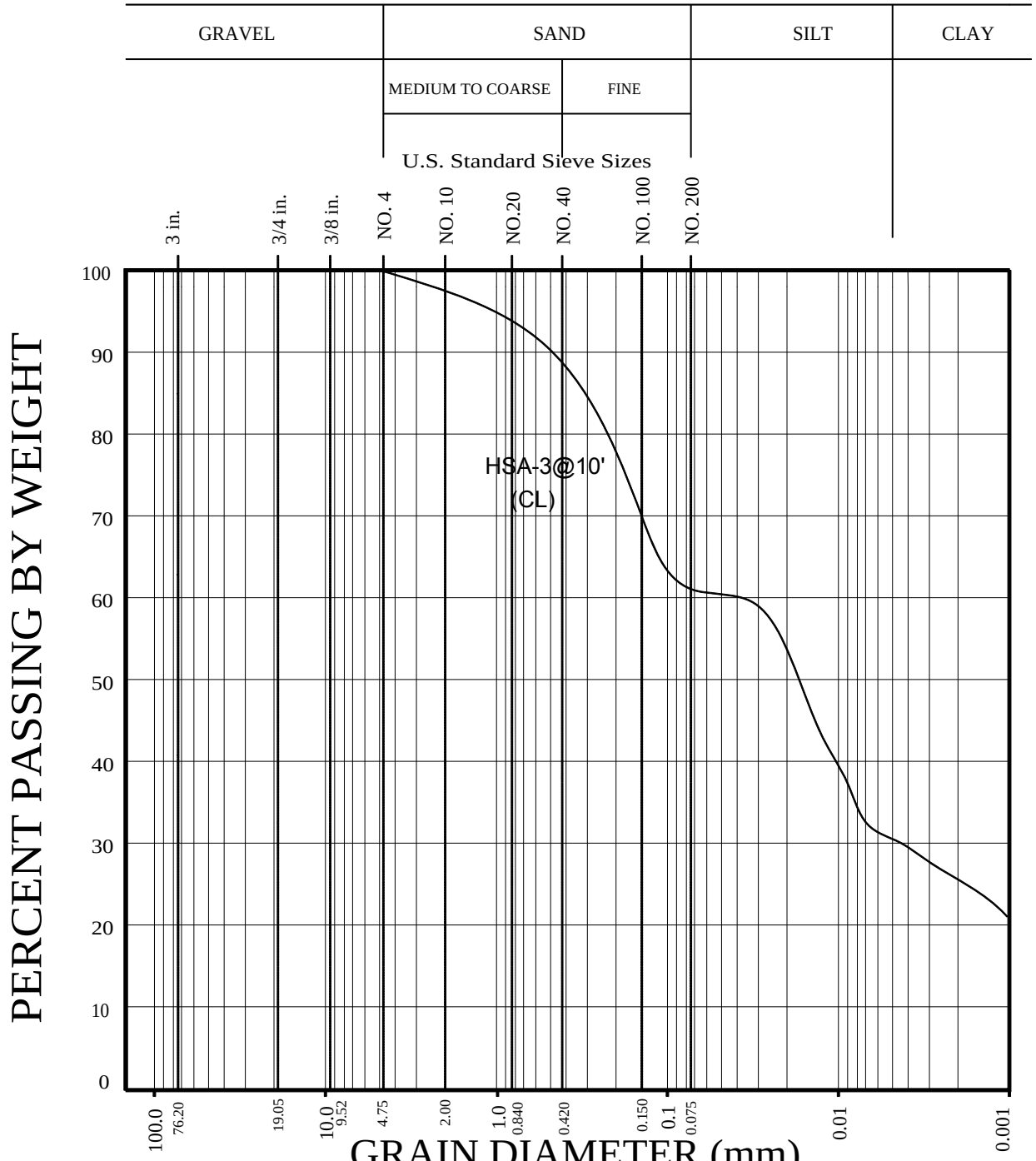
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B17



U.S. SIEVE SIZE	%PASSING	GRAIN DIAM. (mm)	%PASSING
NO. 4	100	0.032	60
NO. 20	94	0.013	41
NO. 100	70	0.0065	32
NO. 200	61	0.005	31

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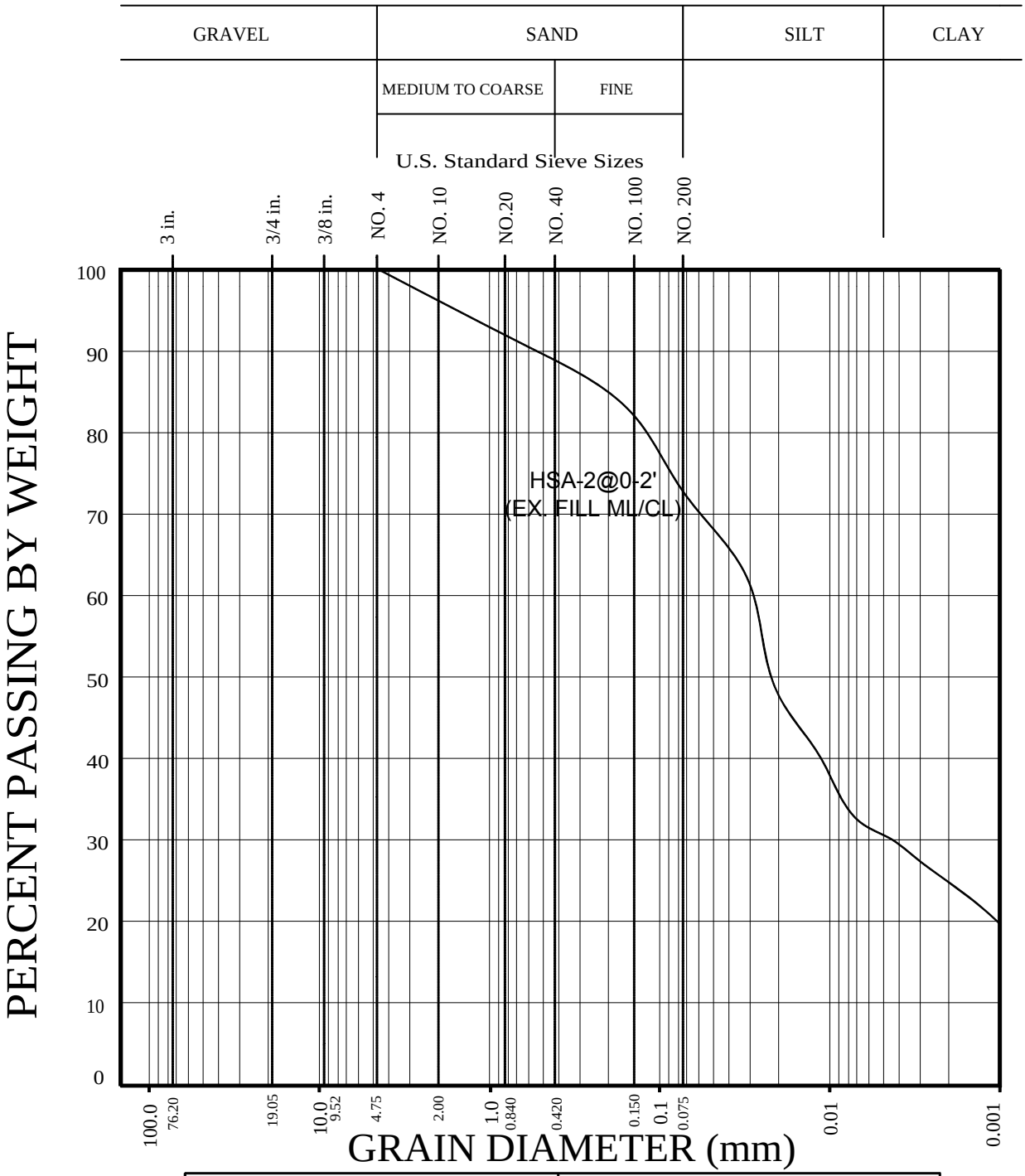
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B18



U.S. SIEVE SIZE	%PASSING	GRAIN DIAM. (mm)	%PASSING
NO. 4	100	0.032	64
NO. 20	93	0.013	40
NO. 100	82	0.0065	32
NO. 200	73	0.005	31

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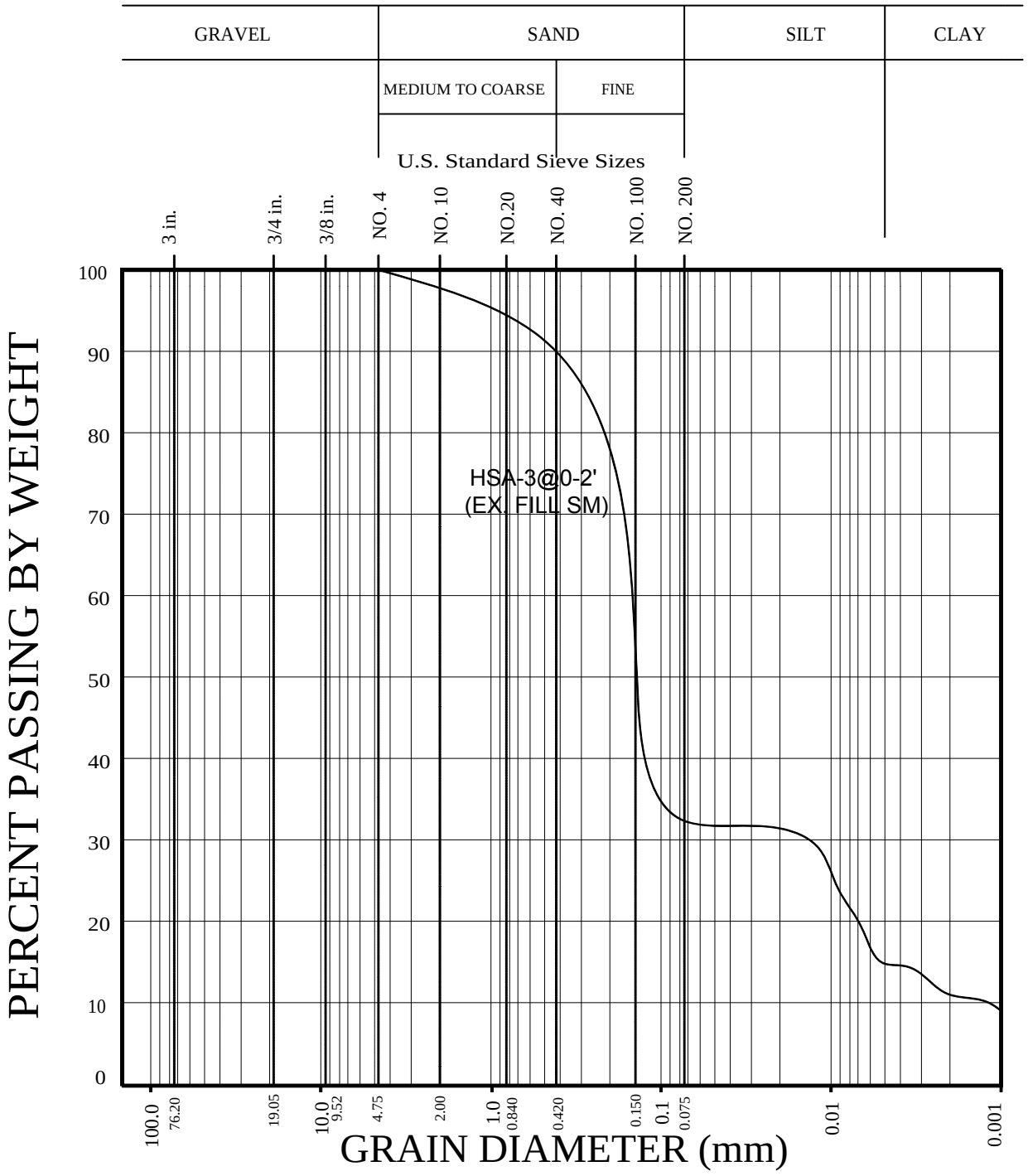
DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B19



U.S. SIEVE SIZE	%PASSING	GRAIN DIAM. (mm)	%PASSING
NO. 4	100	0.032	32
NO. 20	94	0.013	28
NO. 100	58	0.0065	19
NO. 200	33	0.005	15

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GRAIN SIZE DISTRIBUTION

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DEC. 20, 2013	PROJECT NO. A8950-06-01	FIG. B20

APPENDIX B

APPENDIX B

PRIOR KLEINFELDER INVESTIGATION (CD only)

CITY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

BUREAU OF ENGINEERING

GEOTECHNICAL ENGINEERING DIVISION

GEOTECHNICAL ENGINEERING REPORT
NEW POLICE HEADQUARTERS FACILITY
CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST (120 SOUTH SPRING STREET, 141 SOUTH MAIN STREET AND 106 THROUGH 132 WEST FIRST STREET, TRACT L A C A MAP NO. 94, LOTS PCL 14 AND PCL 15 AND ORD'S SURVEY TRACT, BLOCK 1, LOTS 4 AND 8), DOWNTOWN LOS ANGELES

W.O. # E170910B
GED FILE # 04-120
FEBRUARY 15, 2005

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REFERENCES

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Appendix A Kleinfelder, "Geotechnical Data Report", dated January 26, 2005.
Appendix B Probabilistic Seismic Hazard Analyses

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1.0 INTRODUCTION

This report presents the results of a geotechnical investigation conducted for the New Police Headquarters Facility that will be located within the city block bounded by First Street on the north, Main Street on the east, Second Street on the south and Spring Street on the west in downtown Los Angeles. This investigation was conducted to determine subsurface characteristics and to provide geotechnical recommendations for design and construction of the project. The Geotechnical Engineering Division (GED) prepared this report in response to the Proposition Q Bond Programs request dated August 19, 2004 and Notice to Proceed dated November 17, 2004.

This report is based on document review, visual observation of the site, subsurface investigation and laboratory testing. At the request of GED, Kleinfelder Inc. (Kleinfelder) performed subsurface exploration at the site and laboratory testing of samples collected from the site. The results of their field investigation and laboratory tests are included in their Geotechnical Data Report (Appendix A) dated January 26, 2005. GED has reviewed the Kleinfelder report and concurs with and accepts responsibility for the use of the contents.

2.0 SITE DESCRIPTION

The site is bounded by First Street on the north, Main Street on the east, Second Street on the south and Spring Street on the west. A map of the site is shown on Figure 1, "Vicinity Map." At the time this report was prepared the site was occupied with a former bank building in the northwest corner of the site, a small commercial building in the northeast corner of the site and two former Caltrans buildings in the southern portion of the site. The remainder of the site was paved primarily with asphalt with some landscaped areas. Ground surface elevations of the site vary from approximately 287-1/2 feet, 282 feet, 283 feet and 280 feet at the northwest, northeast, southwest and southeast corners of the site, respectively. For the purpose of this report, First and Second streets are considered to have east-west alignments and Spring and Main streets north-south alignments.

The former bank building, in the northwest corner of the site, is a two-story building with a subterranean parking level. This building was a footprint of approximately 120 feet north-south by 150 feet east-west. The elevation of the floor slab of the subterranean parking level is on the order of 275 feet. An access ramp extends beneath the building down to the parking level from the eastern edge of the building.

The commercial building, former gift shop and existing hamburger shop, in the northeast corner of the site is a one-story building with a foot-print of approximately 20 feet north-south by 45 feet east–west. This building is not believed to have a subterranean level.

Two former Caltrans buildings occupy the majority of the southern portion of the site. The western building, with an address of 120 S. Spring Street, is a 5-story building with a basement level and a foot-print of approximately 17,000 square feet. Based on our review of foundation

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plans we understand this building is founded on continuous and spread footing foundations with bearing elevations typically varying between approximately 270 feet to 273 feet. The finish floor elevation of the basement level floor slab is indicted to be primarily at 276.36 feet.

The eastern building, fronting on Main Street, is also a 5-story building with a subterranean level and a foot-print of approximately 75,000 square feet including the subterranean level south of the building that fronts on Spring Street. The subterranean level was used primarily for parking and vehicle maintenance. Access to the subterranean level is via a ramp off Main Street, located along the northern edge of the building, and a second ramp off Spring Street that extends along the northern edge of the subterranean level south of the building fronting on Spring Street. Foundation plans for this building indicate that this building is also supported on continuous and spread footing foundations. The majority of the foundations are indicated to have bearing elevations varying between approximately 262 feet to 264 feet. Bearing elevations of foundations adjacent to the western building are indicated to vary from approximately 268.9 feet to 270.4 feet. The plans indicate that the lowest foundations bear at elevations of approximately 259 feet. The finish floor elevation of the subterranean level of this building is indicted to be at 271.5 feet for the majority of the building. The finish floor elevation is indicated to be 270 feet in the portion of the subterranean level south of the western building and 261.2 to 265.5 in the mechanical area along the southern portion of the building.

In addition to the structures that occupied the site at the time of the field investigation we understand that the site was also previously occupied with additional structures. Previous structures existed in some of the areas that were paved with asphalt at the time of field investigation and within the areas of some of the existing buildings.

3.0 PROJECT SCOPE

The project will involve demolition and removal of the existing buildings (including subterranean levels) asphalt pavements, planters and landscaping areas. Our understanding of the proposed construction as described herein is based on the 100% Schematic Design drawings dated January 7, 2005. We understand that the new construction is planned to consist of an eleven-story police headquarters office tower in the central portion of the site, an auditorium, café and utility structures along the east side of the site, subterranean levels and hardscaped/landscaped areas.

The office tower is planned to have a footprint similar to the shape on the letter "L" with a north-south wing and an east-west wing. Preliminary plans indicate the tower will have overall dimensions on the order of 300 feet north-south by 200 feet east-west with a total footprint on the order of 42,000 square feet. The lowest level (B1 level) of the southern portion of the office tower is planned to contain utility equipment with the majority of the level having a finish floor elevation of 259 feet. The chiller plant room and domestic water boiler and heater room are planned to have finished floor elevations of 255 feet. The northern portion of the tower is planned to extend down to the 01 (Lower Plaza) Level with a finish floor elevation of 274 feet. A

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helipad and cooling tower will be constructed on the roof of the building. TMAD engineers, the structural engineers for the project, provided estimated interior and exterior column loads of 3,500 kips (2000 kip dead load plus 1,500 kip live load) and 1,950 kips (1200 kip dead load plus 750 kip live load) for the office tower building.

Subterranean parking is planned for the 01, B1 and B2 levels that will extend around the perimeter of the office tower. With the exception of the office tower, the subterranean parking levels will underlie the entire site, property line to property line. The lowest parking level, B2, is planned to have a finish floor elevation on the order of 249 feet adjacent to the northwest corner of the planned office tower and the northwest corner of the site. The finish floor elevation will transition down to an elevation of approximately 245 feet in the northeast corner of the site and then transition upward to an elevation of approximately 258 feet in the southeast corner of the site. Along the southern edge of the site this parking level will ascend up to the B1 level. The B1 level will have finish floor elevations on approximately 261 feet, 259 feet, 255 feet and 268 feet in the southwest, northwest, northeast and southeast corners of the site, respectively. Along the southern edge of the site the B1 parking level will ascend up to the 01 (Lower Plaza) level. The 01 level will provide parking along the south, west and north sides of the office tower. Car and truck ingress and egress ramps are planned in the northeast portion of the site to provide access to the lower plaza level from Main Street. In addition, an egress ramp is planned along the west side of the office tower to permit exiting of car traffic from the lower plaza level to Spring Street. A café and utility rooms will be constructed on the 01 level east of the office tower and south of the ingress and egress ramps from Main Street. An auditorium will be constructed at the upper plaza level, above the parking levels, along the east edge of the site. The exterior area of the majority of the upper plaza level will consist of landscaping and hardscaping. TMAD engineers, the structural engineers for the project, provided estimated column loads of 1,200 kips (900 kip dead load plus 300 kip live load) for the parking structure.

Earthwork for the project is expected to consist of excavation for the proposed subterranean levels of the facility, backfill of new retaining walls, backfill of utility trenches and other miscellaneous site grading.

If design loadings and/or proposed structural conditions are significantly different from those described above, we should be notified to reevaluate the conclusions and recommendations contained in this report.

4.0 EXPLORATION PROGRAM

A total of fifteen exploratory borings were drilled for the project. One of the borings (B-1) was drilled in First Street, east of Spring Street, and two borings (B-11 and B-13) were drilled in Main Street between First and Second Streets. The remaining 12 borings were drilled within the site with six in existing asphalt paved areas, one in a landscaped area, one in the subterranean level of the former bank building and four in the subterranean parking level of the Caltrans building. Borings B-1 through B-6, B-8, B-11 and B-13 were drilled on December 13 through

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December 17, 2004 using a truck-mounted drill rig equipped with 8-inch hollow-stem augers. Borings B-1A, B-7, B-9, B-12 and B-13A were drilled on December 20 and 21, 2004 and January 5, 2005 using a track mounted limited access drill rig. Boring B-10 was not drilled.

Boring B-1 was terminated at a depth of approximately two feet below the ground surface due to interference by a buried utility line. Borings B-8, B-8A, B-12 and B-13, and B-13A encountered drilling refusal at depths of approximately 12 feet, 2 feet, 16 feet, 16 feet and 25 feet below the ground surface. Borings B-2, B-3, B-4, B-5 and B-6 were drilled to depths of approximately 56-1/2 feet to 81-1/2 feet below the ground surface. Borings B-1A, B-7, and B-9 were drilled to depths of approximately 14-1/2 feet to 29-1/2 feet below the ground surface. Approximate locations of the borings are depicted on Figure 2, Boring Location Map.

Relatively undisturbed ring or Standard Penetration Test (SPT) samples were typically collected from the borings at depths of approximately 2-1/2 feet, 5 feet, 7-½ feet, 10-feet and every 5 feet thereafter to the explored depths in the borings. Samples were driven into the bottom of the borings with successive drops of a 140-pound automatic-trip hammer falling 30 inches. For the SPT samples, the number of hammer blows required to advance the SPT sampler the last 12 inches of an 18-inch sample interval is the SPT field "N" value. Blows required to advance the ring and SPT samplers the last 12 inches of penetration are shown on the boring logs (Appendix A). Bulk samples were also collected from the upper few feet of each boring.

Each collected sample was inspected and described in general conformance with the Unified Soil Classification System (USCS). The descriptions were entered on the boring logs, which are included within the Data Report presented in Appendix A of this report. All samples were sealed and packaged for transportation to the consultants laboratory. After completion of drilling, borings within the site were backfilled with soil cuttings and patched with asphalt cold patch or quickest concrete at the ground surface where pavements were penetrated. Borings in the streets were backfilled with bentonite cement slurry and capped with quickset concrete.

Screening in the field for volatile organic compounds (VOCs) was performed to evaluate whether fuel spills or other contamination of the soil has occurred in the project area. Soil samples collected from the borings were screened in the field with a portable Photo-Ionic Detector (PID) for the presence of VOCs. PID readings ranged from zero to 2 parts per million (ppm) in the borings. A multigas detector was used as a screening tool for methane (Lower Explosive Limit or LEL), oxygen, carbon dioxide and hydrogen sulfide. No methane or hydrogen sulfide was detected. The site is not located in a methane area as designated by the City of Los Angles Department of Building and Safety.

5.0 LABORATORY TESTING

Selected soil and bedrock samples were tested for the following properties:

- In-Place Dry Density and/or Field Moisture (ASTM D2937)

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- Laboratory Maximum Dry Density and Optimum Moisture Content (ASTM D1557)
- Consolidation (ASTM D2435)
- Direct Shear (ASTM D3080)
- Grain Size Analysis (ASTM D422)
- Atterberg Limits
- R-Value (ASTM D2844)
- pH (CA DOT Method)
- Sulfate Content (CA DOT Method)
- Chloride Content (CA DOT Method)
- Electrical Resistivity

Laboratory test results are presented in the consultants Geotechnical Data Report (Appendix A).

6.0 GEOLOGIC CONDITIONS

6.1 Regional Geology

The project site is located south of the Santa Monica Mountains and west of the Los Angeles River in the northeastern portion of the Los Angeles Basin. The Los Angeles Basin is roughly a north-south trending depositional trough located in the northwestern portion of the Peninsular Ranges geomorphic province.

Geologic structures within this region reflect the resolution of tectonic forces as the northwest trending structures of the northern Peninsular Range Province, exemplified by the right-lateral strike slip Whittier-Elsinore Fault, meet the east-west trending reverse left-lateral Santa Monica-Hollywood-Raymond Fault of the Transverse Range Province. A segment of the boundary between the Peninsular Range and Transverse Range provinces is characterized by the Elysian Park anticline—a large fold associated with the uplift of the Elysian and Repetto Hills, which are located north and east of downtown Los Angeles, respectively. The Elysian and Repetto Hills are underlain by sedimentary bedrock of both marine and non-marine origin, which has become folded into a series of low relief, east-west trending hills. The geology of the site area is presented on Figure 3, Regional Geology.

6.2 Stratigraphy

6.2.1 Fill (Af)

Previously placed fill materials, consisting primarily of sandy soils with varying percentages of silt, clay and gravel were encountered in the majority of the borings drilled for the project. The fill depths generally ranged from less than 3 feet to approximately 9 feet below the ground

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surface at the boring locations. Deeper fill depths may exist in some areas of the site. Based on our site observations, the subsurface exploration, and our understanding of the site history, fill materials are generally expected to exist throughout the site. Construction debris consisting of concrete, asphalt and brick fragments were encountered in some of the fill soils. Larger sized pieces and other types of construction debris may exist within fill materials at the site.

6.2.2 Alluvium (Qal)

Alluvium immediately underlies the fill and was encountered in all of the borings to depths ranging approximately 7 feet to 24 feet below the ground surface at the boring locations. The alluvium generally consists of light brown to dark brown, dense to very dense, sand and gravel with varying percentages of silt, clay and cobbles. Layers of silty and/or sandy clay and sandy silts were logged immediately above the bedrock materials in some of the borings. These materials may be severely weathered bedrock. More detailed descriptions of the alluvium can be found in the boring logs presented in data report in Appendix A.

The drilling and sampling methods performed for this study does not allow for full identification of cobbles and boulders in the alluvial deposits. However, based on past experiences in the site area, the alluvium materials are expected to contain significant amounts of cobbles and occasional boulders.

6.2.3 Bedrock – Fernando Formation (Tfr)

The Fernando Formation is an Upper Miocene to Pleistocene formation of sedimentary rocks underlying the alluvial deposits. The formation consists of relatively massive beds of siltstone and claystone, is olive gray to black in color, stiff to hard and slightly to moderately weathered. Published geologic maps by both Lamar and Dibblee assign similar described bedrock, which is located approximately 800 feet northwest of the site, to the Pliocene-age Fernando Formation.

The Fernando Formation consists mainly of fine-grained silts and clay sized particles. The formation is generally massive and exhibits very little, if any, joints and other discontinuities except for bedding planes.

6.3 Geologic Structure

The site is generally underlain by a sequence of fill soils over alluvium that overlies bedrock of the Fernando Formation. Due to the massive nature of the bedrock, bedding orientations were not obtained during fieldwork activities. Regional mapping by both Dibblee and Lamar indicate that bedrock of the Fernando Formation located northwest of the site primarily strikes to the northeast and dips between 65 to 70 degrees to the southeast.

The site is located on the southwest-dipping limb of the northwest/southeast trending Elysian Park Anticline—an approximate 12 mile long, 6 mile wide fold that is believed to be the near surface expression of the Elysian Park Blind Thrust Fault. Located on the southern limb of the

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Elysian Park Anticline and extending through downtown and east Los Angeles is a series of roughly parallel, east-west trending parasitic anticlinal folds or flexures.

The largest of these folds is the Coyote Pass escarpment, a topographic scarp that is theorized to be a secondary fold structure related to the Elysian Park Blind Thrust Fault. The Coyote Pass escarpment extends west to northwest from the southern portion of the Repetto Hills to the Los Angeles River where its surface expression becomes buried in alluvial sediments of the floodplain. It has been theorized that the escarpment extends across the floodplain and connects with the MacArthur Pass escarpment, a fold that has been mapped along the southern edge of the Elysian Hills to the northwest. Recent fieldwork by Earth Consultants International indicates the Coyote Pass escarpment is located south of the corner of 1st and Alameda Streets. As a result, the escarpment's trace is extrapolated to be south of the project site.

6.4 Groundwater

Groundwater was encountered at elevations of approximately 18 to 20 feet below the ground surface in the surface borings and at a depth of approximately 8 feet below one of the borings drilled in the subterranean level of the existing Caltrans building. These depths correspond to elevations of approximately 262 feet to 267 feet. Groundwater data obtained from the California Division of Mines and Geology (CDMG, 1998) indicates that the historically reported shallowest depth to groundwater was on the order of 20 feet or more below the ground surface. Fluctuations in the groundwater level may occur due to seasonal variations in rainfall, pumping from wells, and possibly as the result of other factors that were not evident at the time of the field investigation.

7.0 FAULTING AND SEISMICITY

The fault classification system adopted by the CDMG, relative to the State legislation delineating Earthquake Fault Zones along active or potentially active faults (Alquist-Priolo Act), is used for structures. CDMG defines an active fault (or fault zone) as a fault that has moved within Holocene time (about the last 11,000 years). Faults with no known displacement within Holocene time that showed evidence of movement during Quaternary time (the last 1.6 million years) have been defined as potentially active.

Ground surface rupturing along faults, ground shaking and liquefaction are three of the important seismic considerations for properties in Southern California. The site is <u>not</u> located within an Alquist-Priolo Earthquake Fault Zone ((formerly named Special Studies Zones) (Hart, 1997)). Thus, the potential for ground surface rupture impacting the site is considered low. As shown on Figure 4, "Seismic Hazard Zones," the site is within a liquefaction Seismic Hazard Zone but not a landslide Seismic Hazard Zone (CDMG, 1999). The site lies within Seismic Zone 4 of the 2002 Los Angeles Building Code (LABC), (1997 Uniform Building Code (UBC)).

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Based on the current understanding of the geologic framework of the site area, the seismic hazard which is expected to have the highest probability of affecting the site is ground shaking resulting from an earthquake occurring along any of several major active and potentially active faults in Southern California. Known regional faults that could produce significant ground shaking at the site include the Elysian Park Thrust, Hollywood, Raymond, Compton Thrust, Newport-Inglewood, Verdugo, Santa Monica, Sierra Madre, and Whittier Faults, among others. The closest of these are the Elysian Park Thrust, Hollywood and Raymond Faults with surface projections of potential rupture area located at distances of approximately 3 kilometers (km), 7 km and 8 km from the site, respectively.

7.1 Ground Motion

A probabilistic seismic hazard analysis was performed using the computer program FRISKSP (Blake, 1998b) in order to estimate the Peak Ground Acceleration (PGA) that could occur at the site, based on recurrence interval. The probabilistic analysis considered various magnitudes of earthquakes, along their respective fault lengths, that could occur along active or potentially active faults within a 100-km radius of the site. Standard deviation was applied during the analysis to assess the uncertainty inherent in the calculation with respect to magnitude, distance, and ground motion. An average of three attenuation relationships (Abrahamson & Silva, 1997; Bozorgnia et al, 1999; and Sadigh, 1997) were used to estimate ground motions at the site for multiple distance/magnitude calculation combinations inherent in the probabilistic analysis.

The results of the probabilistic seismic hazard analysis suggest a 10 percent probability of exceedance in 50 years (475 year return period, Maximum Probable Earthquake, MPE) ground acceleration of 0.53g for the site. The 10 percent probability of exceedance in 100 years (950 year return period, Upper Bound Earthquake, UBE) ground acceleration was estimated to be approximately 0.65g. The results of the probabilistic analysis in terms of probability of exceedance, as well as average return period (ARP), are included in Appendix B of this report.

7.2 Liquefaction

The site is shown on the State of California Seismic Hazard Zones map as being within an area that has potential for liquefaction. Liquefaction typically occurs when near surface (usually upper 50 feet), saturated, clean, fine-grained loose sands are subject to intense ground shaking.

Groundwater was encountered at depths of approximately 18 to 20 feet below the ground surface in the borings. Groundwater data obtained from CDMG indicates that the historically reported shallowest depth to groundwater was on the order of 20 feet or more below the ground surface in the site area. Drive sampler blow counts indicate that the granular soils below the measured shallow ground water levels, which are shallower than the historically reported shallowest depth to groundwater, are dense to very dense. Based on this data and with consideration to the fact that foundations will be founded on bedrock beneath the alluvial soils, the potential for liquefaction impacting the planned construction is considered low.

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7.3 Other Seismic Hazards

In addition to surface fault rupture, ground shaking and liquefaction, other effects of seismic activity include landsliding, lateral spreading, earthquake-induced flooding, seiches, and tsunamis. Results of a site-specific evaluation of the potential for these effects affecting the project site are presented below:

- Landslides: Seismically-induced landslides and other slope failures are common occurrences during or soon after earthquakes. The project site and surrounding area is relatively flat. In the absence of significant ground slopes, the potential for seismically induced landslides to affect the site is considered to be negligible.
- Lateral Spreading: Seismically-induced lateral spreading involves primarily lateral movement of earth materials due to ground shaking. It differs from slope failure in that complete ground failure involving large movement does not occur due to the relatively smaller gradient of the initial ground surface. Lateral spreading is demonstrated by near-vertical cracks with predominantly horizontal movement of the soil mass involved. Based on the materials encountered in the exploratory borings, the potential for lateral spreading of the project site is low.
- Earthquake-Induced Flooding: This is flooding caused by failure of dams or other water-retaining structures as a result of earthquakes. The potential for earthquake induced flooding impacting the site is considered very low.
- Seiches: Seiches are large waves generated in enclosed bodies of water in response to ground shaking. The site is not located adjacent to any enclosed large bodies of water that could experience seiches during an earthquake. Thus, the potential for seiches impacting the site is considered very low.
- Tsunamis: Tsunamis are tidal waves generated in large bodies of water by fault displacement or major ground movement. Based on the location and elevation of the site, tsunamis do not pose a hazard to the project.

7.4 Seismic Design Parameters

Section 1636 of the 2002 LABC defines six different soil profile types ($S_A - S_F$). These soil profile types are used to determine seismic coefficients C_a and C_v from Tables 16-Q and 16-R respectively. These coefficients, together with the near source factors are used to calculate the pseudo-static base shear force that structures must be designed to withstand.

Soil Profile Types are based on the average properties of the upper 100 feet of soil/bedrock at the site. The appropriate soil profile type is chosen by referencing the average shear wave velocity, average Standard Penetration Test (SPT) blow counts, and/or the undrained shear strength of the soil. Based on the field and field and laboratory data, Soil Profile Type S_C was selected for this site.

Near source factors are also used to determine seismic coefficients C_a and C_v. Near source

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factors N_a and N_v can be determined from 2002 LABC Tables 16-S and 16-T respectively. In order to use the tables it is necessary to know the distance and type of the nearest controlling fault. The State of California Department of Conservation "Active Fault Near-Source Zones" maps are typically used for this determination. According to these maps, a portion of which is included herein on Figure 5, the nearest controlling fault is the Hollywood Fault (a type "B" fault) at a distance of approximately 7-km.

Using the above information and the appropriate tables within the 2002 LABC, the near source factors and seismic coefficient can be determined. These values are summarized in Table 1, Seismic Design Data.

Table 1 – Seismic Design Data

Seismic Zone Factor (Z)	0.4
Soil Profile Type	S_C
Near Source Factor, N_a	1.0
Near Source Factor N_v	1.1
Seismic Coefficient C_a	0.40Na
Seismic Coefficient C_v	0.56Nv

Uniform hazard response spectra for 5 percent damping for hazard levels of 10 percent probability of exceedance in 50 years (475 ARP) and 10 percent probability of exceedance in 100 years (949 ARP) are presented in graphical and tabular form in Figures 6 and 7, respectively.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 General

Based on the available data, the primary geotechnical considerations with respect to the proposed construction will be the control of groundwater and support of proposed excavations. We recommend that new structures be founded on spread footing foundations and/or Cast-In-Drilled-Hole (CIDH) pile foundations bearing into suitable undisturbed bedrock formational materials. Any CIDH piles will need to be temporary cased to facilitate hand cleaning and inspection of the pile bottoms.

Based on our review of the 100% Schematic plans we anticipate that suitable formational bearing materials will generally be encountered at depths of three feet or less below the planned slab on grade elevations with the exception of two areas. One area is the northern portion of the office tower where the slab on grade is planned to have a finish elevation on the order of 274 feet.

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Suitable bearing materials are expected at elevations of approximately 258 feet in this area. The other area is within the southern half of the eastern edge of the site where suitable bearing materials are expected at elevations of approximately 252 feet.

Dewatering will be necessary during construction. The dewatering system implemented for the project will need to consider the effects on adjacent structures. In addition long-term permanent dewatering will be required for the portion of the structure below groundwater to reduce the potential for the development of hydrostatic uplift and lateral pressures against the structural components. Permanent dewatering could increase the risk of pulling contaminated groundwater to the site that could require more elaborate treatment of the water prior to discharging. Alternatively, the portion of the structure below the design groundwater level could be designed and constructed as a water tight structure resistant to the effects of hydrostatic uplift and lateral pressures.

Detailed geotechnical engineering recommendations addressing the surficial soils, site preparation, site earthwork, groundwater control, shoring, foundations, slabs-on-grade, retaining walls and pavements are presented in the remaining portions of this report. The following opinions, conclusions, and recommendations are based on the properties of the materials encountered in the exploratory borings and the results of laboratory tests.

A representative of GED will need to provide observation and testing services during installation of shoring, site earthwork and construction of foundations. This will allow us the opportunity to compare actual conditions with those encountered in the exploratory borings and, if necessary, to expedite supplemental recommendations if warranted by the exposed subsurface conditions. We shall also review your preliminary foundation and earthwork plans and specifications. This review will provide us an opportunity to detect misinterpretation or misunderstandings of our recommendations prior to the start of construction.

8.2 Site Preparation and Earthwork

8.2.1 Site Clearing

Prior to construction, all organic or inorganic materials and debris shall be removed from the construction area and disposed of outside the site. Any existing structural elements within these areas, including any foundation elements, shall be demolished and removed from the site. Any utilities, whether active or inactive, shall be identified and removed from the site or relocated per project plans and specifications. Any cavities resulting from removal of any existing foundations or utility lines that are below planned subgrade elevations should be properly backfilled and compacted in accordance with the following sections.

8.2.2 Dewatering

Perched groundwater was typically encountered in the alluvial soils above the bedrock in the exploratory borings drilled for the project. Groundwater will be encountered during excavation for

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the planned subterranean levels and will need to be controlled during construction. Data for the site vicinity indicates that the groundwater gradient is downward to the southeast. Thus, greater groundwater seepage is expected to enter through the north and west sides of the planned excavation during construction. The dewatering system implemented for the project will need to consider the effects on adjacent structures.

An environmental analysis of the groundwater was not part of the scope of this investigation. Water discharged into the storm drain system will have to meet the current NPDES discharge permit. For discharge into the sewer system an Industrial Wastewater permit can be obtained from the City of Los Angeles Bureau of Sanitation. Localized contaminated groundwater could also be encountered during construction. Groundwater removed from the site shall be discharged in accordance with all applicable environmental regulations.

The amount of groundwater flow into the excavation during construction will be a function of the permeability of the alluvial soils and the seepage area. In general, we anticipate that groundwater flow can be controlled during construction with sump pumps located along the edge of the excavation. If the groundwater inflows cannot be controlled with sump pumps then a combination of sump pumps and well points can be used. If desirable, a pump test could be performed prior to construction to provide a better estimate of the flow quantity. The groundwater control system should be designed, constructed and operated to control the inflow of groundwater into the site without significantly impacting groundwater levels outside the site.

If the portion of the structure below the design groundwater level is designed and constructed as a water tight structure then permanent groundwater control would not be required. However, groundwater control will need to be maintained until construction has progressed above the design groundwater level, and sufficient structural dead-load and lateral support have been provided to counteract hydrostatic pressures.

8.2.3 Temporary Excavations

Based on our observations during subsurface investigation and results of laboratory tests, the materials at the site should be readily excavated by conventional earthmoving equipment in good operating condition. Remnants of previous construction and construction materials of variable size should be expected in the existing fill materials. Cobbles and boulders should also be expected in the existing fill soils and alluvial soils. Bedrock will most likely require ripping to facilitate excavation. All temporary excavations shall conform to the State of California Construction Safety Orders (CAL/OSHA). Unsurcharged, temporary vertical excavations can be a maximum depth of 4 feet. Unsurcharged excavations 4 to 8 feet in depth shall be sloped at a 3/4:1 (H:V) or flatter inclinations or should be shored. Unsurcharged excavations 8 to 12 feet in depth shall be sloped at a 1:1 (H:V) or flatter inclinations or should be shored. Unsurcharged excavations greater than 12 feet to a maximum of 20 feet shall be sloped at a 1-1/2:1 (H:V) or flatter inclination or should be shored. All excavating shall be performed under the observation of a representative of the geotechnical engineer.

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8.2.4 Temporary Shoring

Shoring shall be installed where excavations can not be safely performed with temporary slopes. Soldier piles or sheet piles may be used to support vertical cuts. Cantilevered shoring shall be designed to withstand an active equivalent fluid pressure (EFP) of 35 pcf. Braced/tieback shoring is recommended in areas where shoring will be located close to existing streets and/or utilities to limit shoring deflections. Braced shoring can be designed using a uniform rectangular soil pressure of 22H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. This design assumes a level backslope and that no hydrostatic pressure is allowed to develop behind the shoring. Cantilevered shoring is not recommended for support of structures or utilities that cannot tolerate ½ inch or more lateral or vertical movement.

In addition to the above lateral pressure from retained earth, lateral pressures from other superimposed loads, such as those from vehicle traffic and adjacent structures, shall be added to the above recommended lateral earth pressures, if the loads fall within a 1:1 projection of the shoring. A surcharge load equivalent to an additional 2 feet of retained soil shall be applied to the upper 10 feet of shoring if light vehicular traffic is expected adjacent to the excavation. If heavier traffic loads are anticipated near the top of the shoring, additional analysis will be required.

The shoring design must consider support of the proposed adjacent pavements, structures, and/or underground utilities. Also, the effects of shoring deflection on supported pipelines and structures shall be considered.

Continuous lagging shall be provided between soldier piles to control sloughing of the existing fill and alluvial soils. Generally, we anticipate that lagging of the bedrock formational materials will not be required. However, final determination of the need for lagging of these materials shall be made a representative of the geotechnical engineer during construction. A uniform pressure of 350 psf may be used for lagging design. Any voids between the lagging and supported materials shall be immediately filled with compacted sand or slurry.

Drilled holes for soldier piles shall be backfilled with Controlled Low Strength Material (CLSM, *Standard Specifications for Public Works Construction* (Greenbook), Section 201,with a minimum of one sack of Portland cement per cubic yard of slurry and a maximum of two sacks of Portland cement per cubic yard of slurry) from the bottom of the drilled hole to the ground surface. Alternatively, drilled holes can be backfilled with structural concrete from the bottom of the drilled hole to the proposed depth of excavation and slurry above the proposed excavation depth. Structural concrete shall be a minimum 560-C-3250 (Greenbook, Section 201).

Resistance of shoring to lateral loads will be provided by passive earth pressure. An allowable passive bearing against the onsite dense alluvial soils may be taken as an equivalent fluid of 300 and 150 pcf, above and below groundwater, respectively, to a maximum of 3,000 psf. An allowable uniform passive resistance of 4,000 psf can be used in the bedrock formation material. Passive resistance may be considered as starting at 1' below the bottom of excavation. Passive

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pressures presented in this report are based on the assumption that slurry or concrete will be used to backfill the soldier piles. Use of granular backfill would result in larger deflections and a significant decrease in the allowable passive resistance and therefore is not acceptable. If slurry is used as backfill below the proposed depth of excavation, then the effective width of the pile for the purpose of calculating passive resistance shall be taken as the width of the steel beam. If structural concrete is used then the effective width of the pile for the purpose of calculating passive resistance shall be taken as the width of the drilled hole. To account for the effect of "passive arching" the effective width can be doubled for piles spaced a minimum of 2-1/2 diameters on center.

Soldier pile installation shall be performed under the continuous observation of a representative of the geotechnical engineer. The Contractor shall provide all necessary facilities, at the contractor's expense, to accommodate the observations. Hole excavations shall be plumb to a tolerance of not more than 1/2-inch per 1 foot. At the completion of drilling, secure covers shall be placed over the excavations. Concrete placement shall be completed within the same day of drilling.

Casing or other methods approved by the geotechnical engineer shall be used to support the sides of excavations. Cobbles and occasional boulders should be anticipated during the installation of shoring. The inside diameter of casing shall be at least as large as the diameter of the pile as indicated on the plans. Drilling shall be accomplished within the casing. Drilling fluids shall not be used to support the sides of the excavation without the review and approval of GED.

Concrete pumps, tremies, chutes or other such devices shall be used to place slurry/concrete. In dry holes, slurry/concrete placement shall be done in a manner such that the slurry/concrete does not hit the side of the drilled hole and so that the alignment of the steel pile is not affected. The web of the steel section may be used as a vertical chute for the placement of slurry or concrete provided the slurry/concrete does not impact the sides of the drilled hole during placement.

Temporary casing shall be raised slowly as the pile excavation is filled with slurry/concrete, provided that the bottom of the casing is always a minimum of 3 feet below the level of the slurry/concrete.

GED shall review the plans and specifications for proposed shoring and a GED representative shall observe the installation of shoring. Lateral deflection of the shoring system should be verified periodically during construction so that if excessive deflections occur, they can be detected early and appropriate measures can be taken. A licensed surveyor should be retained to establish monuments on the shoring and the surrounding ground prior to excavation. Such monuments should be monitored for horizontal and vertical movement during construction. Results of the monitoring program should be provided immediately to the project structural (shoring) engineer and GED for review and evaluation.

Shoring design shall be subject to review and approval of the Geotechnical Engineering Division (GED) and the Department of Building and Safety (B&S). Excavation shall proceed in such a

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manner that no voids are developed between the shoring and supported soil. Any voids between the shoring and supported soils shall be immediately filled with compacted sand or slurry. All shoring shall conform to Section 306-1.1 of the Standard Specifications for Public Works Construction, 2000 Edition (Standard Specifications).

Tie-backs/braces should be installed and pre-loaded as the excavation progresses to reduce shoring deflections and to maintain at-rest earth pressures within the retained soil mass. Tieback anchor design shall conform to the requirements of this report and Department of Building and Safety Research Report No. RR23835 "Requirements for Temporary Tieback Earth Anchors." GED's acceptance criteria for tieback anchors are below. For design of tied-back shoring, it should be assumed that the potential wedge of failure is determined by a plane at 30 degrees from the vertical, through the bottom of the excavation. Tie-back anchors may be installed at angles of 10 to 35 degrees below horizontal. Tieback anchored in the dense alluvial soils, above and below groundwater, can be designed using a skin friction of $55H_s$ and $25\ H_s$, respectively, pounds per square foot, where H_s is the average depth of the anchored zone of the tie-back below the ground surface measured in feet. An allowable adhesion of 1,500 psf can be used for the portion of tiebacks beyond the potential failure wedge anchored in the bedrock formational materials. A factor of safety of at least two should be applied to determine the allowable tie-back design load. Soldier piles for tieback restrained shoring shall be designed to resist the downward vertical load imposed by the tieback anchors. Only the portion of the grouted tieback that is beyond the failure plane shall be considered as bonded length.

All tieback anchors shall be installed and tested conforming to the Department of Building and Safety Research Report RR23835 on requirements for Temporary Earth Anchors and the criteria presented in this section.

Installation

1. Tieback anchors shall be installed at the angle of declination indicated in the approved shoring plans with a tolerance of ±3 degrees.
2. The contractor shall provide all equipment and instrumentation necessary for the inspector to verify placement of concrete within the anchor zone.
3. Note that the use of high pressure grouted tiebacks is not currently accepted by the Department of Building and Safety.
4. Backfilling the unbonded zone of the tieback shall be accomplished by a method acceptable to the geotechnical engineer.
5. Tiebacks spaced closer than 2 ½ diameters center-to-center shall be drilled and placed alternately.

Testing

1. The allowable design capacities of all tiebacks shall be verified by a program of proof tests and performance tests.
2. A minimum of 2 percent of all tiebacks shall be performance tested to 200 percent of design load for 24 hours by the following procedure.
   A. A nominal alignment load shall be applied and axial elongation with respect to a

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fixed reference independent of the shoring established.

B. The axial loading shall be applied in increments of 25 percent of design load. Each incremental load shall be maintained for a period of 1 minute with the axial elongation measured at the beginning and end of this period, and the load released to the alignment load and the axial elongation shall be measured following each successive maximum. For example, the load sequence as a percentage of design load would be: Alignment load, increase to 25 percent of design load, release to Alignment load, increase to 25 percent of design load, increase to 50 percent of design load, release to Alignment load, increase to 25 percent of design load, increase to 50 percent of design load, increase to 75 percent of design load, release to Alignment load, etc.

C. Upon reaching 200 percent of design load, the load shall be maintained for a period of 24 hours. The axial elongation from the time of application of the 200 percent load to the conclusion of the 24 hours shall not exceed 0.50 inch. Total elongation from the initial alignment load application to the conclusion of the test shall not exceed 4 inches.

D. If movement exceeds 0.50 inches after 24 hours, the tieback may be rejected or the load may be reduced starting with 150 percent of design load or lower and maintained for additionall 5 minute increments at the discretion of the geotechnical engineer until a load resulting in a movement of less than 0.10 inch during a 15 minute interval is determined. Once the geotechnical engineer has determined the sustainable load, the down-rated design load shall be taken as the sustainable load divided by 1.75.

E. Upon completion of the test period, the load shall be incrementally reduced while taking measurements.

F. If the deflection measurements are acceptable to the geotechnical engineer, the tieback shall be locked-off at 100 percent of rated design load.

3. In addition to the above performance tests, a minimum of 10 percent of all tiebacks shall be proof tested to 200 percent of design load for 30 minutes by the following procedure.

A. Follow steps 2A and 2B for performance tests shown above.

B. Upon reaching 200 percent of design load, the load shall be maintained for a period of 30 minutes. The axial elongation from the time of application of the 200 percent load to the conclusion of the 30 minutes shall not exceed 0.25 inch. Total axial elongation from the initial alignment load application to the conclusion of the test shall not exceed 4 inches.

C. If movement exceeds 0.25 inch after 30 minutes, the tieback may be rejected or the load may be reduced starting with 150 percent of the design load or lower and maintained for additional 15 minute increments at the discretion of the geotechnical engineer until a load resulting in a movement of less than 0.10 inch during a 15 minute interval is determined. Once the geotechnical engineer had determined the sustainable load, the down-rated design load shall be taken as the

sustainable load divided by 1.75.

D. Upon completion of the test period, the load shall be incrementally reduced while taking measurements.

E. If the deflection measurements are acceptable to the geotechnical engineer the tieback shall be locked-off at 100 percent of rated design load.

4. All remaining anchors shall be proof tested to 150 percent of design load for 15 minutes by the following procedure.

A. Follow step 2A for performance tests shown above.

B. Axial load shall be applied in increments of 25 percent of design load. Each incremental load shall be maintained for a period of 1 minute with axial elongation measured at the beginning and end of this period, and the load released to alignment load and axial elongation measured following each successive maximum. For example, the load sequence as a percentage of design load would be: Alignment load, increase to 25 percent of design load, release to Alignment load, increase to 25 percent of design load, increase to 50 percent of design load, release to Alignment load, increase to 25 percent of design load, increase to 50 percent of design load, increase to 75 percent of design load, release to Alignment load, etc. The immediate alignment readings may be omitted at the discretion of the geotechnical engineer.

C. Upon reaching 150 percent of design load, the load shall be maintained for a period of 15 minutes. The axial elongation from the time of application of the 150 percent load to the conclusion of the 15 minutes shall not exceed 0.10 inch. Total axial elongation from the initial alignment load application to the conclusion of the test shall not exceed 4 inches.

D. If movement exceeds 0.10 inch after 15 minutes, the tieback may be rejected or the load may be reduced and maintained for additional 15 minute increments at the discretion of the geotechnical engineer until a load resulting in a movement of less than 0.10 inch during the 15 minute interval is determined. Once the geotechnical engineer had determined the sustainable load, the down-rated design load shall be taken as the sustainable load divided by 1.75.

E. If the deflection measurements are acceptable to the geotechnical engineer the tieback shall be locked-off at 100 percent of rated design load.

8.2.5 Subgrade Preparation

All exposed subgrade soil surfaces should be observed by a representative of the GED and the City of Los Angeles Grading Inspector prior to placement of any fill or being covered with subsequent construction. If soft, yielding, or unsuitable soils are exposed at the subgrade surface, then the unsuitable soils should be removed and replaced with properly compacted fill soils.

Alluvial subgrade surfaces suitable for fill placement or slab-on-grade construction should be

scarified to a depth of 6 inches, moisture-conditioned between optimum moisture content and a few percent above the optimum moisture content and compacted. Alluvial subgrade soils shall be compacted to a minimum of 95 percent of the ASTM Test Method D1557-91 laboratory maximum density to a depth of 6 inches below the surface grade. After the completion and acceptance of the subgrade preparation, fill material may be placed in accordance with the following recommendations. Bedrock subgrades shall be observed, probed and possibly proof-rolled prior to the placement of subsequent construction. Bedrock subgrade soils shall not be allowed to dry out and shall be maintained at the natural moisture content until covered with subsequent construction.

8.2.6 Fill Materials

Fill soils shall consist of on-site granular soils or approved import material. The on-site granular soils encountered during the geotechnical investigation are acceptable for use as fill material for this project. Before being used as fill, on-site soils shall be cleaned of all organic or inorganic debris and all materials with any dimension larger than 3 inches. Import material for use as fill for this project shall be predominantly granular in nature with less than 35% mostly non-plastic material passing the No. 200 sieve. Import material shall be non-expansive (EI less than 20) and shall be free of organic or inorganic debris, contamination and materials with any dimension larger than 3 inches. Import material shall be tested and approved by GED prior to importing to the job site. GED shall be notified a minimum of three working days prior to the scheduled importing of the soil to the project site.

8.2.7 Fill and Backfill Placement

Fill shall only be placed on approved surfaces/subgrades prepared in accordance with Section 8.2.5 of this report. Fill shall be placed in loose lifts not exceeding 8 inches in thickness, moisture-conditioned between optimum moisture content and a few percent above the optimum moisture content and mechanically compacted. Fill soils placed in the foot-print of structures shall be compacted to a minimum of 95 percent relative compaction, as determined by ASTM Test Method D1557-91. Fill soils placed in other areas such as wall backfill, sidewalk and landscaped areas shall be compacted to a minimum of 90 percent relative compaction, as determined by ASTM Test Method D1557-91. Any aggregate base should be moisture-conditioned between optimum and two percent above optimum-moisture and compacted to a minimum of 95 percent relative compaction. Fill compaction shall be tested and recorded by a certified compaction testing agency working under the direct supervision of GED. Densification by flooding or jetting is not allowed.

8.2.8 Trench Backfill

Trench excavations for utility pipes may be backfilled with onsite soils under the observation of a representative of GED. After utility pipes have been laid and properly bedded, the space around the pipe should be backfilled with clean sand (having sand equivalent of 30 or greater) or gravel to a depth of approximately 1 foot over the top of the pipe, before the controlled backfill is

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placed. Controlled backfill shall be moisture conditioned, placed and compacted in accordance with the recommendations presented in Section 8.2.7 of this report.

8.3 Uplift and Hydrostatic Pressures

The portions of the structure that extend below the design groundwater level shall be provided with sub-drains to reduce the potential for the development of hydrostatic pressures. Alternatively, these portions of the structure can be designed to resist hydrostatic uplift and lateral pressures. A design groundwater elevation of 270 feet can be assumed for design purposes. Hydrostatic pressures may be calculated using the depth of the structural penetration below the design groundwater level and a water density of 62.4 pounds per cubic foot (pcf).

Uplift may be resisted by a combination of dead weight of the structure and protective backfill cover. Backfill may be assumed to have a unit weight of 110 pounds per cubic foot (pcf) above the highest anticipated water level. Submerged backfill may be assumed to have a buoyant unit weight of 42 pcf.

8.4 Structure Foundations

Based on our understanding of the proposed construction and the characteristics of the on-site earth materials, proposed structures may be supported on conventional continuous and/or spread footings and/or end bearing CIDH piles. All footings/piles shall be founded at least 24 inches below the lowest adjacent grade and shall bear on undisturbed Siltstone/Claystone bedrock. Some footings may have to be deepened during construction to extend through natural soils to bear a minimum of two feet into the Siltstone/Claystone formation materials. A minimum width of 24 inches for continuous footings and 36 inches for column footings is recommended. A minimum diameter of 36 inches is recommended for CIDH piles to facilitate hand cleaning and inspection of the pile bearing surfaces. CIDH piles shall be temporary cased to allow for safe cleaning and inspection of the pile bottoms. Placement of concrete in piles shall be performed on the same day that they are drilled. Spread footing foundations with these minimum sizes may be designed for a net allowable vertical bearing pressure of 5,000 pounds per square foot (psf) for dead-plus-live loads. Pile foundations with a minimum diameter of 36 inches can be designed for a net allowable vertical bearing pressure of 5,000 pounds per square foot (psf) for dead-plus-live loads. These allowable bearing pressures may be increased by 500 psf for each additional foot of footing width or depth to a maximum of 10,000 psf. The allowable bearing pressures include a factor of safety of 3. A 1/3 increase may be used for short term loading conditions such as wind or seismic forces.

We recommend that all continuous footings be reinforced with a minimum of two No.5 steel reinforcing bars at the top and bottom to provide structural continuity and to permit spanning of local irregularities. The structural engineer should design the actual footing reinforcement.

Resistance to lateral loads can be provided by friction acting at the base of foundations and by passive earth pressure. A coefficient of friction of 0.35 may be assumed with dead-load forces.

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An allowable passive lateral earth pressure of 700 psf per foot of depth, to a maximum of 7,000 psf, may be used for sides of footings poured against undisturbed bedrock formation materials. This allowable passive pressure is applicable for level (ground slope equal to or flatter than 5H:1V) conditions only. The allowable passive pressure may be increased by 33 percent of lateral loading due to wind or seismic forces.

A coefficient of vertical subgrade reaction, for a 1-foot-square loaded area, of 350 kips per cubic foot (kcf) may be used for design of foundations bearing on bedrock. Vertical subgrade modulus, k, can be calculated as $k = 350\ (1/B)$, where B is the foundation width in feet.

Total static settlement of the proposed foundations, designed and constructed in accordance with the recommendations presented herein, should not exceed 1/2-inch. Differential settlements should not exceed one-half of the total settlement between adjacent foundations. The majority of these settlements are expected during construction and initial occupation of the building as the loads are applied.

GED shall observe all foundation excavations prior to the placement of reinforcing steel and concrete. Following GED's observation, the contractor shall be responsible for protecting footing excavations from inundation and erosion during wet weather, maintaining the excavations free of loose and/or disturbed material, and maintaining the proper moisture content of the footing excavations (existing in-situ moisture content) until the placement of concrete. The sides and bottom of the footing excavations shall not be allowed to dry and crack.

All aspects of CIDH pile installation shall comply with the acceptance criteria for cast-in-drilled-hole piles presented in the following paragraphs.

1. Pile installation shall be performed under the continuous observation of the geotechnical engineer of record to confirm that the recommended earth materials are penetrated, and that pile installation has been performed as recommended herein. The Contractor shall provide necessary facilities at his expense to accommodate pile observations.
2. The pile excavation shall be plumb to a tolerance of not more than 1/2-inch for 3 feet.
3. Where caving soils are encountered, casing or other methods approved by the geotechnical engineer of record shall be used to support the sides of the pile excavation. The inside diameter of casing shall be at least as large as the diameter of the pile as indicated on the plans. Drilling shall be accomplished within the casing.
4. Pumps and sumps shall be used, as necessary, to remove any encountered groundwater to facilitate cleaning and inspection of the pile bottoms. The contractor shall provide all necessary equipment to facilitate safe cleaning and inspection of the pile bottoms.
5. At the completion of drilling, secure covers shall be placed over the pile

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excavation. Concrete placement shall begin within 8 hours after completion of drilling. Placed concrete shall have a slump of 6 inches, with a tolerance of 1 inch.

6. Concrete placed in dry holes shall not be allowed to fall freely more than 5 feet. Concrete pumps, tremies or other such devices shall be used to comply with these requirements.

7. Concrete shall always be placed under water using concrete pumps and hoses, or equal, extending to the bottom of the pile excavation. A head of at least 4 feet of concrete shall always be maintained over the end of the concrete pump pipe so that water and disturbed soils are forced from the excavation. Also, the concrete strength shall be increased by 1000 psi over the design strength.

8. Any temporary casing shall be raised slowly as the pile excavation is filled with concrete, provided that the bottom of the casing is always a minimum of 3 feet below the level of the concrete.

9. Concrete placement shall continue until suitable concrete extends to the top of the pile excavation. The tremie or concrete pump pipe shall be slowly raised as the pile excavation is filled with concrete, provided that the bottom of the pipe is never more than 5 feet above the level of the concrete.

10. Piles spaced closer than 2.5 pile diameters center to center shall be drilled and concreted alternately, allowing at least 12 hours after concrete placement in one pile before drilling of an adjacent pile.

8.5 Retaining Walls

Cantilevered retaining walls that retain a level granular (Expansion Index < 20 and sand equivalent of 30 or greater) backfill for a horizontal distance equal to or greater than the height of the wall may be designed for an active equivalent fluid pressure of 35 pcf. Walls that are fixed against rotation (no movement allowed) that retain a level granular (Expansion Index < 20 and sand equivalent of 30 or greater) backfill for a horizontal distance equal to or greater than the height of the wall can be designed using at-rest equivalent fluid pressures of 55 pcf. Earth pressures presented herein assume that sufficient drainage will be provided behind the walls to reduce the build-up of hydrostatic pressures from surface and subsurface water infiltration. If not, groundwater pressures should be added to the above lateral earth pressures.

In addition, lateral pressures from other superimposed loads, such as those from vehicle traffic and adjacent structures, shall be added to the above recommended lateral earth pressures if the loads fall within a 1:1 projection of the walls. A surcharge load equivalent to an additional two feet of retained soil shall be applied to the upper 10 feet of walls if light vehicular traffic is expected adjacent to the excavation. If heavier traffic loads are anticipated near the top of the walls, additional analysis will be required.

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For structural analyses, average horizontal modulus of subgrade reaction values of 20 pci, 120 pci, and 150 pci can be assumed for the existing fill soils, alluvial soils and bedrock materials, respectively. For analysis purposes, we recommend a soil profile consisting of 15 feet of fill, over 10 feet of alluvium over bedrock for the subterranean walls.

Backfill against retaining walls should consist of free-draining granular soil with an Expansion Index less than 20 and sand equivalent of 30 or greater. Backfill should be placed in 8-inch or thinner loose lifts and compacted to a minimum of 90 percent of the ASTM Test Method D1557 maximum density. Compaction should be performed by mechanical means only and monitored by testing during construction. Care should be taken not to damage walls during backfill operations. Concrete should attain the strength specified by the structural engineer prior to placement of large quantities of backfill.

Earth pressures presented herein also assume that only hand operated compaction equipment will be used within five feet of walls to limit compaction lateral stresses. The operation of compaction equipment behind retaining walls can induce horizontal pressures in excess of the at-rest pressures on the wall. To help reduce the development of excessive horizontal pressures over compaction should be avoided.

Earth pressures used in the design of the walls should be indicated on the retaining wall plans. All retaining wall designs and plans should be reviewed by the project geotechnical consultant to confirm that the appropriate soil parameters are used.

Final surface grades should be sloped at a gradient such that surface water drains away from the structures and retaining walls. All retaining walls not designed to resist hydrostatic pressure should be adequately drained to prevent the buildup of hydrostatic pressures behind the walls due to groundwater, storm water, nuisance surface water, and/or utility line leaks. To provide adequate drainage, the retaining walls can be covered with a geotechnical drainage fabric connected to a 4-inch diameter perforated drain pipe extending along the bottom of the wall. This pipe should be placed with perforations sideways or down, and surrounded with Class 2 Caltrans permeable material (Section 68-1.025 of the Caltrans Standard Specifications) wrapped in filter fabric. Drain pipes should flow to a sump with a pump, or by gravity to a suitable outlet.

8.6 Slab-on-Grade

All slab-on-grade areas shall be prepared in accordance with Section 8.2 of this report. As a minimum, we suggest that conventional slabs-on-grade within structures that will not be subjected to vehicular traffic be a minimum of 5 inches thick and reinforced with No. 4 deformed steel reinforcing bars at 16 inches on center each way placed at mid-depth through the slab. The actual thickness and reinforcing of concrete slabs shall be determined by the project civil or structural engineer.

The minimum recommended steel will not prevent the development of slab cracks but will aid in keeping joints relatively tight and will reduce the potential for differential movement between

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adjacent panels. Care should be taken to avoid slab curling if slabs are poured in hot weather. Slabs should be designed and constructed as promulgated by the Portland Cement Association (PCA). Prior to the slab pour, all utility trenches should be properly backfilled and compacted.

In areas where a moisture-sensitive floor covering (such as vinyl, tile, or carpet) is used, slabs can be protected by a minimum 10-mil-thick polyethylene vapor retarder between the slab and compacted subgrade. Where the vapor retarder is used, it can be placed between two 1-inch layers of sand to protect it from punctures and to aid in the concrete cure. Vapor retarder seams should be overlapped a minimum of 6 inches and taped or otherwise sealed.

If the slabs on grade are not designed to resist the buoyant forces of groundwater then a drainage system be constructed beneath the slabs on grade. The drainage system should consist of a blanket of crushed rock, Class II permeable base material, or drain rock. Perforated pipes leading to pumps should be provided in the drainage blanket. The system should be designed to maintain the groundwater level a minimum of three feet below the slabs-on-grade. Design of the drainage system should be based on input from the project structural engineer, civil engineer, and geotechnical engineer.

8.7 Cement Type and Corrosion Measures

Based on the corrosivity test results, the near-surface soils may be corrosive to concrete and buried metals. A corrosion engineer should be retained to provide specific recommendations for design of concrete and metals in contact with the site earth materials. As a minimum, the following corrosion mitigation measures are considered appropriate for the site soils:

- All steel and wire concrete reinforcement should have at least 3 inches of concrete cover where cast against soil, unformed.
- As a minimum, below grade ferrous metals should be given a high-quality protective coating, such as 20-mil plastic tape, extruded polyethylene, coal-tar enamel, or Portland Cement mortar.
- Below grade metals should be electrically insulated (isolated) from above grade metals by means of dielectric fittings in ferrous utilities and/or exposed metal structures breaking grade.

9.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

9.1 Review of Plans and Specifications

This report shall be included as part the plans and specifications for this project in accordance with BOE Special Order Number 0040400. It is recommended that GED review preliminary plans to provide timely geotechnical comments for design consideration. GED shall review the plans and specifications as part of the final plan check stage.

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9.2 Geotechnical Observation and Testing During Construction

All grading, excavation, and construction of foundations should be performed under the observation and testing of the Geotechnical Engineer at the following stages:

- Upon completion of site clearing;
- During installation of shoring;
- During subgrade preparation;
- During fill placement;
- After excavation of footings and immediately prior to placement of foundation concrete;
- During construction of any CIDH piles;
- During backfilling of retaining walls;
- During excavation and backfilling of all utility trenches; and
- When any unusual or unexpected geotechnical conditions are encountered.

9.3 Closure

If there are any questions regarding this report, please contact Benjamin Moore at (213) 485-8362 or Patrick J. Schmidt at (213) 847-4046.

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VICINITY MAP

Approximate
Scale 1" = 2,000'

NEW POLICE HEADQUARTERS BUILDING CITY BLOCK BOUNDED BY FIRST, MAIN, SECOND AND SPRING STREETS DOWNTOWN LOS ANGELES	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: FEBRUARY 2005	FIGURE No. 1

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LEGEND

B-13
35' ⊕ Boring Number, Approximate Location, and Total Depth in feet

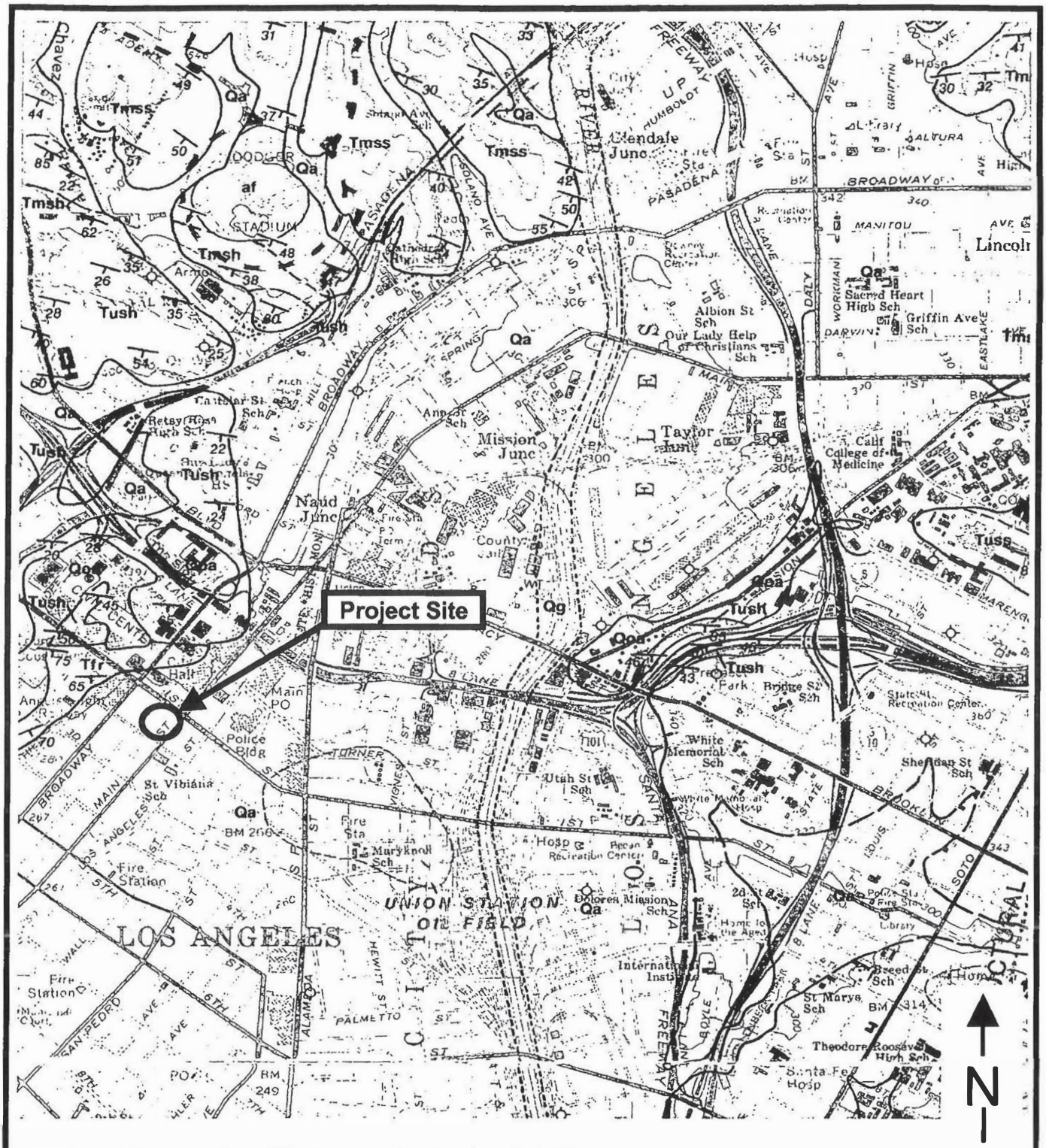
N

Boring Location Map

Approximate
Scale 1" = 100'

NEW POLICE HEADQUARTERS BUILDING CITY BLOCK BOUNDED BY FIRST, MAIN, SECOND AND SPRING STREETS DOWNTOWN LOS ANGELES	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: FEBRUARY 2005	FIGURE No. 2

10108282006359OO



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REGIONAL GEOLOGY

Approximate
Scale 1" = 2,000'

POLICE HEADQUARTERS FACILITY City Block Bounded by First, Main, Second and Spring Streets Downtown Los Angeles	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: FEBRUARY 2005	FIGURE No. 3

10108282006359DD



Reference: "Official Map of Seismic Hazard Zones," Los Angeles, March 25, 1999, California Department of Conservation, Division of Mines and Geology.

SEISMIC HAZARD ZONES

Approximate Scale 1" = 2,000'

POLICE HEADQUARTERS FACILITY City Block Bounded by First, Main, Second and Spring Streets Downtown Los Angeles	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: FEBRUARY 2005	FIGURE No. 4

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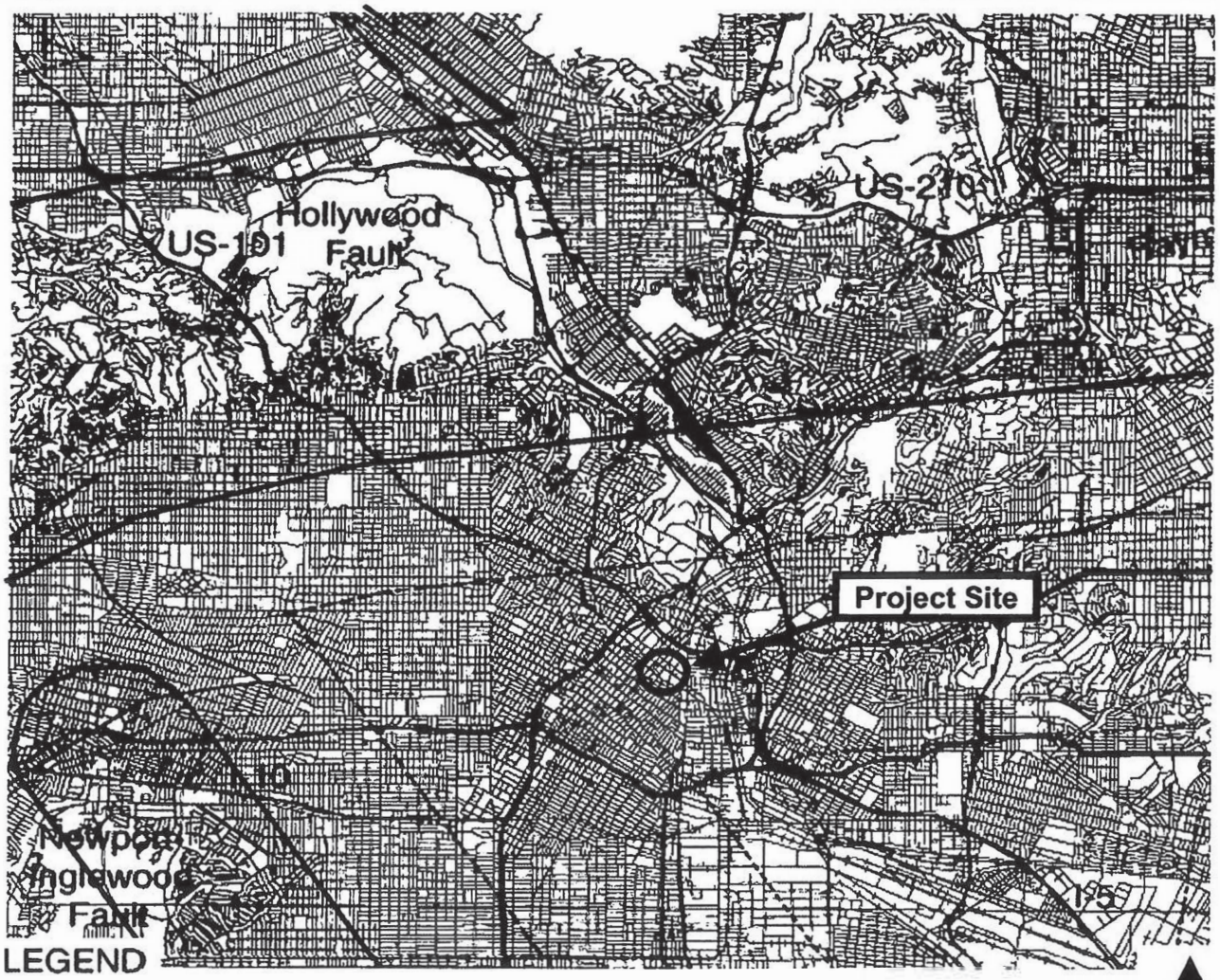

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ACTIVE FAULT NEAR SOURCE ZONES

POLICE HEADQUARTERS FACILITY City Block Bounded by First, Main, Second and Spring Streets Downtown Los Angeles	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: FEBRUARY 2005	FIGURE No. 5

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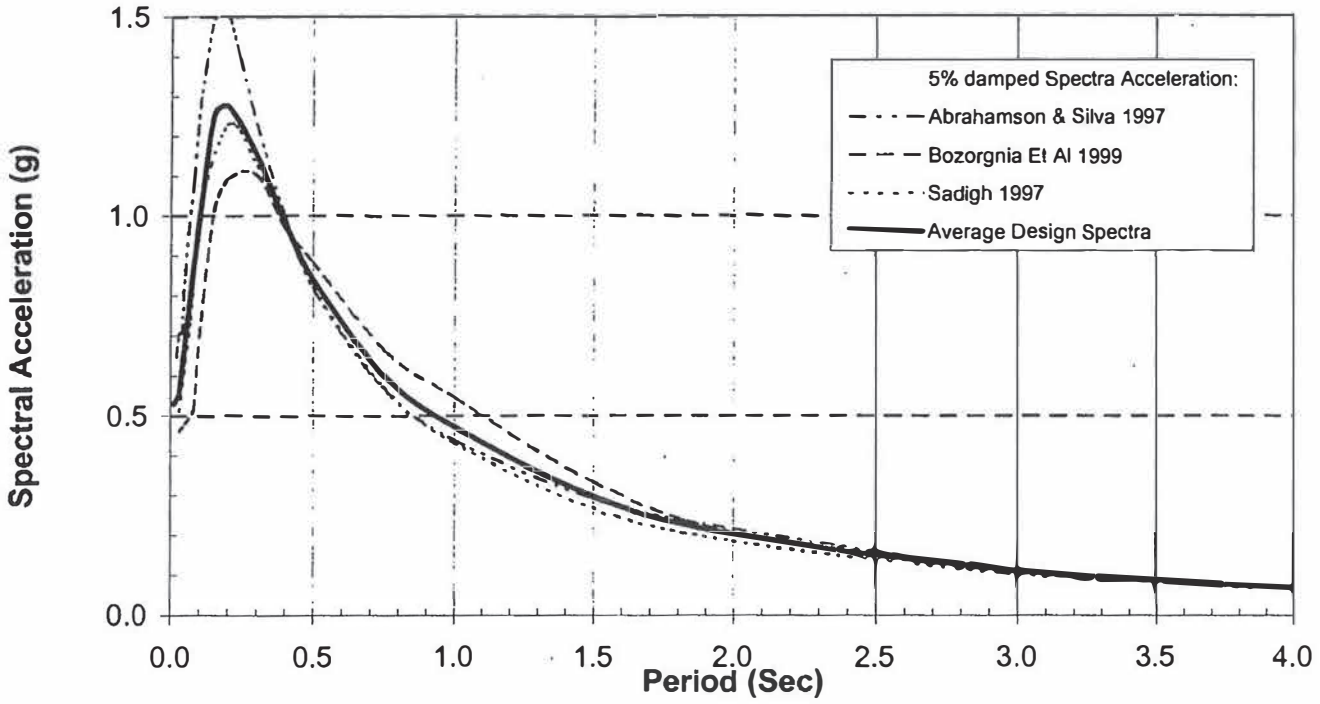

PERIOD, SEC	SPECTRAL ACCELERATION FOR 5% DAMPING
0.01	0.53
0.03	0.56
0.1	0.99
0.15	1.25
0.2	1.28
0.3	1.15
0.4	0.98
0.5	0.84
0.75	0.60
1	0.47
1.5	0.30
2	0.20
3	0.11
4	0.07

COMPUTED INSTRUMENTAL EQUAL-HAZARD ACCELERATION SPECTRA FOR HORIZONTAL GROUND MOTION WITH 475 YEAR AVERAGE RETURN PERIOD	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 FEBRUARY 2005	FIGURE No. 6

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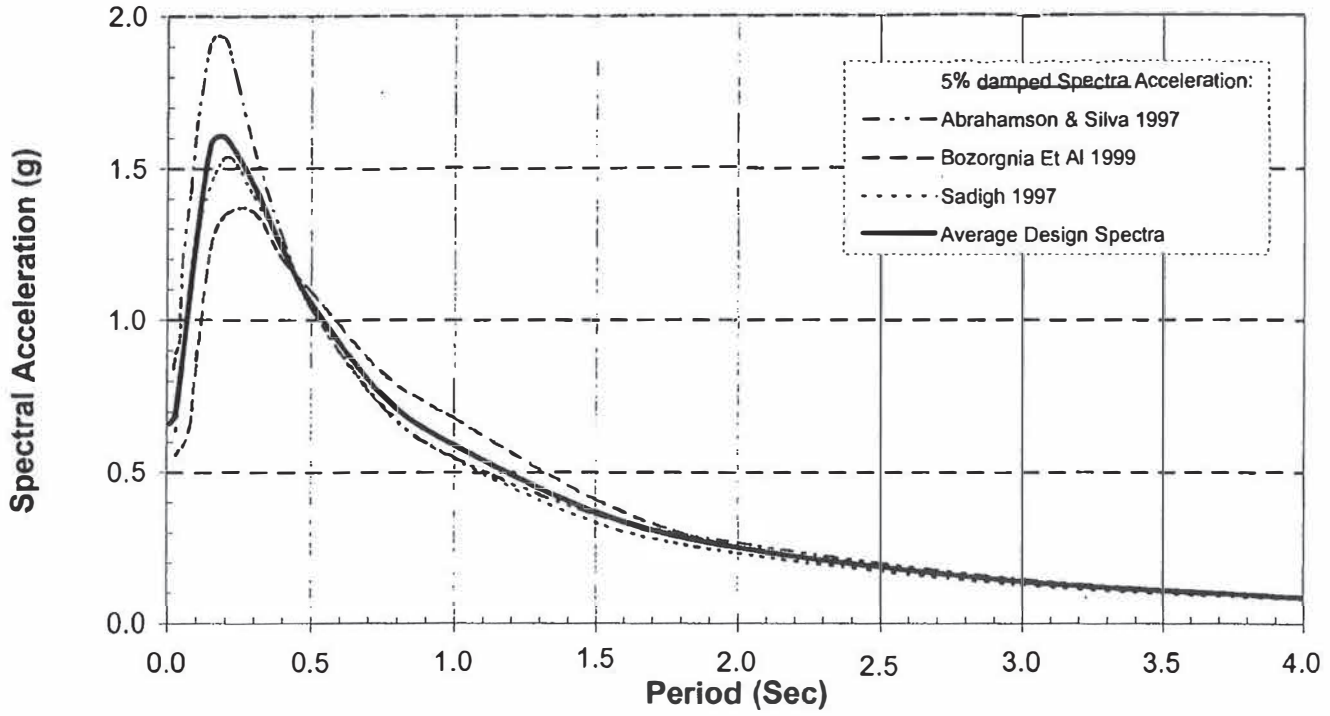

PERIOD, SEC	SPECTRAL ACCELERATION FOR 5% DAMPING
0.01	0.63
0.03	0.7
0.1	1.26
0.15	1.58
0.2	1.6
0.3	1.44
0.4	1.23
0.5	1.06
0.75	0.75
1	0.59
1.5	0.37
2	0.25
3	0.14
4	0.08

COMPUTED INSTRUMENTAL EQUAL-HAZARD ACCELERATION SPECTRA FOR HORIZONTAL GROUND MOTION WITH 950 YEAR AVERAGE RETURN PERIOD	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 FEBRUARY 2005	FIGURE No. 7

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KLEINFELDER
An employee owned company

January 26, 2005
Project No. 52307-1

GEOTECHNICAL DIVISION
2005 JAN 27 AM 9 56

Mr. Christopher F. Johnson
City of Los Angeles
Department of Public Works/
Geotechnical Engineering Division
650 South Spring Street, Suite 600
Los Angeles, California 90014-1913

Subject: **Geotechnical Data Report**
Proposed New Police Headquarters Facility
City Block Bounded by First Street on the North, Main Street on the East, Second Street on the South, and Spring Street on the West
Work Order E170910B - GED File 04-120
Contract No. C-98923
Los Angeles, California

Dear Mr. Johnson:

Kleinfelder, Inc. (Kleinfelder), is pleased to present this data report summarizing our geotechnical field exploration and laboratory testing performed for the proposed New Police Headquarters Facility, located in the city block bounded by First Street on the North, Main Street on the East, Second Street on the South, and Spring Street on the west in Downtown Los Angeles, California. This data report presents the results of our soil borings conducted at the subject site and the laboratory testing results. Engineering analysis and geotechnical recommendations for the subject site were beyond our authorized scope of work.

PROJECT DESCRIPTION AND SCOPE OF WORK

The proposed new police headquarters facility was investigated at the subject city block. The site is currently occupied by the former CALTRANS building. The site also contains two commercial structures located along First Street. The project will include demolition of the existing facilities and construction of the new Police Headquarters facility. The new construction is expected to include a 10 to 14-story building with two to three levels of below grade parking. The site was investigated adjacent to the existing structures as well as within the existing below grade parking garage. The location of the site is shown on Plate 1, Site Location Map.

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KLEINFELDER 1370 Valley Vista Drive, Suite 150, Diamond Bar, CA 91765-3910 (909) 396-0335 (909) 396-1324 fax
10108282006 35900

The authorized scope of work for this project consisted of the following tasks:

- A site walk, record review and USA clearance;
- Drilling and sampling a total of 15 borings on the site (original proposal scope (9/15/04) included 13 borings with only three in basement level. Scope revised by GED to 15 borings during fieldwork);
- Performance of a laboratory testing program;
- Preparation of this data report.

FIELD EXPLORATION

Borings B-1, B-11, and B-13 were advanced on First and Main Street on December 13, 2004, Borings B-2 and B-3 were drilled on December 15, 2004, Borings B-4 and B-5 were advanced on December 16, 2004, and Borings B-6, B-8, and B-8A were advanced on December 17, 2004. The borings performed between December 13, 2004 and December 17, 2004 were advanced with a truck mounted hollow stem auger rig provided by CalPac Drilling of Calimesa, California.

Borings B-7 and B-12, Borings B-1A and B-13A, and Boring B-9, were advanced on December 20 and 21, 2004, and on January 5, 2005, respectively. The five borings completed on December 20 and 21, 2004, and January 5, 2005 were advanced using a track mounted hollow-stem limited access rig provided by Pacific Drilling of San Diego, California.

The borings were advanced to depths ranging from approximately 2 feet to approximately 81½ feet below existing grade. Borings B-1 and B-13 encountered refusal at depths of approximately 2 feet and 16 feet below existing adjacent grade. These two borings were relocated (as B-1A and B-13A) to the basement parking garage area as directed by Mr. Schmidt. Boring B-8 was relocated in close proximity (B-8A) due to refusal at two feet below the surface. Boring B-10 to be performed in the basement level was cancelled by Mr. Schmidt.

Jeff Waller and Debbie DeWolf, staff professionals with Kleinfelder, logged the borings, measured the VOC's using a PID, and collected the geotechnical soil samples. Selected relatively undisturbed samples were retrieved, sealed and transported to our laboratory for further evaluation and testing. Soil samples were driven into the bottom of the hollow stem auger borings with a 140-lb hammer falling 30 inches. The number of blows necessary to drive a California-type and Standard Penetration Test (SPT) sampler 12 inches were recorded on the logs. At the completion of drilling and sampling, Borings B-1, B-11, and B-13 were backfilled with cement slurry. All remaining borings were backfilled and tamped with soil cuttings from the boring. Borings in the roadway, parking garage, and access driveway were capped with quickset concrete. Boring B-2 and B-3 were excavated in asphalt parking areas and were capped with cold patch asphalt. Boring B-6 was located in a landscape area and was not capped. Latitude and longitude as well as a description of boring positions measured from permanent features are presented on the boring logs. The Latitude and Longitude of the borings performed in the below grade parking garage is not presented due to satellite interference by the building. The soil materials encountered were classified and logged in accordance with the Unified Soil Classification System (USCS). An explanation of the logs is presented on Plates A-1a and A-1b. The Logs of Borings are presented on the attached Plates A-2 through A-16. The approximate locations of the borings are shown on Plate 2, Plot Plan.

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LABORATORY TESTING

Geotechnical laboratory tests were performed on representative disturbed and relatively undisturbed soil samples to estimate engineering characteristics of the various earth materials encountered. Testing was performed in accordance with one of the following references:

1) Lambe, T. William, Soil Testing for Engineers, Wiley, New York, 1951
2) Laboratory Soils Testing, U.S. Army, Office of the Chief of Engineers, Engineering Manual No. 1110-2-1906, November 30, 1970
3) ASTM Standards for Soil Testing, latest revisions
4) Uniform Building Code, 1997 edition

The type and number of tests performed were selected the City of Los Angeles, Department of Public Works / Geotechnical Engineering Division (GED). A summary of the tests performed is presented in the following sections.

Laboratory Moisture and Dry Unit Weight Determinations

Natural moisture content and dry density tests were performed on selected relatively undisturbed samples collected. The moisture content tests were performed in general accordance with ASTM Test Method D 2216. The results are presented on the Logs of Borings and are summarized in Table B-1, Moisture Content and Dry Unit Weight Determinations.

Sieve Analysis

Sieve analyses were performed on six (6) samples of the materials encountered at the site to evaluate the grain size distribution characteristics of the soils and to aid in their classification. The tests were performed in general accordance with ASTM Test Method D 422. The test results are presented in Table B-2, Sieve Analysis Test Results, and as Plate B-1, Grain Size Distribution.

Plasticity Index

Plasticity index testing was performed on three (3) selected samples of the on-site soils to determine plasticity characteristics and to aid in the classification of the soil. The tests were performed in accordance with ASTM Standard Test Method D 4318. The results are presented in Table B-3, Plasticity Index Test Results, and as Plate B-2, Plasticity Chart.

Direct Shear

Direct shear testing was performed on ten (10) relatively undisturbed samples. The tests were conducted to evaluate the soil shear strength parameters in general accordance with ASTM Standard Test Method D 3080. The soil samples were soaked to near saturation prior to testing. The results are presented on Plates B-3 through B-13, Direct Shear Test.

Consolidation

Consolidation testing was performed on nine (9) relatively undisturbed samples in accordance with ASTM Standard Test Method D 2435. The test results are presented as Plates B-14 through B-22, Consolidation Test.

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R-Value Test

Resistance value (R-value) testing was performed on one (1) sample to evaluate pavement support characteristics of the near-surface onsite soils. R-value testing was performed in accordance with Caltrans Standard Test Method 301. The test result is presented in Table B-4.

Corrosion Test

A series of chemical tests were performed on a selected sample of the onsite soils and a composite sample of bedrock material retained from different depths and boring. The tests were performed to estimate pH, resistivity, sulfate and chloride contents. The test results are presented in Table B-5, Corrosion Test Results.

LIMITATION

This report has been prepared for the exclusive use of the City of Los Angeles, Department of Public Works, Geotechnical Engineering Division for specific application to the subject development in the City of Los Angeles, California. The findings and testing results presented in this report were prepared in accordance with generally accepted geotechnical engineering practice. No other warranty, expressed or implied, is made.

The authorized scope of our preliminary geotechnical services did not include the presence of wetlands, geotechnical engineering analysis, earthquake engineering study, foundation analysis, or construction recommendations.

This report may be used only by the client and only for the purposes stated, within a reasonable time from its issuance. Non-compliance with any of these requirements by the client or anyone else will release Kleinfelder from any liability resulting from the use of this report by any unauthorized party.

CLOSURE

We appreciate the opportunity to be of service on this project. If you have any questions or require additional information, please do not hesitate to contact our office.

Respectfully submitted,

KLEINFELDER, INC.

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Table B-1
Moisture Content and Dry Unit Weight Determinations

Boring	Depth (ft)	Dry Unit Weight (pcf)	Moisture %
B-1A	5	--	29.5
B-1A	8	80	40.9
B-2	2.5	68	11.3
B-2	5	72	12.1
B-2	10	109	4.0
B-2	20	82	40.5
B-2	30	88	34.3
B-3	2.5	116	6.9
B-3	5	130	9.0
B-3	30	87	32.9
B-4	2.5	89	10.5
B-4	25	90	31.5
B-4	35	92	31.0
B-5	2.5	89	9.7
B-5	5	109	10.2
B-5	10	126	3.6
B-5	20	80	40.7
B-5	30	87	36.3
B-5	40	84	31.4
B-5	50	83	39.1
B-5	60	90	34.6
B-6	2.5	91	21.0
B-6	7.5	121	6.9
B-6	10	134	5.0
B-6	15	118	11.7
B-6	25	93	30.8
B-6	35	92	30.1
B-7	8	88	34.1
B-7	12	91	30.7
B-7	24	91	30.6
B-8	5	119	5.8
B-8	10	126	4.4
B-9	8	91	31.4
B-9	24	98	25.4
B-11	15	104	3.4
B-11	25	98	28.3
B-11	35	97	26.8
B-11	55	99	24.9
B-12	7.5	94	29.7
B-12	10	94	28.6
B-13	5	113	1.8
B-13	7.5	110	1.8
B-13	10	117	2.2
B-13A	8	94	30.3
B-13A	16	95	26.9
B-13A	20	114	27.5

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Table B-2
Sieve Analysis Test Results

Sieve Size	Percent Passing					
	B-2 @ 11.5-15'	B-4 @ 10	B-6 @ 5'	B-8 @ 7.5'	B-11@ 10'	B-12 @ 4'
3"	100	100	100	100	100	100
1.5"	100	100	100	84.8	100	100
1"	100	100	100	83.2	100	89.1
3/4"	100	100	100	81.5	100	78.5
3/8"	92.1	82.7	99.5	71.9	88.0	64.5
#4	83.6	73.7	98.1	57.2	79.8	50.5
#10	73.8	61.8	95.4	44.6	66.2	37.7
#20	60.6	47.9	89.7	34.4	50.6	25.5
#40	43.2	35.3	78.3	26.3	37.1	17.6
#60	27.4	26.4	63.2	20.2	27.2	13.0
#100	16.0	16.1	51.0	12.4	16.3	7.7
#200	13.4	13.6	47.8	11.0	13.7	6.5

Table B-3
Plasticity Index Test Results

Boring	Depth (ft)	Plasticity Index
B-4	15	13
B-4	20	15
B-13A	12	19

Table B-4
R-Value Test Results

Boring	Depth (ft)	R-Value
B-5	0.5 – 2.5	72

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Table B-5
Corrosion Test Results

Boring	Depth (ft)	PH	Sulfate (ppm)	Chloride (ppm)	Resistivity Insitu/Saturated (ohm-cm)
Composite*	Varying	7.63	436	89	630
B-2	11.5 – 15	7.52	252	70	1100

* Denotes a composite sample that included B-1A @ 12', B-2 @ 25', B-3 @ 25', B-4 @ 20', B-5 @ 25', B-6 @ 20', B-11 @ 30'.

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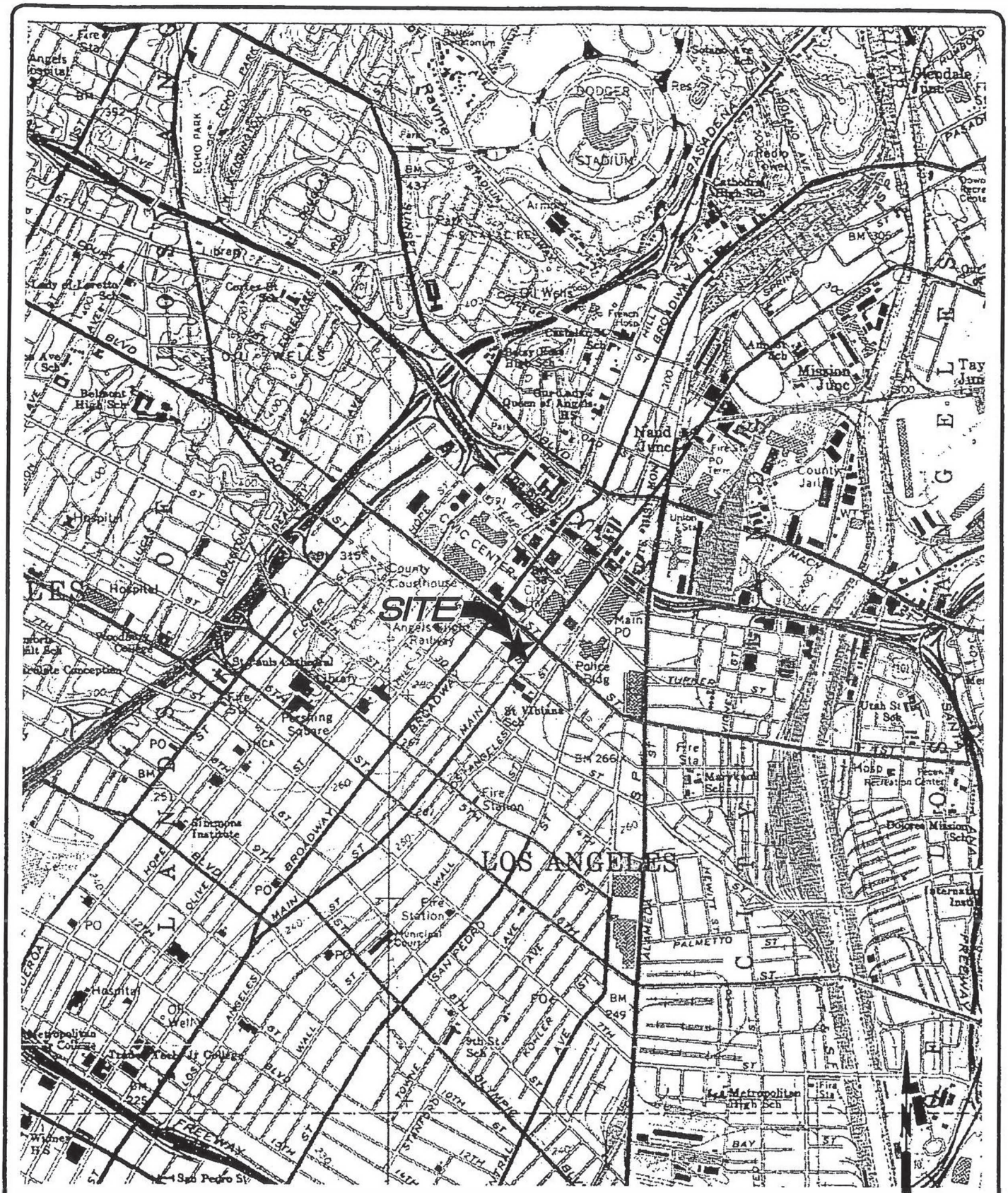
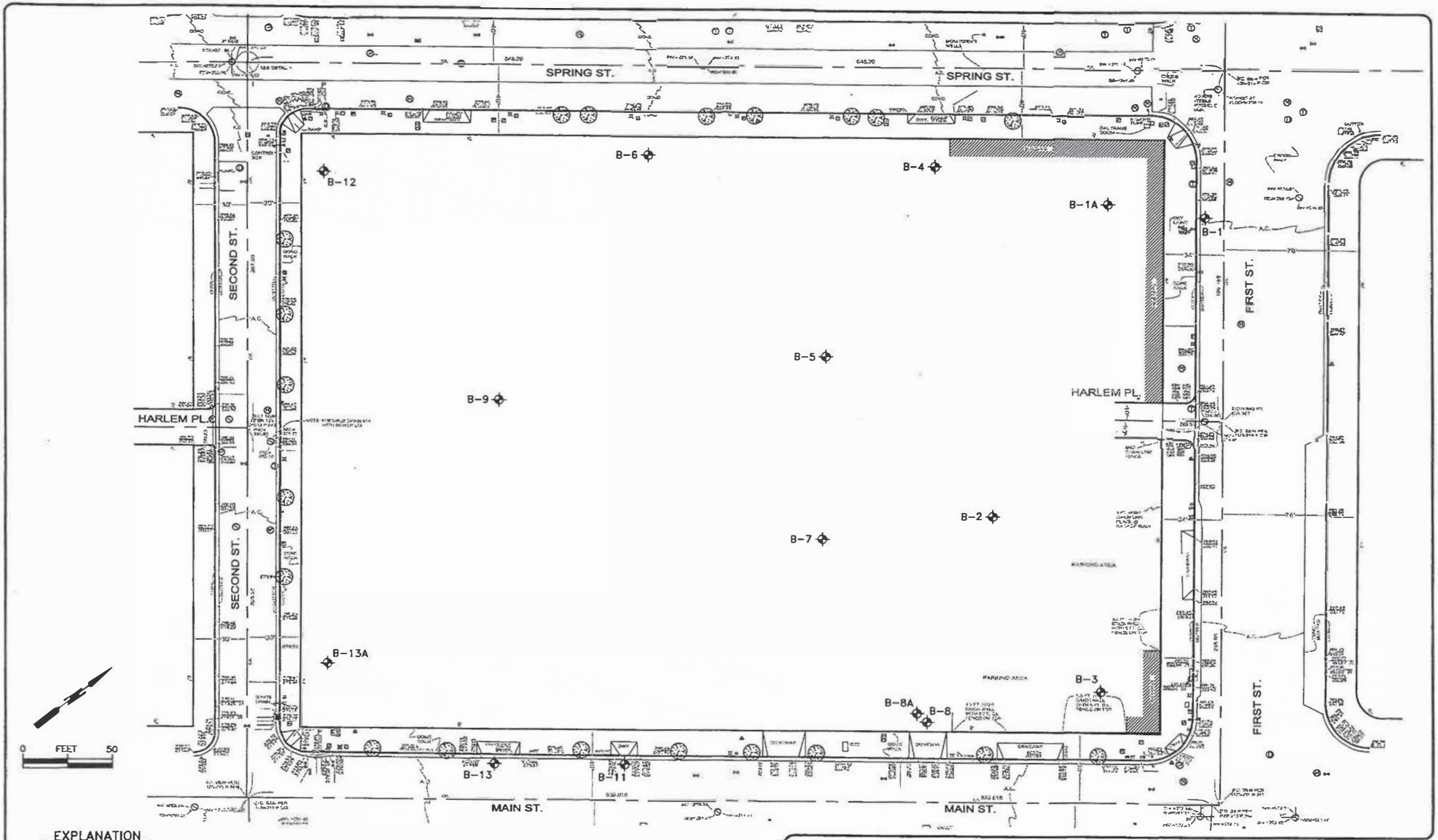

SITE
LOS ANGELES
DODGER STADIUM
County Courthouse
Main PO
Police Bldg
Union Sta
County Jail
Mission Junc
Pershing Square
Fire Station
Municipal Court
Hospital
Metropolitan Water Dist
Fire Sta
Mary Knoll Sch
Utah St Elem Sch
Belmont High Sch
Our Lady of Queen of Angels HS
Cathedral High Sch
Glendale Junc
Redlands Junc
Angels Flight Railway
Olive View Medical Center
Los Angeles Trade Tech College
Los Angeles Mission
Los Angeles Harbor Freeway
Pasadena Freeway
Hollywood Freeway
Santa Monica Freeway
Golden State Freeway
Broadway
Main St
Hill St
Figueroa St
Hope St
Olive St
Grand Ave
Alameda St
Los Angeles St
San Pedro St
Palmetto St
Bay St
Sunset Blvd
Echo Park
Elysian Park
Revine
Fire Sta
Angels Hospital
Library
Coffee St
Lady of Loretto Sch
Hospital
Goodwill Center
Immaculate Conception
St Vibiana
Simmons Institute
Fire Station
Municipal Court
Hospital
Oil Wells
Metropolitan College
Trade Tech College
Widney HS
San Pedro St
Fire Station
Mission Sch
Metropolitan Jr High Sch
7th St Sch
Fire Sta
Utah St Elem Sch
Mary Knoll Sch
Hobbs Recreation Center
Dolores Mission Sch
Alternative Instn
Fire Sta
Police Bldg
Main PO
Union Sta
County Jail
Mission Junc
Redlands Junc
Glendale Junc
Cathedral High Sch
Our Lady of Queen of Angels HS
Belmont High Sch
Olive View Medical Center
Angels Flight Railway
Pershing Square
County Courthouse
Fire Station
Municipal Court
Hospital
Metropolitan Water Dist
Fire Sta
Mary Knoll Sch
Utah St Elem Sch
Hobbs Recreation Center
Dolores Mission Sch
Alternative Instn
Fire Sta
Metropolitan Jr High Sch
7th St Sch
Fire Sta



EXPLANATION

B-13A ⊕ APPROXIMATE SOIL BORING LOCATION

REFERENCE: BASE MAP PROVIDED BY CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS, DATED 08/18/04

1010828200635900

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NEW POLICE HEADQUARTERS FACILITY
Los Angeles, California
Project: 52307 January 2005

PLOT PLAN

PLATE 2

Date Drilled:
Drilled By:
Drilling Method:
Logged By:

Water Depth:
Date Measured:
Reference Elevation:
Datum:

Elevation (feet) Depth	Sample	Sample No.	Blow Count (Blows/ft.)	Graphic Log	GEOTECHNICAL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1	6			108	10	DS, SE
		2	12					GS
5								
	(1)	(2)	(3)	(4)	(5)	(6)	(6)	(7)
10								

NOTES ON FIELD INVESTIGATION

1. SAMPLE – Graphical representation of sample type as shown below.
   - Split Spoon – Standard Penetration Test Sample (SPT)
   - Drive Sample – California Sample (Cal)
   - Bulk Sample – Obtained by collecting cuttings in a plastic bag
   - Tube Sample – Shelby/Pitcher Tube Sample

2. SAMPLE NO. – Sample Number

3. BLOWS/FT – Number of blows required to advance sampler 1 foot (unless a lesser distance is specified). Samplers in general were driven into the soil at the bottom of the hole with a standard (140 lb) hammer dropping a standard 30 inches. Drive samples collected in bucket auger borings may be obtained by dropping non-standard weight from variable heights. When a SPT sampler is used the blow count conforms to ASTM D-1586.

   SCR/ROD – Sample Core Recovery (SCR) in percent (%) and Rock Quality Designation (ROD) in percent (%). ROD is defined as the percentage of core in each run which the spacing between natural fractures is greater than 4 inches. Mechanical breaks of the core are not considered.

4. GRAPHIC LOG – Standard symbols for soil and rock types, as shown on plate B-1b.

5. GEOTECHNICAL DESCRIPTION

   Soil – Soil classifications are based on the Unified Soil Classification System per ASTM D-2487, and designations include consistency, moisture, color and other modifiers. Field descriptions have been modified to reflect results of laboratory analyses where deemed appropriate.

   Rock – Rock classifications generally include a rock type, color, moisture, mineral constituents, degree of weathering, alteration, and the mechanical properties of the rock. Fabric, lineations, bedding spacing, foliations, and degree of cementation are also presented where appropriate.

   Description of soil origin or rock formation is placed in brackets at the beginning of the description where applicable, for example, Residual Soil.

6. DRY DENSITY, MOISTURE CONTENT: As estimated by laboratory or field testing.

7. ADDITIONAL TESTS – (Indicates sample tested for properties other than the above):

MAX – Maximum Dry Density	SG – Specific Gravity	PP – Pocket Penetrometer
GS – Grain Size Distribution	HA – Hydrometer Analysis	WA – Wash Analysis
SE – Sand Equivalent	AL – Atterberg Limits	DS – Direct Shear
EI – Expansion Index	RV – R-Value	CP – Collapse Potential
CHEM – Sulfate and Chloride Content, pH, Resistivity	CN – Consolidation	UC – Unconfined Compression
PM – Permeability	CU – Consolidation Undrained Triaxial	T – Torvane
UU – Unconsolidated Undrained Triaxial	CD – Consolidated Drained Triaxial	

8. ATTITUDES – Orientation of rock discontinuity observed in bucket auger boring or rock core, expressed in strike/dip and dip angle, respectively, preceeded by a one-letter symbol denoting nature of discontinuity as shown below.

   B: Bedding Plane J: Jointing C: Contact F: Fault S: Shear

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EXPLANATION OF LOGS

PLATE A-1a

10108282006E5900

UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D-2487)

PRIMARY DIVISIONS			GROUP SYMBOLS	SECONDARY DIVISIONS
COARSE-GRAINED SOILS MORE THAN HALF OF MATERIALS IS LARGER THAN #200 SIEVE SIZE	GRAVELS MORE THAN HALF OF COARSE FRACTION IS LARGER THAN #4 SIEVE	CLEAN GRAVELS (LESS THAN) 5% FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			GP	POORLY GRADED GRAVELS OR GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVEL WITH FINES	GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF OF COARSE FRACTION IS SMALLER THAN #4 SIEVE	CLEAN SANDS (LESS THAN) 5% FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			SP	POORLY GRADED SANDS OR GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES	SM	SILTY SANDS, SAND-SILT MIXTURES
			SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE-GRAINED SOILS MORE THAN HALF OF MATERIALS IS SMALLER THAN #200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT IS LESS THAN 50		ML	INORGANIC SILTS, VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS AND ORGANIC SILT-CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT IS GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDS OR SILTS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
	HIGHLY ORGANIC SOILS		PT	PEAT, MUCK AND OTHER HIGHLY ORGANIC SOILS
TYPICAL FORMATIONAL MATERIALS	SANDSTONES		SS	
	SILTSTONES		SH	
	CLAYSTONES		CS	
	LIMESTONES		LS	
	SHALE		SL	

CONSISTENCY CRITERIA BASED ON FIELD TESTS

RELATIVE DENSITY: COARSE-GRAINED SOIL

RELATIVE DENSITY	SPT * (# blows/ft)	RELATIVE DENSITY (%)
Very Loose	<4	0 - 15
Loose	4 - 10	15 - 35
Medium Dense	10 - 30	35 - 65
Dense	30 - 50	65 - 85
Very Dense	>50	85 - 100

CONSISTENCY: FINE-GRAINED SOIL

CONSISTENCY	SPT (# blows/ft)	TORVANE UNDRAINED SHEAR STRENGTH (tsf)	POCKET ** PENETROMETER UNCONFINED COMPRESSIVE STRENGTH (tsf)
Very Soft	<2	<0.13	<0.25
Soft	2 - 4	0.13 - 0.25	0.25 - 0.5
Medium Stiff	4 - 8	0.25 - 0.5	0.5 - 1.0
Stiff	8 - 15	0.5 - 1.0	1.0 - 2.0
Very Stiff	15 - 30	1.0 - 2.0	2.0 - 4.0
Hard	>30	>2.0	>4.0

* NUMBER OF BLOWS OF 140 POUND HAMMER FALLING 30 INCHES TO DRIVE A 2 INCH O.D. (1 3/8 INCH I.D.) SPLIT BARREL SAMPLER (ASTM-1586 STANDARD PENETRATION TEST)

** UNCONFINED COMPRESSIVE STRENGTH IN TONS/SQ.FT. READ FROM POCKET PENETROMETER

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, usually soil is below water table

CEMENTATION

DESCRIPTION	FIELD TEST
Weakly	Crumbles or breaks with handling or slight finger pressure
Moderately	Crumbles or breaks with considerable finger pressure
Strongly	Will not crumble or break with finger pressure

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EXPLANATION OF LOGS

PLATE A-1b

10108282006359OO

Date Drilled:	12/16/04	Water Depth:	> 2 feet
Drilled By:	CalPac Drilling	Date Measured:	12/13/04
Drilling Method:	Hollow Stem Auger	Elevation:	286 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1		**Asphaltic Concrete (AC):** approximately 6.5 inches thick.			
				Silty Sand (SM): brown moist.			
				Sand (SP): light brown moist, with gravel.			

Boring terminated due to utility interference.
Total depth: 2 feet.
Groundwater not encountered.
Boring backfilled with Quikset concrete.

59 feet east of Spring Street east curb, 104 feet west of west side of Clark Constriction driveway, 4 feet north of 7th Street south curb.

Latitude: N 34.0527 degrees.
Longitude: W 118.2434 degrees.

GEOTECH DB 52307.GPJ KA_RDLND.GDT 1/21/05

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

LOG OF BORING B-1

PLATE A-2

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/21/04	Water Depth:	> 14.5 feet
Drilled By:	Pacific Drilling	Date Measured:	12/21/04
Drilling Method:	Hollow Stem Auger	Elevation:	275 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Concrete:** approximately 4.5 inches thick.			
					Artificial Fill (Af): **Sand (SP):** brown, moist, fine to coarse grained, with fine gravel, some coarse gravel, some cobbles, trace construction debris.			
					Native:			
-5 5		2	14		**Sand (SP):** brown, moist, loose, fine to coarse grained, trace fine gravel, disturbed.		29.5	P.I.D. = 0
					Silty Clay (CL): olive brown, moist, stiff to very stiff, trace fine gravel.			
		3	21			80	40.9	CN P.I.D. = 0
-10 10					**Bedrock:** **Siltstone/Claystone:** grey, moist, very stiff.			
		4	30					P.I.D. = 0

Total depth: 14.5 feet.
Groundwater not encountered.
Boring backfilled soil cuttings and capped with Quikset concrete.

18 feet east of west wall, 20 feet south of north wall, 98 feet north of south wall.

Latitude and Longitude not obtained due to location in parking garage.

GEOTECH DB 52307.GPJ KA_RDLND.GDT 1/21/05

KLEINFELDER

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

PLATE A-3

PROJECT NO. 52307

LOG OF BORING B-1A

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/15/04	Water Depth:	18.0 feet
Drilled By:	CalPac Drilling	Date Measured:	12/15/04
Drilling Method:	Hollow Stem Auger	Elevation:	282 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					Asphaltic Concrete (AC): approximately 3 inches thick.			
					Artificial Fill (Af):			
		2	9		**Clayey Sand (SC):** orange brown, very moist, fine to coarse grained. -- construction debris observed.	68	11.3	P.I.D. = 0
-5 5		3	10			72	12.1	P.I.D. = 0
		4	8					P.I.D. = 0
-10 10		5	15, 50/5"		**Native:** **Silty Sand with Gravel (SM):** brown, very moist, dense, fine to coarse grained sand and gravel, trace clay.	109	4.0	P.I.D. = 0
		1						GA
-15 15		6	37					P.I.D. = 0
	▼				-- groundwater encountered.			
-20 20		7	34					CN P.I.D. = 0
					Sandy Silt (ML): brown, very moist, hard, fine grained sand.	82	40.5	
					Bedrock:			
-25 25		8	14		**Siltstone/Claystone:** olive, moist, stiff, bedding planes, trace fine grained sand.			P.I.D. = 0
-30 30		9	35		-- water in cuttings, hard.	88	34.3	P.I.D. = 0

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New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

PLATE A-4a

PROJECT NO. 52307

LOG OF BORING B-2

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		10	12		**Bedrock:** **Siltstone/Claystone:** olive, moist, stiff, bedding planes, trace fine grained sand. *(continued)* -- trace fine grained sand, stiff.			P.I.D. = 0
-40 40		11	28		-- very stiff.			P.I.D. = 0
-45 45		12	26					P.I.D. = 0
-50 50		13	18					P.I.D. = 0
-55 55		14	22					P.I.D. = 0

Total depth: 56.5 feet.
Groundwater encountered at 18 feet.
Boring backfilled with soil cuttings and capped with cold patch asphalt.

Boring located 65 feet southeast of Collateral building, 26 feet north east of fenceline parallel to First Street.

Latitude: N 34.0522 degrees.
Longitude: W 118.2432 degrees.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
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Los Angeles, California

LOG OF BORING B-2

PLATE A-4b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

10108232006 25000

Date Drilled:	12/15/04	Water Depth:	20.0 feet
Drilled By:	CalPac Drilling	Date Measured:	12/15/04
Drilling Method:	Hollow Stem Auger	Elevation:	282 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					Asphaltic Concrete (AC): approximately 4 inches thick.			
		1			**Artificial Fill (Af):**			P.I.D. = 0
		2	22		**Clayey Silty Sand (SM):** brown, moist, medium dense, fine to medium grained, 1/2 inch diameter gravel.	116	6.9	P.I.D. = 0
		3			**Native:**			
-5 5		4	64		**Clayey Gravel (GC):** brown, slightly moist. -- very dense, difficult drilling.	130	9.0	P.I.D. = 0.8
		5	33, 50/3"		-- hard, unweathered material.			P.I.D. = 0
-10 10		6	50/4"					
					Sand (SP): brown, very moist, very dense, fine to coarse grained sand and gravel.			
-15 15		7	50/4"					P.I.D. = 0
-20 20		8	32, 50/5"		**Bedrock:** **Siltstone/ Claystone:** olive, wet, hard, some bedding structure, some clay.	83	33.7	DS P.I.D. = 0
-25 25		9	25		-- very stiff, increase in clay content, less visible moisture.			P.I.D. = 0
-30 30		10	48		-- hard.	87	32.9	P.I.D. = 0

GEOTECH.DB 52307.GPJ KA_RDLND.GDT 1/21/05

KLEINFELDER

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

PLATE A-5a

PROJECT NO. 52307

LOG OF BORING B-3

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		11	26		**Bedrock:** **Siltstone/ Claystone:** olive, wet, hard, some bedding structure, some clay. *(continued)* -- very stiff.			P.I.D. = 0
-40 40		12	26					P.I.D. = 0
-45 45		13	29		-- lens of fine grained silty sand 1/4 inch thick at 46.5 feet.			P.I.D. = 0
-50 50		14	27					P.I.D. = 0
-55 55		15	27					P.I.D. = 0
-60 60		16	34					P.I.D. = 0
					Total depth: 61.5 feet. Groundwater encountered at 20 feet. Boring backfilled with soil cuttings and capped with cold patch asphalt. Boring located 14 feet southwest of Express building rear wall on First Street and 24 feet from Main Street fence line. Latitude: N 34.0521 degrees. Longitude: W 118.2429 degrees.			

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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New Police Headquarters Facility
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PLATE A-5b

PROJECT NO. 52307

LOG OF BORING B-3

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

10108232006259008

Date Drilled:	12/16/04	Water Depth:	19 feet
Drilled By:	CalPac Drilling	Date Measured:	12/16/04
Drilling Method:	Hollow Stem Auger	Elevation:	286 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Asphaltic Concrete:** approximately 5 inches thick, aggregate base approximately 6 inches thick.			P.I.D. = 0
		2	23		**Artificial Fill (Af):** **Silty Sand (SM):** dark grey, moist, fine to coarse grained, trace red brick.	89	10.5	P.I.D. = 0
-5	5	3	7		-- increase in construction debris.			P.I.D. = 0
		4	26, 50/4"					P.I.D. = 0
-10	10	5	50/6"		**Native:** **Silty Sand with Gravel (SM):** brown, slightly moist, very dense, fine to coarse grained sand, gravel greater than 2 inch diameter.			GS, CN P.I.D. = 0
					Silty Clay (CL): light brown, moist, stiff, trace iron oxide veins, trace fine grained sand.			
-15	15	6	19					AL P.I.D. = 0
					Bedrock: **Siltstone:** olive, moist, very stiff, bedding planes, trace fine grained sand, disturbed.			
-20	20	7	19					AL P.I.D. = 0
-25	25	8	50/6"		-- hard.	90	31.5	P.I.D. = 0
-30	30	9	25		-- very stiff.			P.I.D. = 0

GEOTECH DB 52307.GPJ KA_RDLND.GDT 1/21/05

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
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Los Angeles, California

LOG OF BORING B-4

PLATE A-6a

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

10108282005259UU

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		10	39, 50/4.5"		**Bedrock:** **Siltstone:** olive, moist, very stiff, bedding planes, trace fine grained sand, disturbed. *(continued)* – hard.	92	31.0	P.I.D. = 0
-40 40		11	26		-- very stiff, fine lenses of fine sand.			P.I.D. = 0
-45 45		12	25					
-50 50		13	29					
-55 55		14	27					
-60 60		15	29					
					Total depth: 61.5 feet. Perched groundwater encountered at 19 feet. Boring backfilled with soil cuttings and capped with cold patch asphalt. Boring located 27 feet from Spring Street east gutter and 8.5 feet from building wall. Latitude: N 34.0524 degrees. Longitude: W 118.2440 degrees.			

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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LOG OF BORING B-4

PLATE

A-6b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/16/04	Water Depth:	19.0 feet
Drilled By:	CalPac Drilling	Date Measured:	12/16/04
Drilling Method:	Hollow Stem Auger	Elevation:	285 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Asphaltic Concrete (AC):** approximately 6 inches thick.			
					Artificial Fill (Af):			RV P.I.D. = 0
		2	12		**Silty Sand (SM):** brown, slightly moist, fine to coarse grained sand, asphalt and brick fragments.	89	9.7	P.I.D. = 0
-5	5				-- increase asphalt and brick fragments.			
		3	31			109	10.2	P.I.D. = 0.1
					Native:			
		4	50/6"		**Silty Sandy Gravel (GM):** brown, slightly moist ,very dense, fine to coarse grained sand and gravel, sample not recovered.			
-10	10	5	50/5"			126	3.6	P.I.D. = 0
					-- difficult drilling.			
-15	15	6	47		**Sand (SP):** brown, very moist, dense, fine to coarse grained sand, trace gravel, trace fines.			P.I.D. = 0
▼								
-20	20	7	22		**Silty Clay (CL):** brown, wet, stiff.			
					Bedrock:	80	40.7	DS P.I.D. = 0
					Siltstone/Claystone: olive, moist, hard, bedding planes. -- trace fine grained sand.			
-25	25	8	30					P.I.D. = 0
-30	30	9	50		-- hard.	87	36.3	DS, CN P.I.D. = 0

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KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
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Los Angeles, California

LOG OF BORING B-5

PLATE A-7a

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		10	29		**Bedrock:** **Siltstone/Claystone:** olive, moist, hard, bedding planes. *(continued)* -- very stiff.			P.I.D. = 0
-40 40		11	50/5"		-- hard.	84	31.4	CN P.I.D. = 0
-45 45		12	24		-- very stiff.			P.I.D. = 0
-50 50		13	50/6"		-- hard.	83	39.1	DS P.I.D. = 0
-55 55		14	35					P.I.D. = 0
-60 60		15	50/5"			90	34.6	P.I.D. = 0
-65 65		16	29		-- very stiff.			P.I.D. = 0
-70 70		17	25					P.I.D. = 0

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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New Police Headquarters Facility
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Los Angeles, California

PLATE
A-7b

LOG OF BORING B-5

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		18	28		**Bedrock:** **Siltstone/Claystone:** olive, moist, hard, bedding planes. *(continued)*			P.I.D. = 0
-80 80		19	25					P.I.D. = 0
					Total depth: 81.5 feet. Groundwater encountered at 19 feet. Boring backfilled with soil cuttings, hydrated bentonite chips, and capped with cold patch asphalt. Boring located 29 feet northwest of Caltrans building southeast wall and 30 feet northeast of building ramp. Latitude: N 34.0521 degrees. Longitude: W 118.2433 degrees.			

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KLEINFELDER

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New Police Headquarters Facility
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Los Angeles, California

LOG OF BORING B-5

PLATE

A-7c

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

10108282005125000

Date Drilled:	12/17/04	Water Depth:	18.0 feet
Drilled By:	CalPac Drilling	Date Measured:	12/17/04
Drilling Method:	Hollow Stem Auger	Elevation:	285 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet)	Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
			1			**Artificial Fill (Af):**			
			2	4		**Silty Sand (SM):** brown, very moist, fine to medium grained, with clay, brick fragments.			
						-- moist.	91	21.0	P.I.D. = 0 P.I.D. = 0
-5	5		3	2					GS P.I.D. = 0
			4	52		**Native:**			
						Silty Sandy Gravel (GM): brown, slightly moist, dense, fine to coarse grained.	121	6.9	DS P.I.D. = 0
-10	10		5	36, 50/5"			134	5.0	P.I.D. = 0
-15	15		6	50/3"			118	11.7	P.I.D. = 0
						Sandy Clay (CL): brown, slightly moist, stiff, fine grained sand.			
-20	20		7	18		**Bedrock:**			
						Siltstone/ Claystone: olive, moist, very stiff, with clay, trace fine grained sand, bedding planes			P.I.D. = 0
-25	25		8	30			93	30.8	CN P.I.D. = 0
-30	30		9	37		-- hard.			P.I.D. = 0

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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New Police Headquarters Facility
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PLATE A-8a

PROJECT NO. 52307

LOG OF BORING B-6

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		10	60		**Bedrock:** **Siltstone/ Claystone:** olive, moist, very stiff, with clay, trace fine grained sand, bedding planes *(continued)* -- hard.	92	30.1	DS P.I.D. = 0
-40 40		11	22		-- very stiff.			P.I.D. = 0
-45 45		12	27					P.I.D. = 0
-50 50		13	27					P.I.D. = 0
-55 55		14	26					P.I.D. = 0
-60 60		15	28					P.I.D. = 0
					Total depth: 61.5 feet. Groundwater encountered at 18 feet. Boring backfilled with soil cuttings. Boring located 26 feet east of Spring Street east gutter and 29 feet west of building. Latitude: N 34.0520 degrees. Longitude: W 118.2443 degrees.			

GEOTECH DB 52307.GPJ KA_RDLND.GDT 1/21/05

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LOG OF BORING B-6

PLATE A-8b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/20/04	Water Depth:	> 29.5 feet
Drilled By:	Pacific Drilling	Date Measured:	12/20/04
Drilling Method:	Hollow Stem Auger	Elevation:	272 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet)	Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
			1			**Concrete:** approximately 7 inches thick.			
						Artificial Fill (Af): **Clayey Sand (SC):** brown, moist, fine to coarse grained sand, with fine gravel, some coarse gravel.			
			2	45		**Native:** **Sand (SP):** brown, moist, medium dense, fine to coarse grained, with fine and coarse gravel, with cobble.			P.I.D. = 0
-5	5								
			3	19		**Bedrock:** **Siltstone/Claystone:** olive grey, moist, stiff, with iron oxide staining.	88	34.1	CN P.I.D. = 0
-10	10					-- increase moisture.			
						-- grey, weathered, very stiff			
			4	46			91	30.7	DS P.I.D. = 0
-15	15								
			5	67		-- hard, sample not recovered.			
-20	20		6	48		-- very stiff.			P.I.D. = 0
			7	43			91	30.6	P.I.D. = 0
-25	25								
			8	70					

Total depth: 29.5 feet.
Groundwater not encountered.
Boring backfilled with soil cutting and capped with Quikset concrete.

Boring located 70 feet east of west wall, 86 feet west of east wall, and

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Los Angeles, California

LOG OF BORING B-7

PLATE A-9a

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					72 feet south of north wall in the below ground parking structure.			
					Latitude and Longitude not obtained due to location in parking garage.			

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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LOG OF BORING B-7

PLATE

A-9b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

101082A200635900

Date Drilled:	12/17/04	Water Depth:	> 12 feet
Drilled By:	CalPac Drilling	Date Measured:	12/17/04
Drilling Method:	Hollow Stem Auger	Elevation:	281 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Concrete:** approximately 5 inches thick.			
					Artificial Fill (Af):			P.I.D. = 0
		2	50/0"		**Well Graded Sand with Silt and Gravel (SW-SM):** brown, moist, fine to coarse grained, some construction debris.			
		3						
-5 5		4	25		-- dark brown.	119	5.8	P.I.D. = 0
		5	30		**Native:** **Well Graded Sand with Silt and Gravel (SW-SM)** brown, moist, medium dense to very dense, 2 inch diameter gravel.			GS P.I.D. = 0
-10 10		6	30, 50/4"			126	4.4	P.I.D. = 0

Boring terminated due to refusal.
Total depth: 12 feet.
Groundwater not encountered.
Boring backfilled with soil cuttings and capped with Quikset concrete.

Boring located 23 feet west of Main Street west gutter and 12 feet from concrete curb.

Latitude: N 34.0517 degrees.
Longitude: W 118.2427 degrees.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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LOG OF BORING B-8

PLATE A-10

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/17/04	Water Depth:	> 2 feet
Drilled By:	CalPac Drilling	Date Measured:	12/17/04
Drilling Method:	Hollow Stem Auger	Elevation:	281 feet
Logged By:	D. DeWolf	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
				Concrete: approximately 5.5 inches thick.			
				Native:			
				Silty Sandy Gravel (GM): brown, moist, fine to coarse grained sand, cobble up to 6 inch diameter.			
				Boring terminated due to refusal. Total depth: 2 feet. Groundwater not encountered. Boring backfilled with soil cuttings Quikset concrete. Boring located 25 feet form west gutter edge on West side of Main Street and 7 feet north of wall. Latitude: N 34.0517 degrees. Longitude: W 118.2427 degrees.			

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Los Angeles, California

PLATE A-11

PROJECT NO. 52307

LOG OF BORING B-8A

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

10108282006215900

Date Drilled:	1/5/05	Water Depth:	8.0 feet
Drilled By:	Pacific Drilling	Date Measured:	1/5/05
Drilling Method:	Hollow Stem Auger	Elevation:	272 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					Concrete: approximately 6 inches thick.			
		1			**Native:** **Silty Sand (SM):** brown, slightly moist, with fine and coarse gravel, some cobbles.			
-5 5								
		2	40			91	31.4	P.I.D. = 0
-10 10					**Bedrock:** **Siltstone/Claystone:** olive brown, moist, very stiff, some clay, moderately weathered.			
		3	60/6"		-- hard.			P.I.D. = 0
-15 15								
		4	50/3"		-- increase clay.			P.I.D. = 0
		5	37					P.I.D. = 0
-20 20		6	44					P.I.D. = 0
		7	53			98	25.4	P.I.D. = 0
-25 25								
		8	50/3"					P.I.D. = 0

Total depth: 28.3feet.
Groundwater encountered at 8 feet.
Boring backfilled with soil cuttings and capped with Quikset concrete.

Boring located 9.5 feet east of west interior wall, 73 feet north of south wall, and 148 feet west of east wall.

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PLATE A-12a

PROJECT NO. 52307

LOG OF BORING B-9

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA_RDLND.GDT 1/21/05

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					Latitude and Longitude not obtained due to location in parking garage.			

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LOG OF BORING B-9

PLATE A-12b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

T0108282006 35900

Date Drilled:	12/13/04	Water Depth:	> 61.5
Drilled By:	CalPac Drilling	Date Measured:	12/13/04
Drilling Method:	Hollow Stem Auger	Elevation:	280 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Asphaltic Concrete:**			
					Artificial Fill (Af): **Silty Sand (SM):** brown, moist, fine to coarse grained, with fine and coarse gravel, with construction debris.			
-5 5		2	50		**Native:** **Sand (SP):** brown, slightly moist, fine to coarse grained sand, with fine and coarse grained gravel. -- dense.			P.I.D. = 0
		3	50/2"		-- very dense.			P.I.D. = 0
-10 10		4	73		**Silty Sand with Gravel (SM):** brown, slightly moist, very dense, fine to coarse grained sand, with fine and coarse gravel.			GS P.I.D. = 0
-15 15		5	50/5"			104	3.4	P.I.D. = 1
-20 20		6	55					P.I.D. = 0
					Silty Clay (CL): olive brown, moist, very stiff, with fine sand.			
-25 25		7	56		-- greenish brown.	98	28.3	CN P.I.D. = 0
					Bedrock: **Siltstone/Claystone:** olive grey, moist, hard, highly weathered.			
-30 30		8	34					P.I.D. = 0

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Los Angeles, California

PLATE A-13a

PROJECT NO. 52307

LOG OF BORING B-11

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION *(Continued From Previous Page)*	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		9	52		**Bedrock:** **Siltstone/Claystone:** olive grey, moist, hard, highly weathered. *(continued)*	97	26.8	DS P.I.D. = 2
-40 40		10	36					P.I.D. = 0
-45 45		11	73					P.I.D. = 0
-50 50		12	27		-- very stiff.			P.I.D. = 0
-55 55		13	28, 50/3"		-- hard.	99	24.9	P.I.D. = 0
-60 60		14	39					P.I.D. = 0

Total depth: 61.5 feet.
Groundwater not encountered.
Boring backfilled with cement slurry and capped with Quikset concrete.

Boring located 3 feet east of Main Street west curb and 192 feet north of Second Street north curb.

Latitude: N 34.0527 degrees.
Longitude: W 118.2434 degrees.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

KLEINFELDER

PROJECT NO. 52307

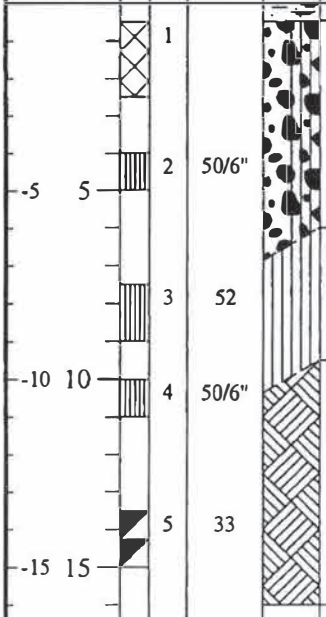
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

LOG OF BORING B-11

PLATE A-13b

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/20/04	Water Depth:	> 16 feet
Drilled By:	Pacific Drilling	Date Measured:	12/20/04
Drilling Method:	Hollow Stem Auger	Elevation:	270 feet
Logged By:	J. Waller	Datum:	MSL



Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
		1			**Concrete:**			
					Sand (SP): brown, moist, fine to coarse grained, with fine and coarse gravel			
					Well Graded Gravel with Silt and Sand (GW-GM): brown, moist, fine to coarse grained, with fine and coarse gravel.			
-5	5	2	50/6"					GS P.I.D. = 0
					Clayey Silt (ML): grey, moist, hard.			
		3	52			94	29.7	CN P.I.D. = 0
-10	10	4	50/6"		**Bedrock:** **Siltstone/Claystone:** grey, moist, hard.	94	28.6	DS P.I.D. = 0
		5	33					P.I.D. = 0
-15	15							

Boring terminated due to refusal.
Total depth: 16 feet.
Groundwater not encountered.
Boring backfilled with soil cuttings and capped with Quikset concrete.

Boring located 24 feet east of west wall, 15 feet north of south wall, and 54 south of north wall.

Latitude and Longitude not obtained due to location in parking garage.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

KLEINFELDER

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

PLATE A-14

PROJECT NO. 52307

LOG OF BORING B-12

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

Date Drilled:	12/13/04	Water Depth:	> 16 feet
Drilled By:	CalPac Drilling	Date Measured:	12/13/04
Drilling Method:	Hollow Stem Auger	Elevation:	280 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet) Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
					Asphaltic Concrete (AC): approximately 2.5 inches thick.			
		1			**Concrete:** approximately 10 inches thick.			
					Artificial Fill (Af):			
					Silty Sand (SM): brown, moist, fine to coarse grained, with fine gravel, with construction debris.			
					-- with coarse gravel.			
-5 5		2	34		**Native:**			
					Silty Sand (SM): brown, moist, medium dense, fine to coarse grained sand, with fine and coarse gravel.	113	1.8	P.I.D. = 0
		3	50/4"		-- very dense, decrease in silt content.	110	1.8	P.I.D. = 0
-10 10		4	50/5"		-- coarse gravel and sand.	117	2.2	P.I.D. = 0
-15 15		5	50/4"					P.I.D. = 0

Boring terminated due to refusal.
Total depth: 16 feet.
Groundwater not encountered.
Boring backfilled with bentonite and cement mix and capped with Quikset concrete.

Boring located 4 feet east of Main Street west curb, 15 feet south of north driveway edge and 9 feet north of south driveway edge.

Latitude: N 34.0513 degrees.
Longitude: W 118.2433 degrees.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

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New Police Headquarters Facility
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Los Angeles, California

LOG OF BORING B-13

PLATE A-15

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

10108282005250000

Date Drilled:	12/21/04	Water Depth:	> 25 feet
Drilled By:	Pacific Drilling	Date Measured:	12/21/04
Drilling Method:	Hollow Stem Auger	Elevation:	272 feet
Logged By:	J. Waller	Datum:	MSL

Elevation (feet)	Depth	Sample Type	Sample Number	Blows per Foot	Graphic Log	SOIL DESCRIPTION AND CLASSIFICATION	Dry Density (pcf)	Moisture Content (%)	Additional Tests
			1			**Concrete:**			
						Artificial Fill (Af): **Sand (SP):** brown, moist, fine to coarse grained, with fine gravel, some coarse gravel, construction debris observed in soil.			
						Native:			
-5	5		2	45		**Sand (SP):** reddish brown, moist, very dense, fine to coarse grained sand, trace fine gravel.	107	7.5	DS P.I.D. = 0
						Clayey Silt (ML): light brown and grey, moist, very stiff.			
			3	35			94	30.3	CN P.I.D. = 0
-10	10								
						Silty Clay (CL): light olive brown, moist, very stiff.			
			4	25					AL P.I.D. = 0
-15	15					**Bedrock:** **Siltstone/Claystone:** grey, moist, hard.			
			5	49			95	26.9	DS P.I.D. = 0
-20	20		6	43		-- very stiff.	114	27.5	P.I.D. = 0
-25	25		7	56		-- hard.			P.I.D. = 0

Boring terminated due to refusal.
Total depth: 25 feet.
Groundwater not encountered.
Boring backfilled with soil cuttings and capped with Quikset concrete.

Boring located 18 feet north of south wall, 38 feet east of west dividing wall, and 36 feet west of east wall.

Latitude and Longitude not obtained due to location in parking garage.

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PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd, and Spring Streets
Los Angeles, California

LOG OF BORING B-13A

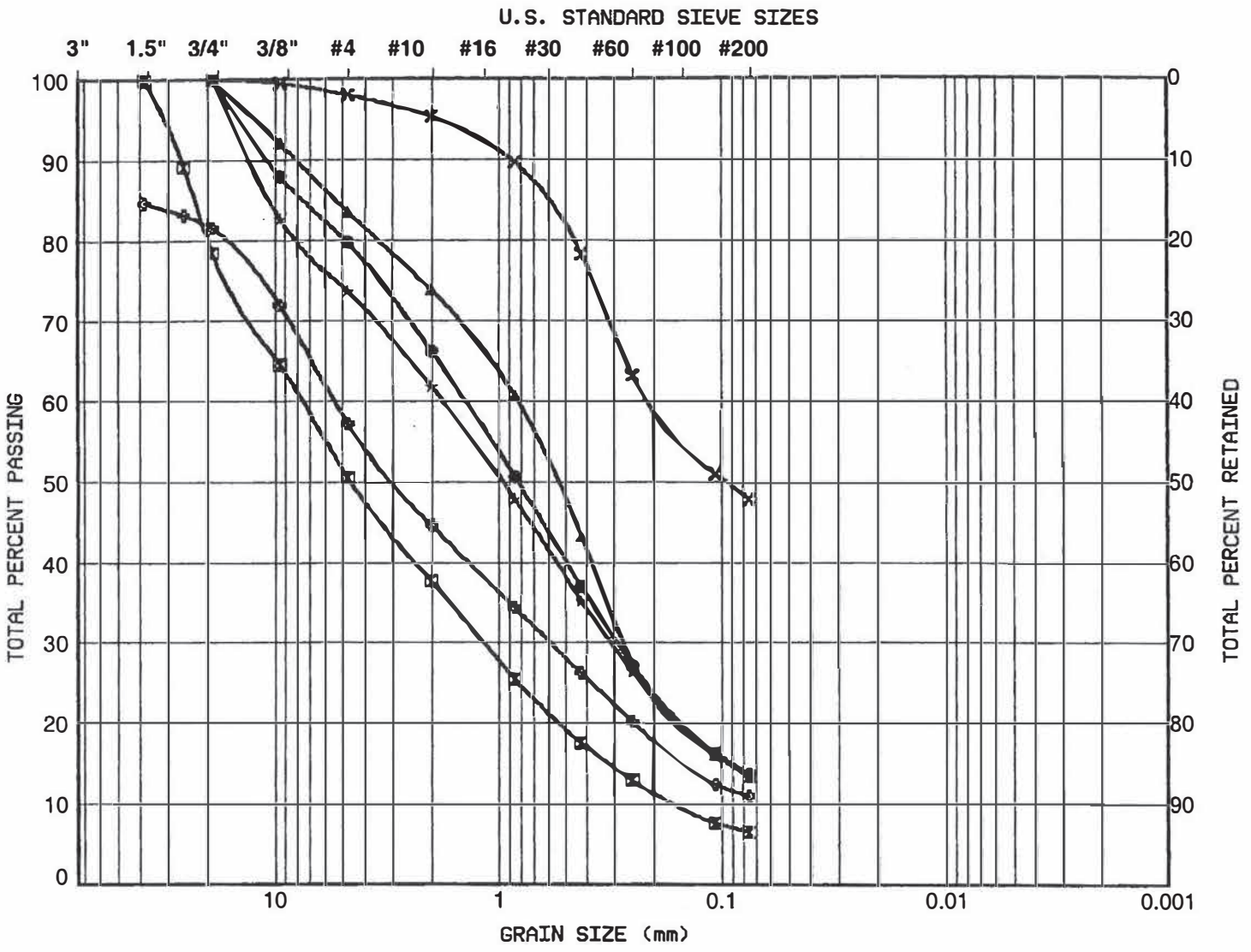
PLATE A-16

Drafted By: Reviewed By:

Note: The boundaries between soil types shown on the logs are approximate as the transition between different soil layers may be gradual.

GEOTECH DB 52307.GPJ KA RDLND.GDT 1/21/05

SIEVE ANALYSIS	HYDROMETER



GRAVEL		SAND			SILT	CLAY
coarse	fine	coarse	medium	fine		

Symbol	Sample	Depth (ft)	Description	Classification
●	B-11	10.0	Silty Sand with Gravel	SM
⊠	B-12	4.0	Well Graded Gravel with Sand	GW-GM
▲	B-2	15.0	Silty Sand with Gravel	SM
★	B-4	10.0	Silty Sand with Gravel	SM
×	B-6	5.0	Silty Sand	SM
✿	B-8	7.5	Well Graded Sand with Gravel	SW- SM

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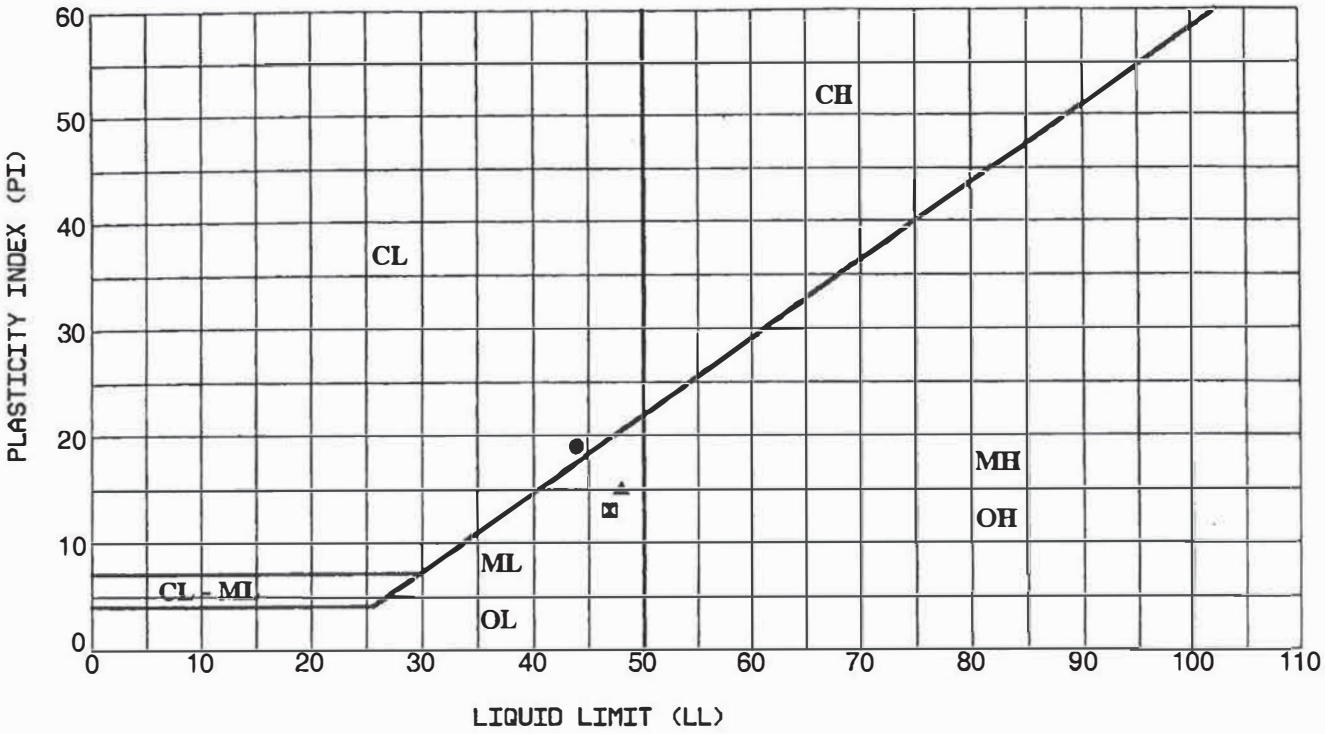
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

GRAIN SIZE DISTRIBUTION

PLATE

B-1

10108282006 35900



	Boring	Depth (ft)	LL (%)	PL (%)	PI (%)	LI (-)	Description
●	B-13A	12.0	44	25	19		Silty Clay (CL)
⊠	B-4	15.0	47	34	13		Siltstone (--)
▲	B-4	20.0	48	33	15		Siltstone (--)

LL - Liquid Limit

PL - Plasticity Limit

PI - Plasticity Index

LI - Liquidity Index

Unified Soil Classification

Fine Grained Soil Groups

	LL < 50
ML	Inorganic clayey silts to very fine sands of slight plasticity
CL	Inorganic clays of low to medium plasticity
OL	Organic silts and organic silty clays of low plasticity

	LL > 50
MH	Inorganic silts and clayey silts of high plasticity
CH	Inorganic clays of high plasticity
OH	Organic clays of medium to high plasticity, organic silts

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New Police Headquarters Facility
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Los Angeles, California

PLASTICITY CHART

PLATE

B-2

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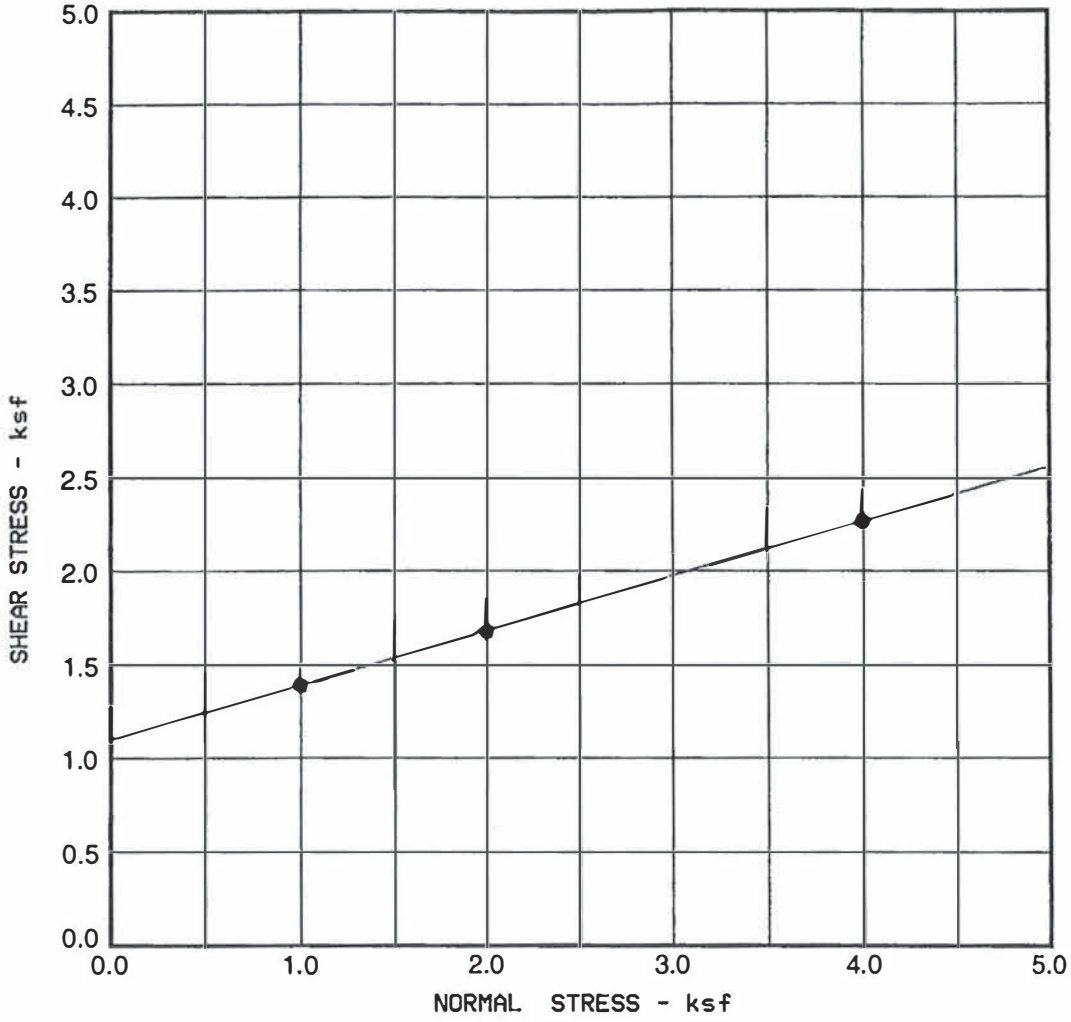

Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1392	1680	2268
Shear Strain - %	-	-	-

Sample	B-3
Depth - ft	20.0
Friction Angle - deg	16
Cohesion - ksf	1.10
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 33.7 %
Moisture Content After Test = 43.9 %
Initial Dry Unit Weight = 83.1 pcf

KLEINFELDER

PROJECT NO. **52307**

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-3

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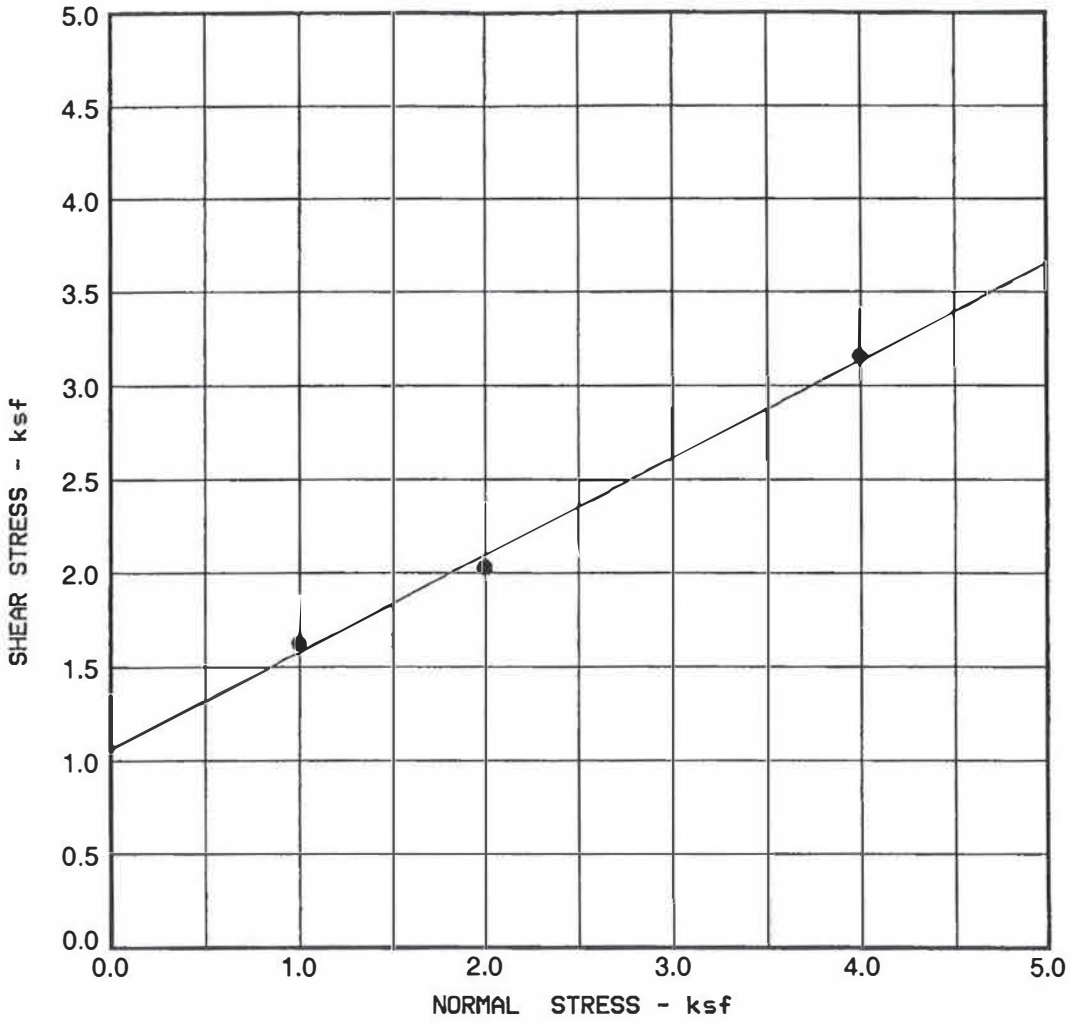


Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1624	2028	3156
Shear Strain - %	-	-	-

Sample	B-5
Depth - ft	20.0
Friction Angle - deg	27
Cohesion - ksf	1.06
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 40.7 %
Moisture Content After Test = 45.6 %
Initial Dry Unit Weight = 80 pcf

KLEINFELDER

PROJECT NO. 52307

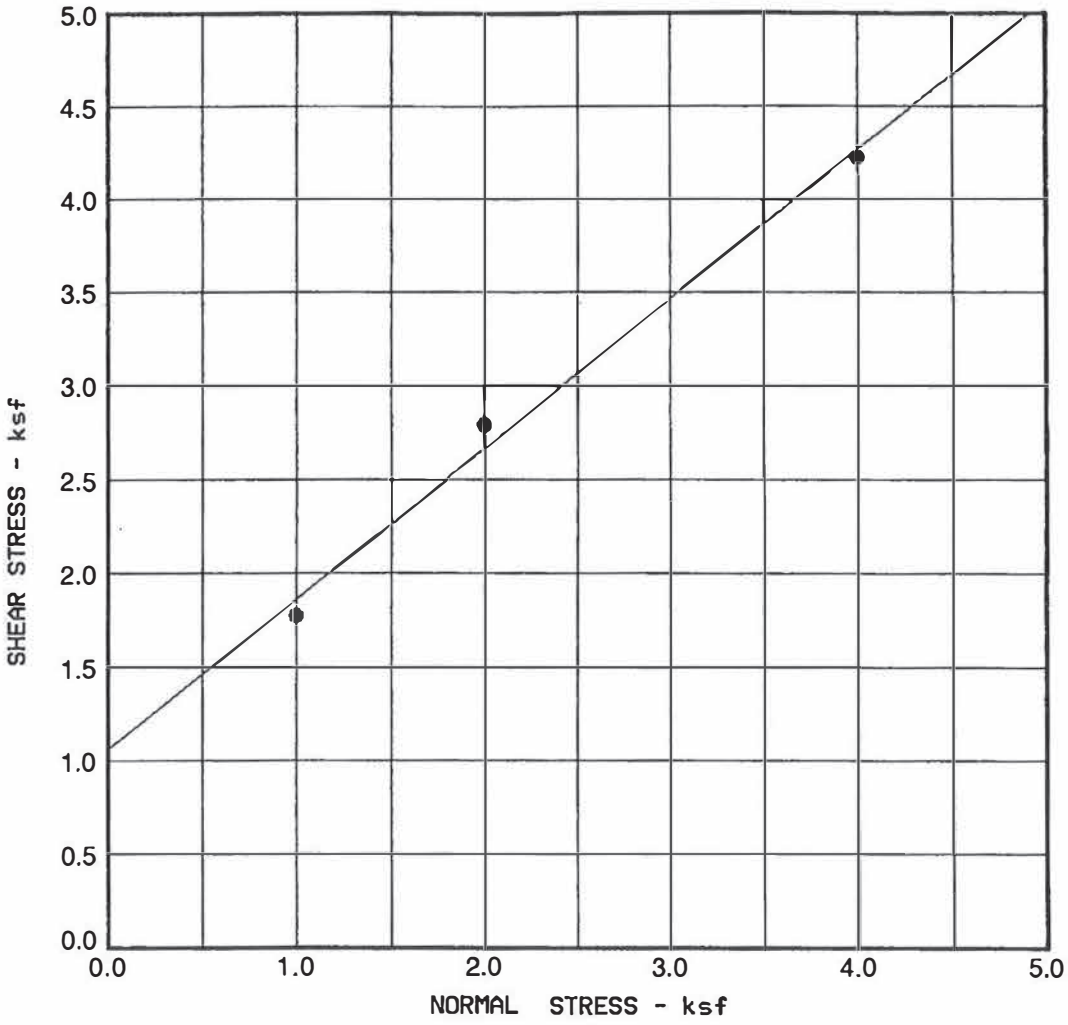
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-4

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1776	2790	4224
Shear Strain - %	-	-	-

Sample	B-5
Depth - ft	30.0
Friction Angle - deg	39
Cohesion - ksf	1.06
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 36.3 %
Moisture Content After Test = 37.0 %
Initial Dry Unit Weight = 87 pcf

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PROJECT NO. 52307

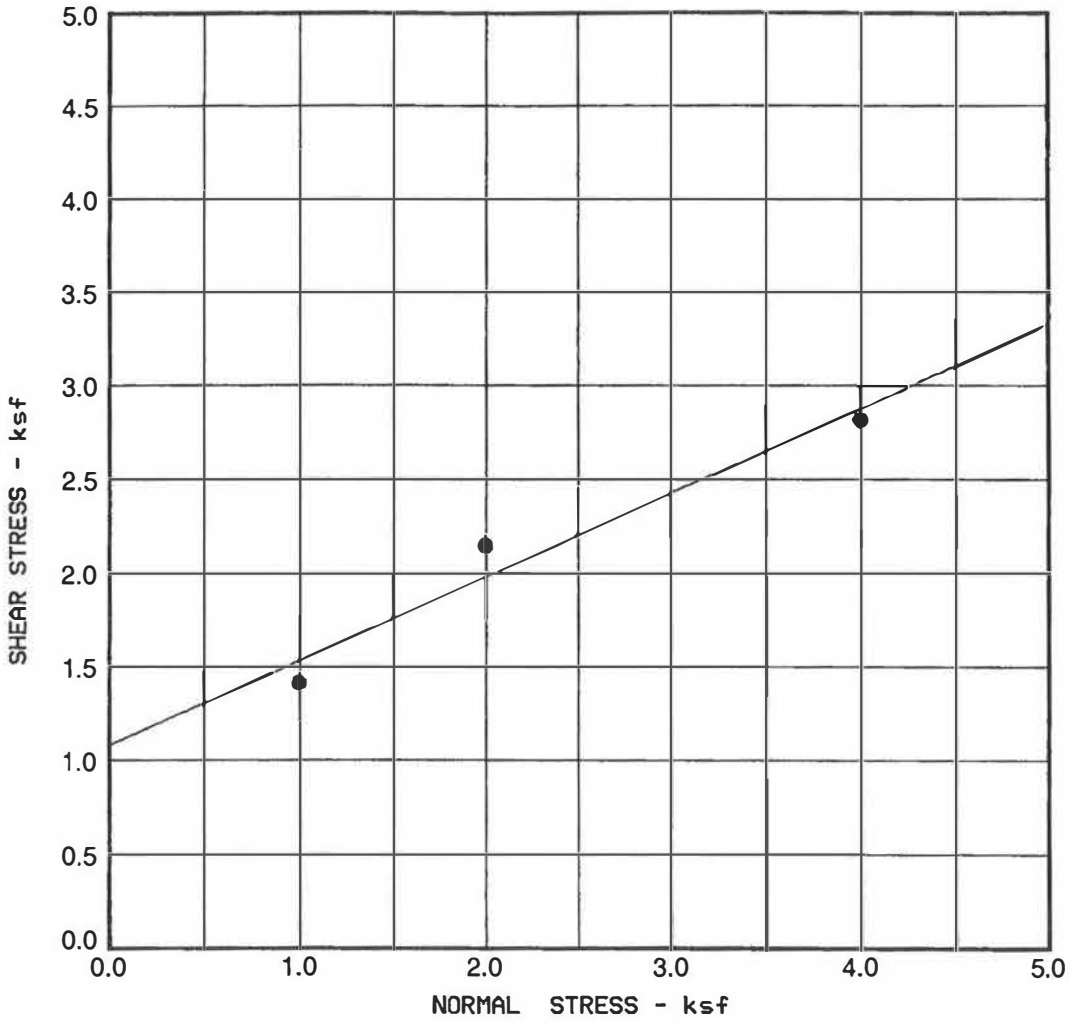
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-5

10108282006E35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1416	2146	2820
Shear Strain - %	-	-	-

Sample	B-5
Depth - ft	50.0
Friction Angle - deg	24
Cohesion - ksf	1.08
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 39.1 %
Moisture Content After Test = 39.4 %
Initial Dry Unit Weight = 83 pcf

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PROJECT NO. 52307

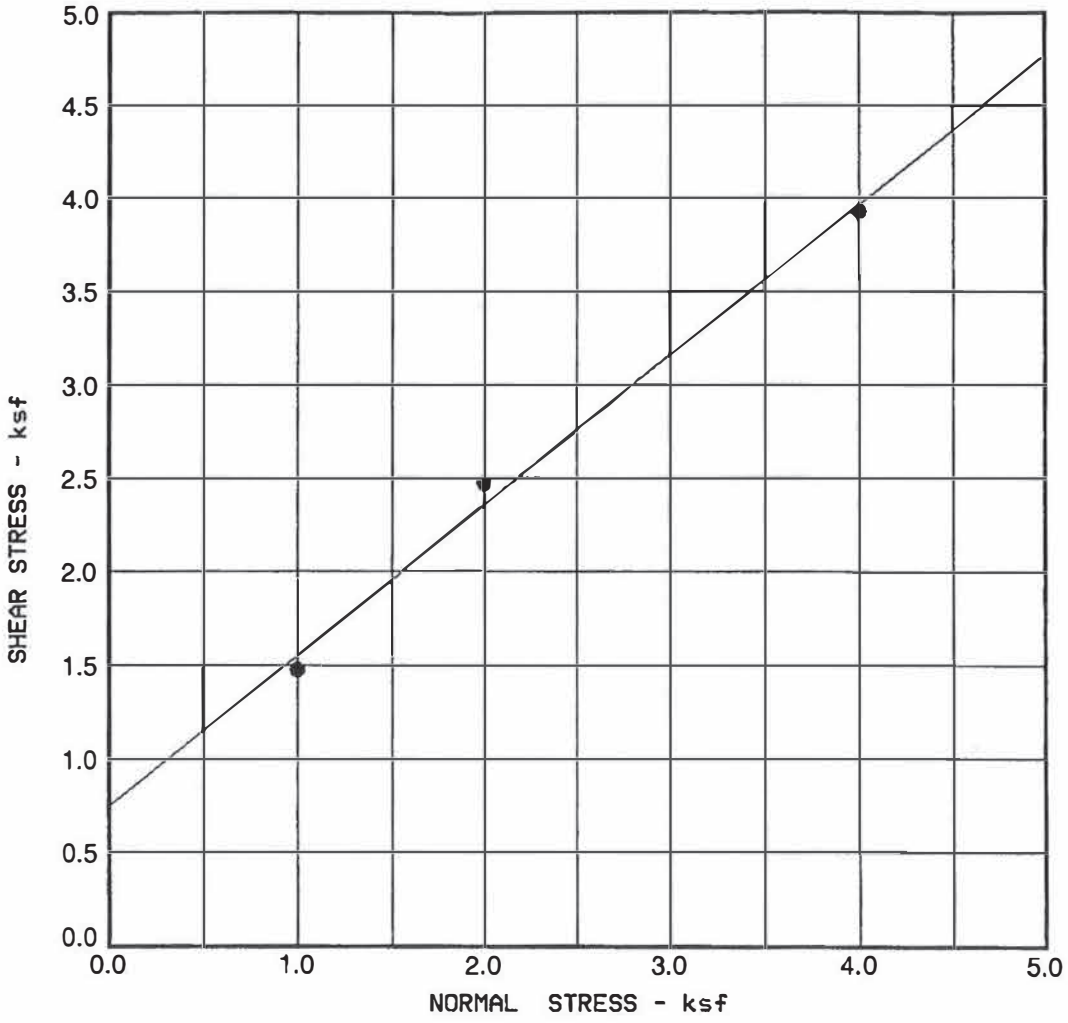
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-6

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1476	2470	3924
Shear Strain - %	-	-	-

Sample	B-6
Depth - ft	7.5
Friction Angle - deg	39
Cohesion - ksf	0.75
Description	Silty Sandy Gravel
Classification	GM

Moisture Content Before Test = 6.9 %
Moisture Content After Test = 14.3 %
Initial Dry Unit Weight = 121 pcf

KLEINFELDER

PROJECT NO. **52307**

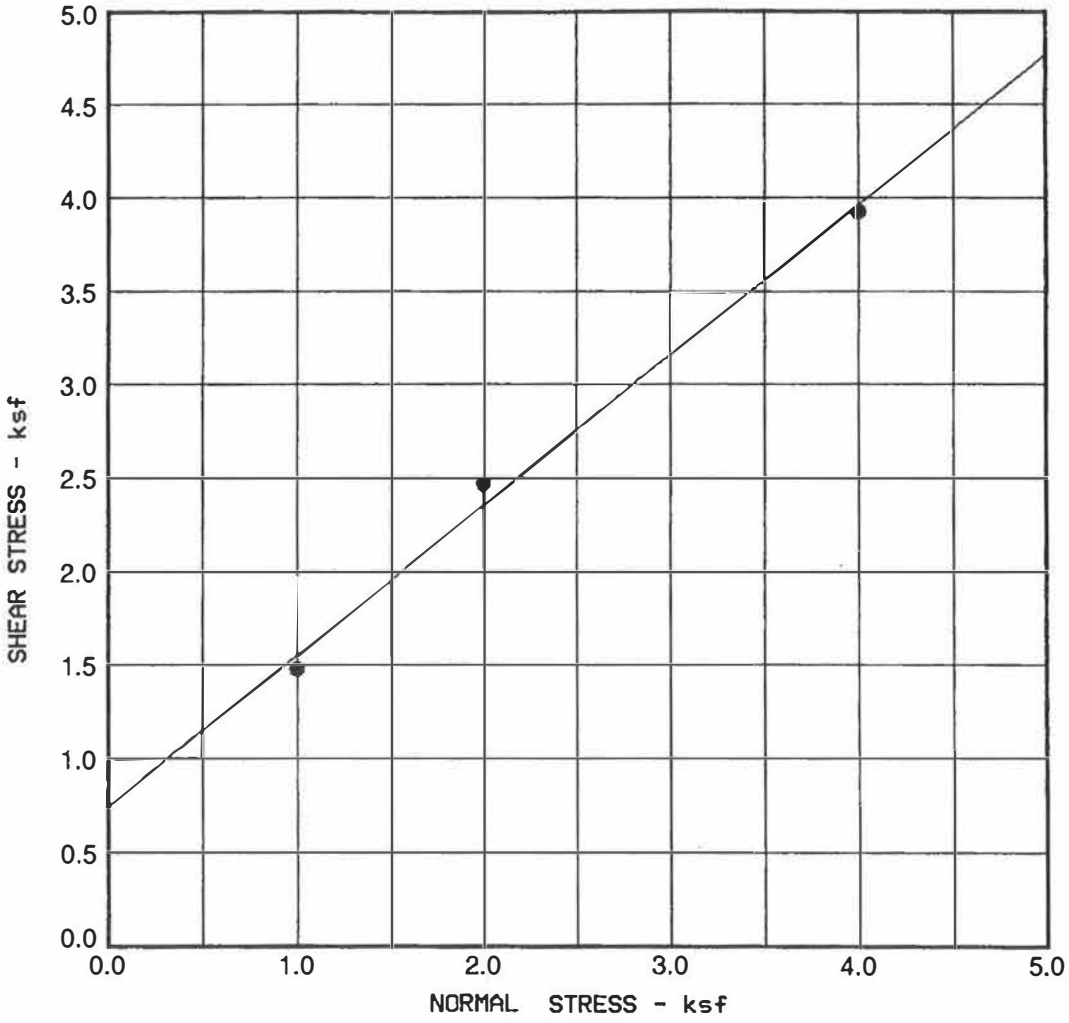
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-7

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	2400	3360	4464
Shear Strain - %	-	-	-

Sample	B-6
Depth - ft	35.0
Friction Angle - deg	39
Cohesion - ksf	0.75
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 30.1 %
Moisture Content After Test = 33.4 %
Initial Dry Unit Weight = 92 pcf

KLEINFELDER

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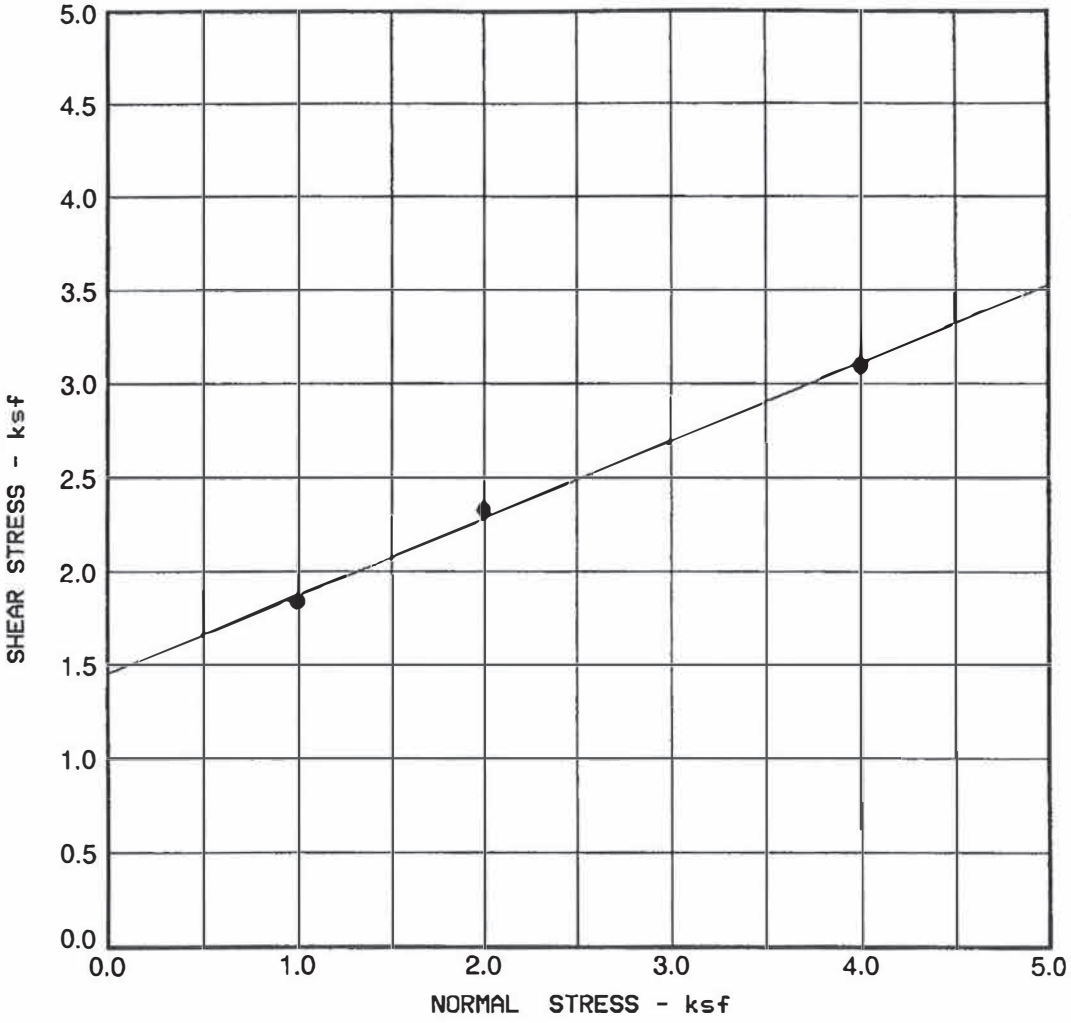
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-8

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1836	2328	3096
Shear Strain - %	-	-	-

Sample	B-7
Depth - ft	12.0
Friction Angle - deg	23
Cohesion - ksf	1.45
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 30.7 %
Moisture Content After Test = 35.5 %
Initial Dry Unit Weight = 91 pcf

KLEINFELDER

PROJECT NO. **52307**

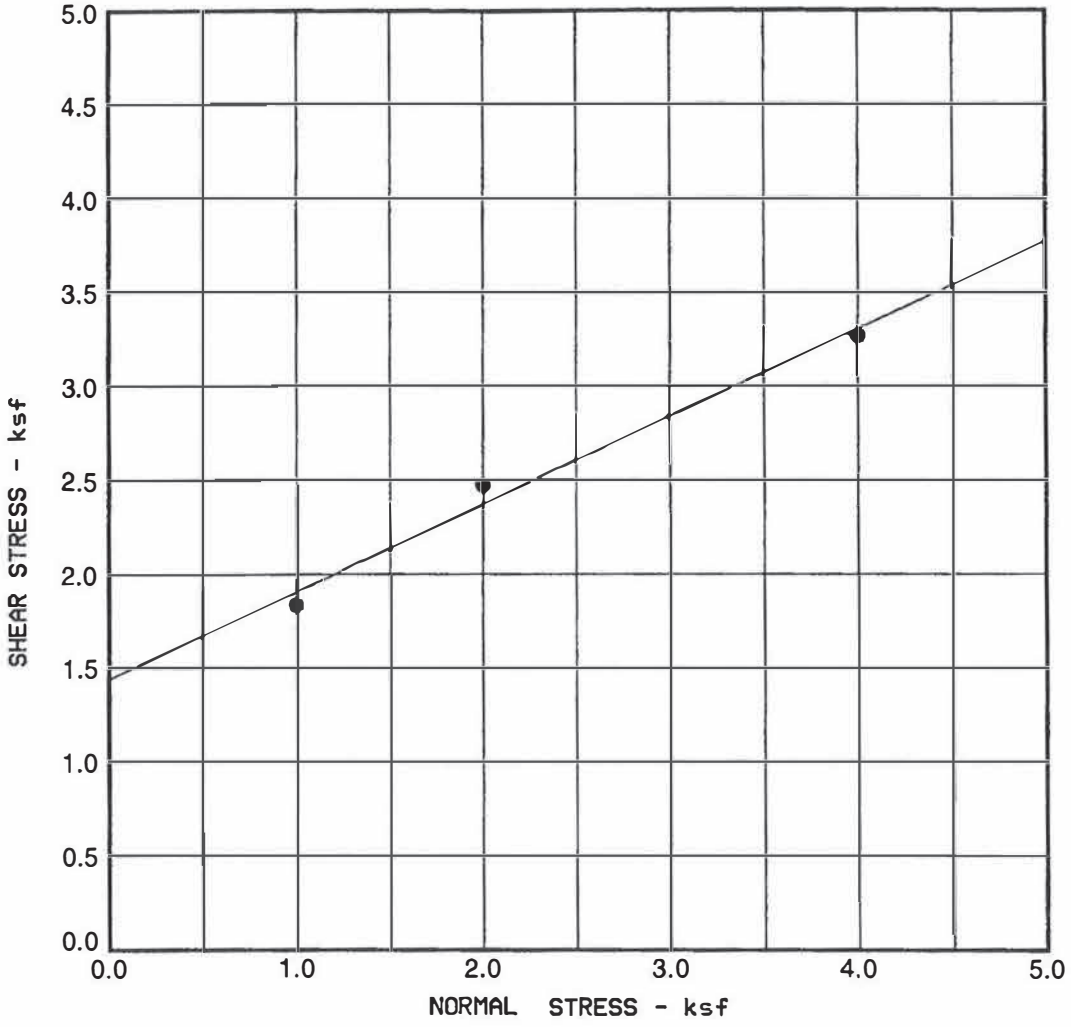
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-9

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1836	2470	3264
Shear Strain - %	-	-	-

Sample	B-11
Depth - ft	35.0
Friction Angle - deg	25
Cohesion - ksf	1.44
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 26.8 %
Moisture Content After Test = 31.7 %
Initial Dry Unit Weight = 97 pcf

KLEINFELDER

PROJECT NO. **52307**

New Police Headquarters Facility
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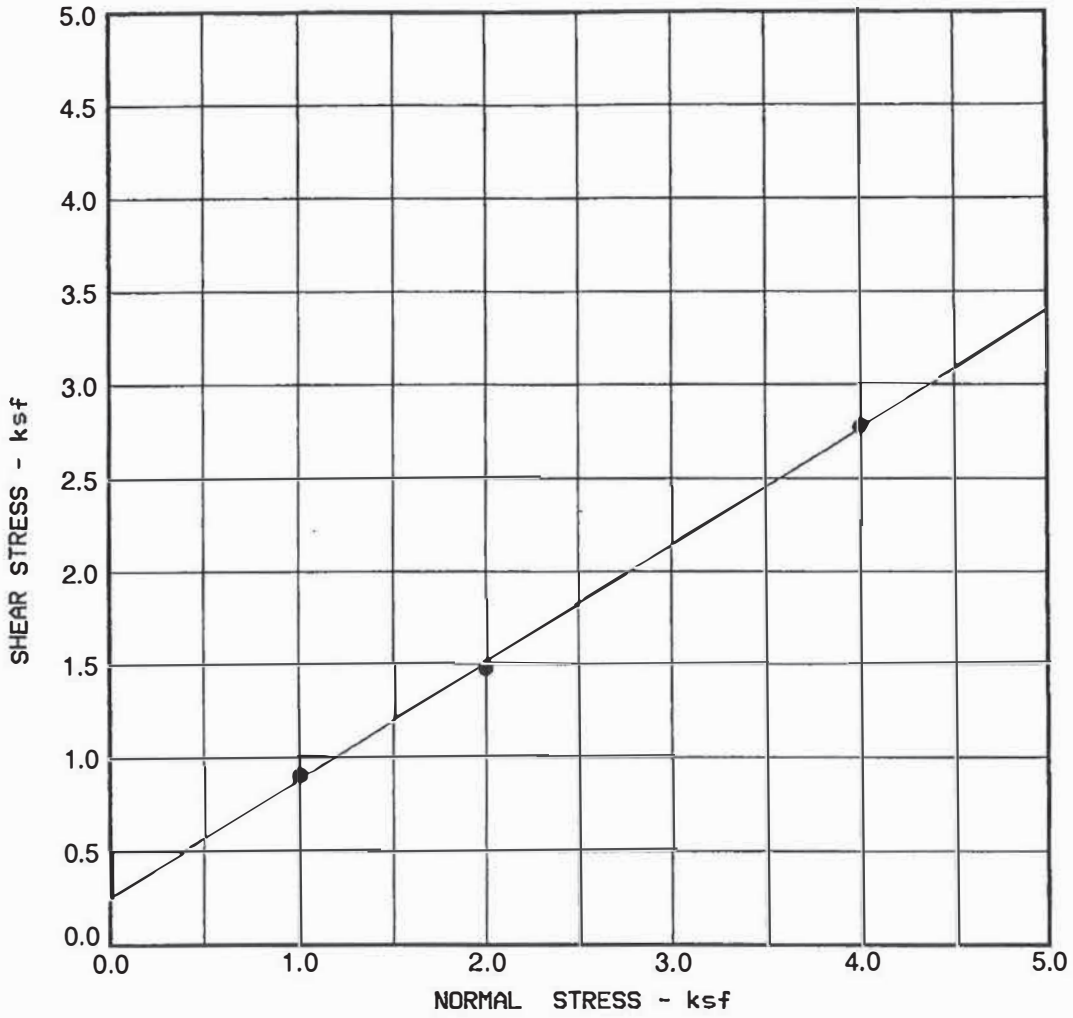
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-10

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1680	3084	4572
Shear Strain - %	-	-	-

Sample	B-12
Depth - ft	10.0
Friction Angle - deg	32
Cohesion - ksf	0.25
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 28.6 %
Moisture Content After Test = 32.3 %
Initial Dry Unit Weight = 94 pcf

KLEINFELDER

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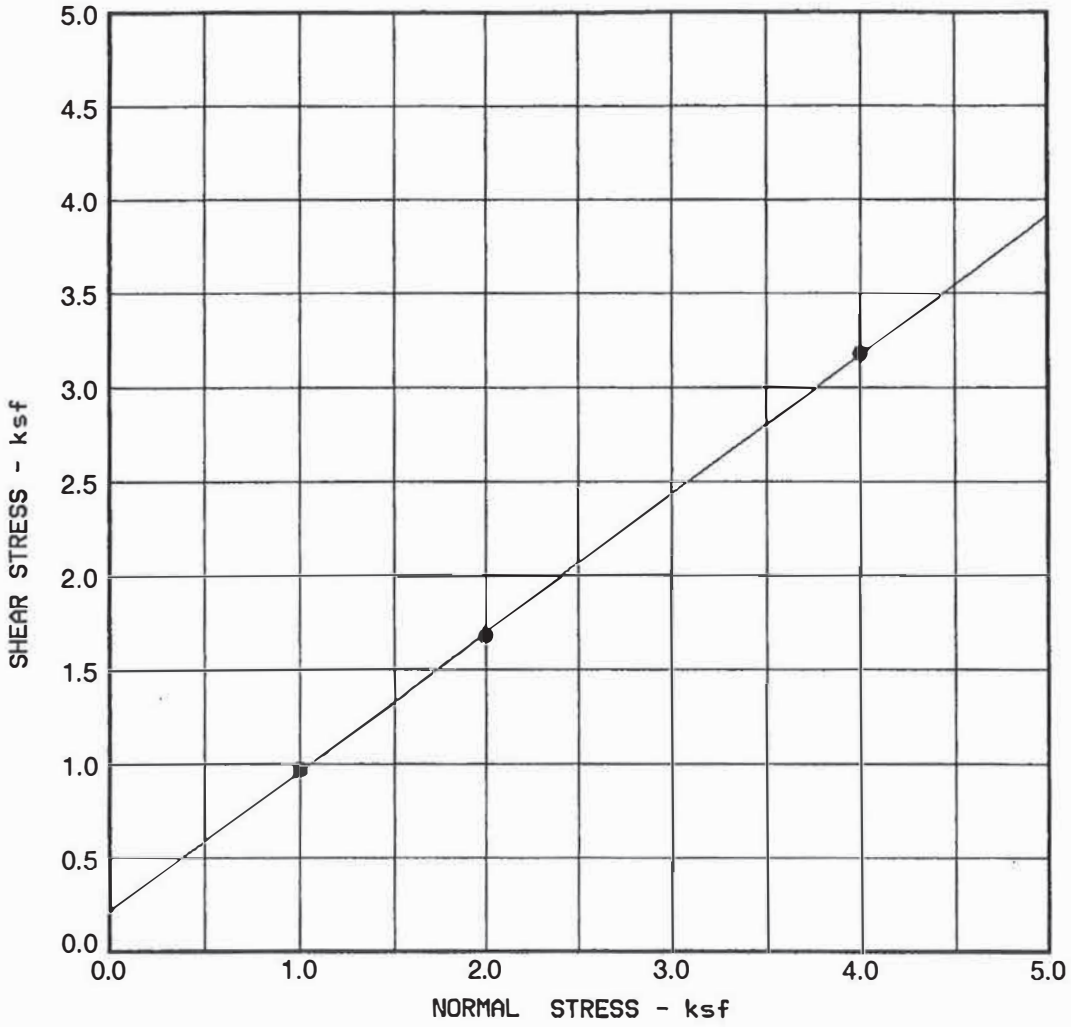
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-11

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	972	1680	3180
Shear Strain - %	-	-	-

Sample	B-13A
Depth - ft	4.0
Friction Angle - deg	36
Cohesion - ksf	0.22
Description	Sand
Classification	SP

Moisture Content Before Test = 7.5 %
Moisture Content After Test = 19.0 %
Initial Dry Unit Weight = 107 pcf

KLEINFELDER

PROJECT NO. **52307**

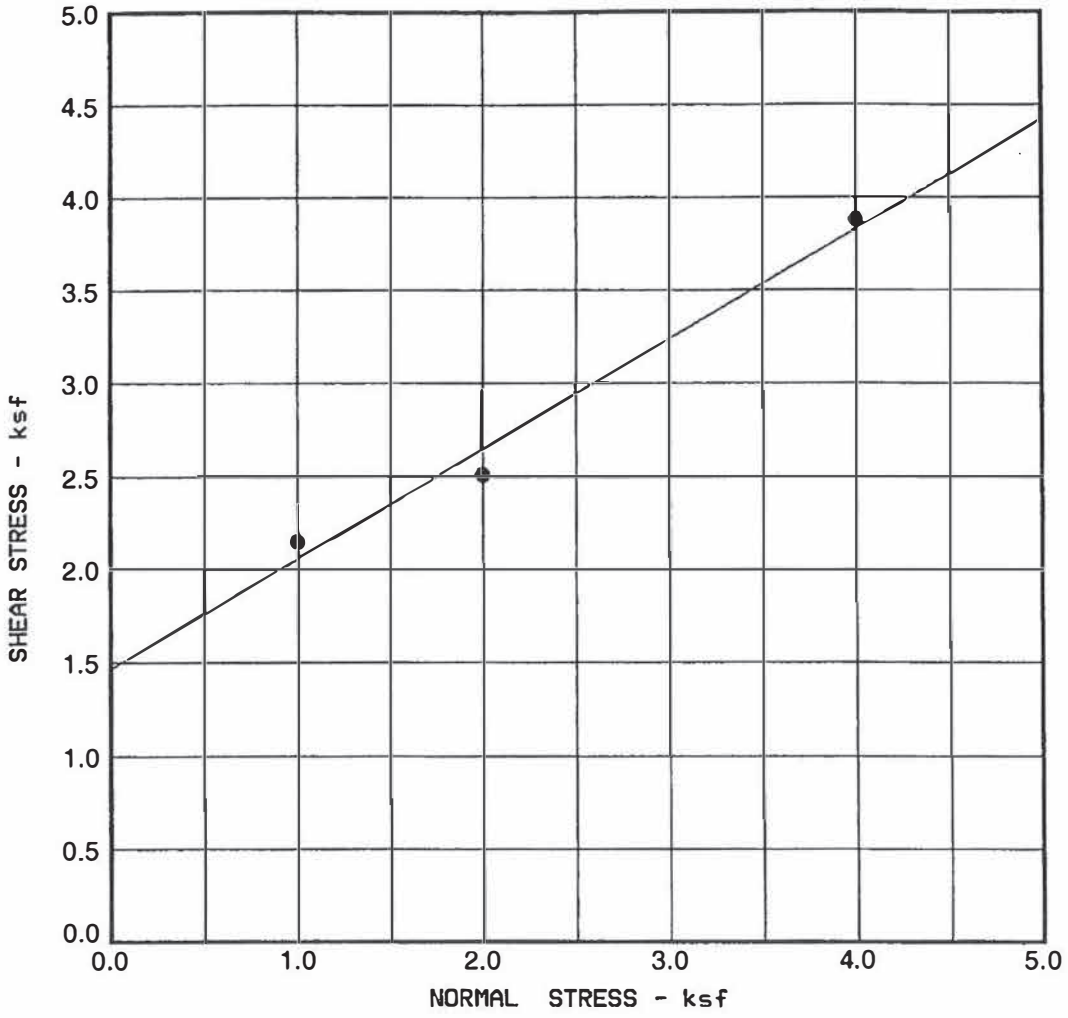
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-12

10108282006 35900



Test type	controlled - strain test		
Rate of shear - in/min	0.05		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	2148	2508	3876
Shear Strain - %	-	-	-

Sample	B-13A
Depth - ft	16.0
Friction Angle - deg	31
Cohesion - ksf	1.46
Description	Siltstone/Claystone
Classification	--

Moisture Content Before Test = 26.9 %
Moisture Content After Test = 31.1 %
Initial Dry Unit Weight = 95 pcf

KLEINFELDER

PROJECT NO. **52307**

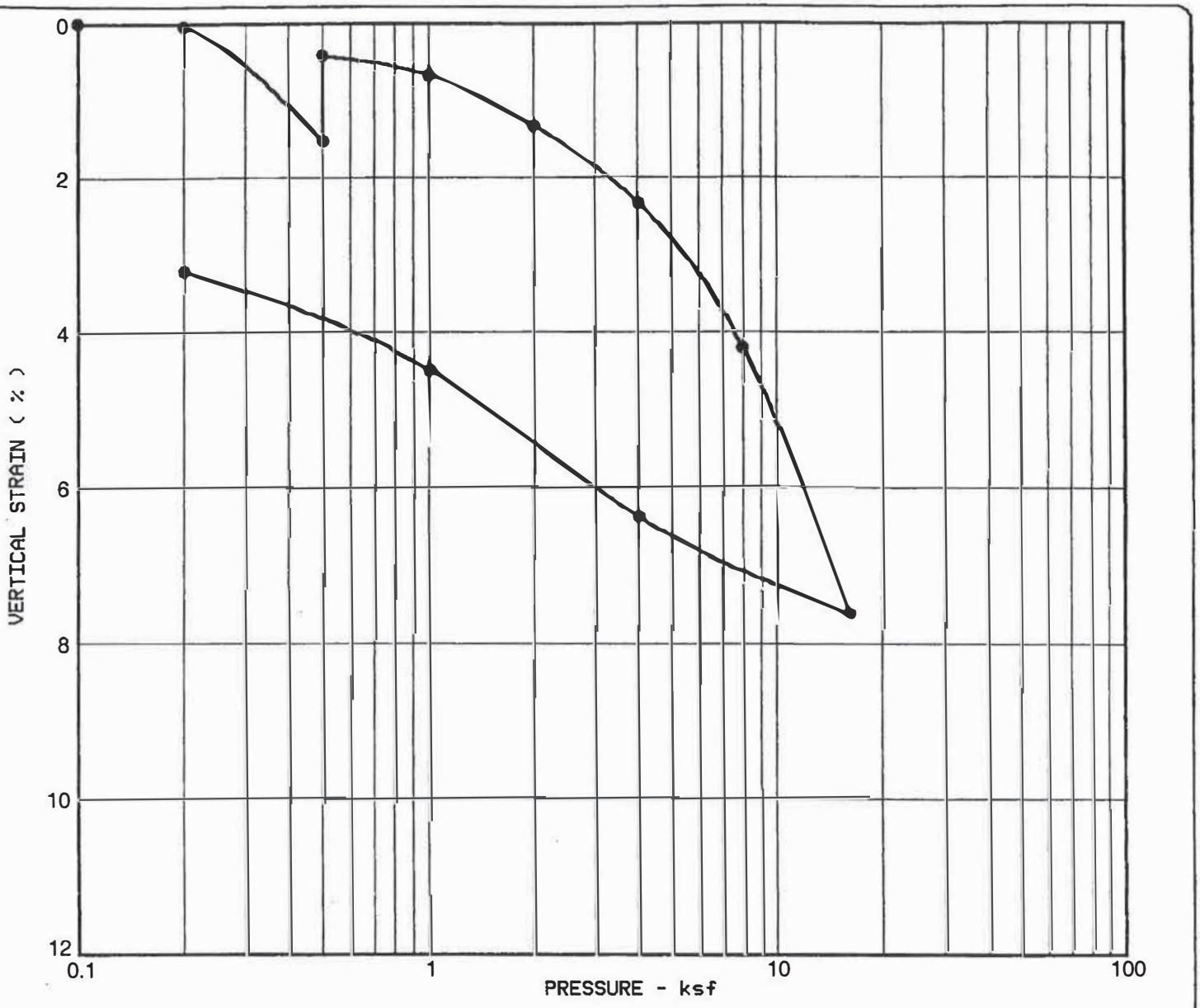
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-13

10108282006 35900



Sample	B-1A
Depth	8.0 ft
Description	Silty Clay
Classification	CL
Compression Ratio	0.111
Recompression Ratio	0.025

Moisture Content Before = 40.9 %
Moisture Content After = 42.2 %
Initial Dry Unit Weight = 80 pcf

KLEINFELDER

PROJECT NO. 52307

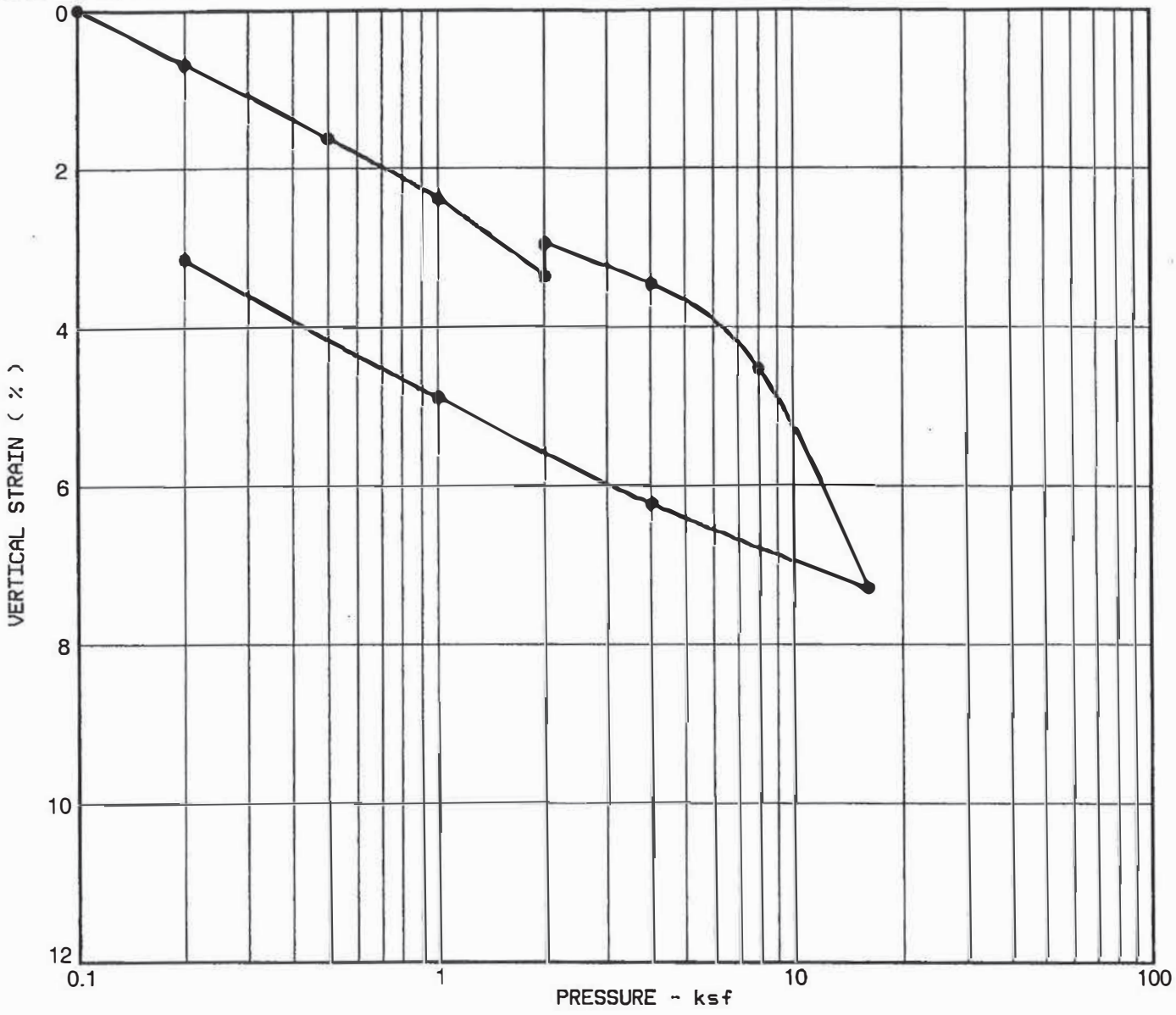
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-14

10108282006E5900



Sample	B-2
Depth	20.0 ft
Description	Sandy Silt
Classification	SM
Compression Ratio	0.022
Recompression Ratio	0.095

Moisture Content Before = 40.5 %
Moisture Content After = 39.4 %
Initial Dry Unit Weight = 82 pcf

KLEINFELDER

PROJECT NO. 52307

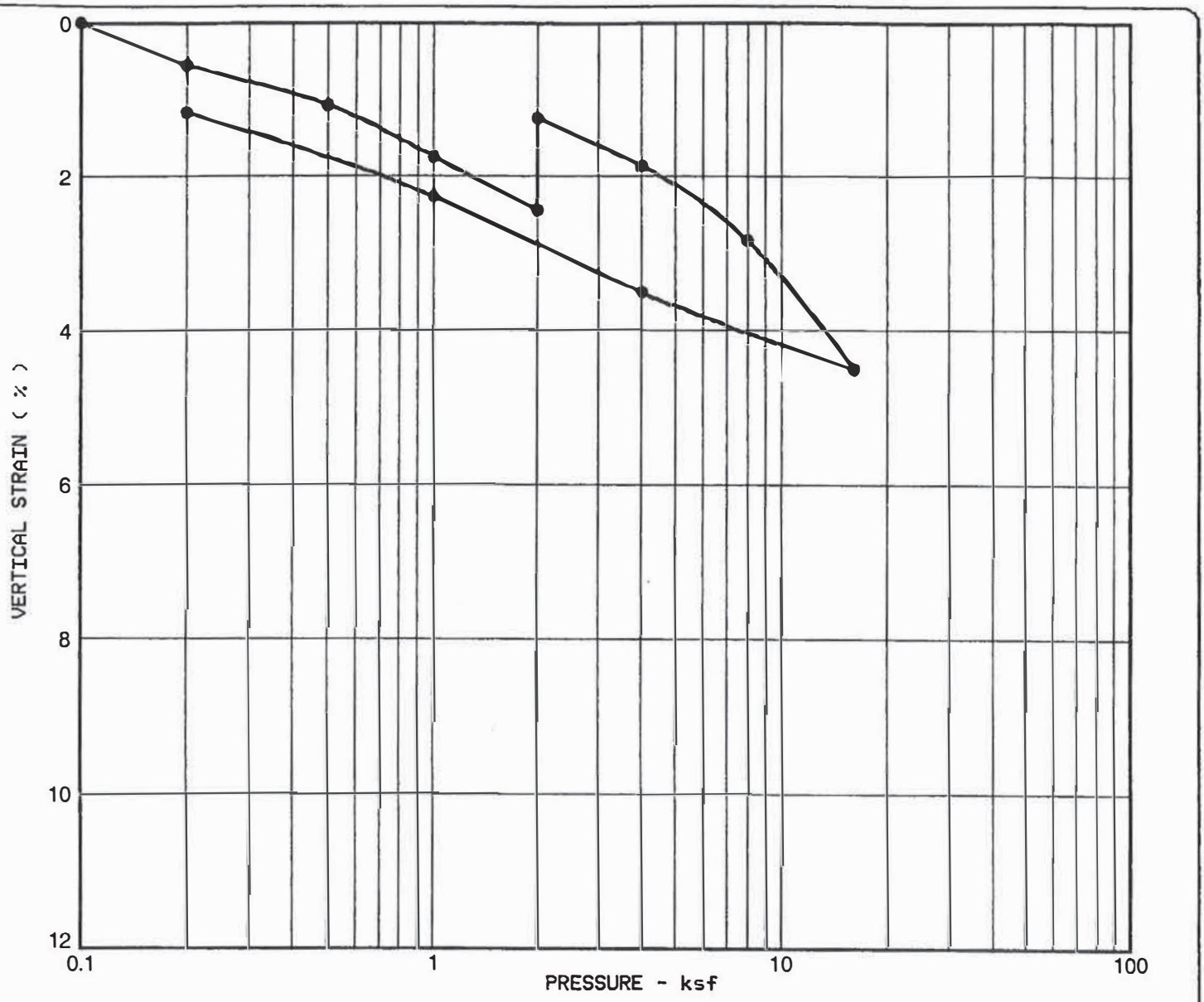
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-15

10108282006 35900



Sample	B-5
Depth	30.0 ft
Description	Siltstone/Claystone
Classification	--
Compression Ratio	0.053
Recompression Ratio	0.012

Moisture Content Before = 36.3 %
Moisture Content After = 34.3 %
Initial Dry Unit Weight = 87 pcf

KLEINFELDER

PROJECT NO. 52307

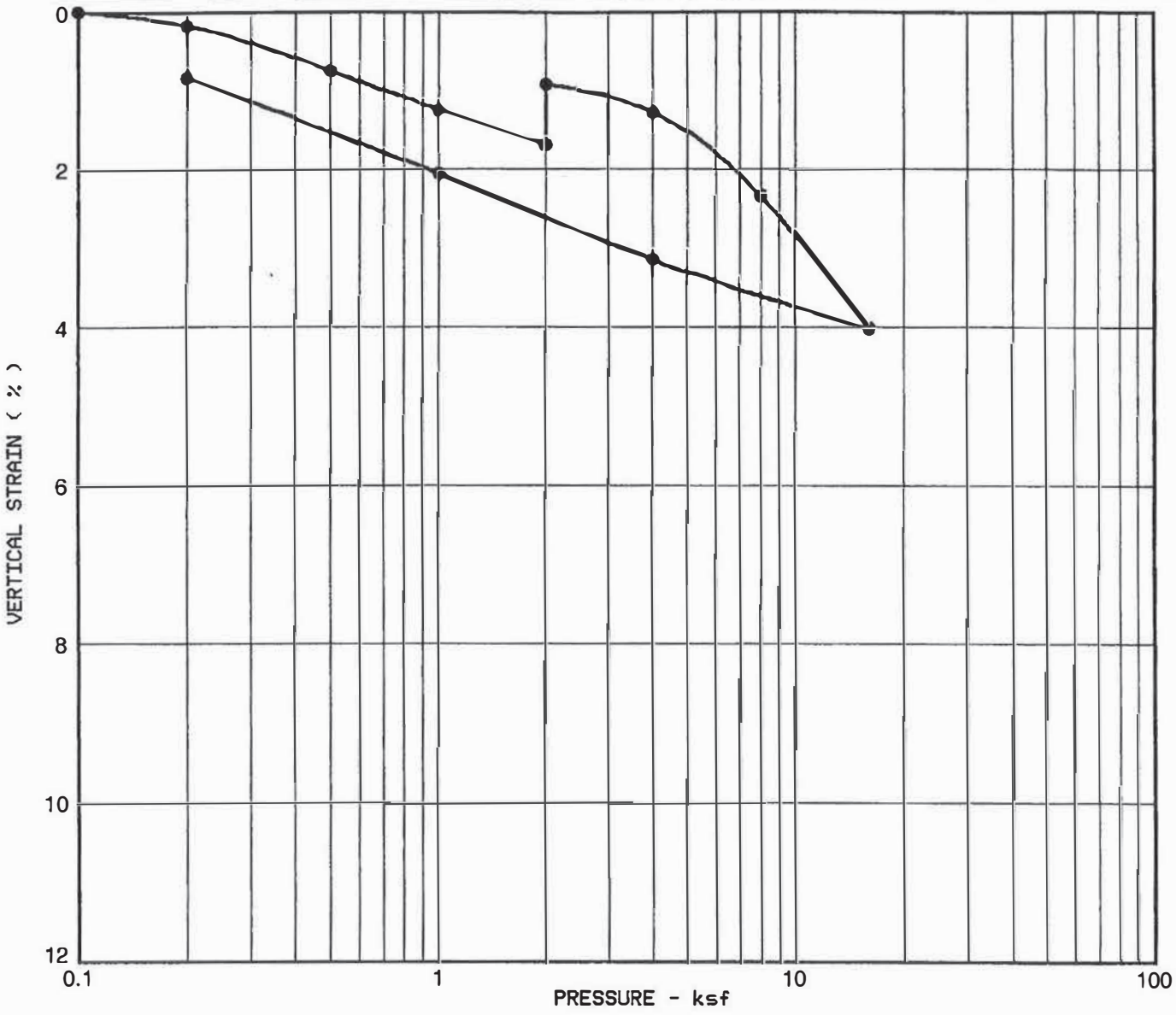
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-16

10108282006635900



Sample	B-5
Depth	40.0 ft
Description	Siltstone/Claystone
Classification	--
Compression Ratio	0.060
Recompression Ratio	0.017

Moisture Content Before = 31.4 %
Moisture Content After = 34.2 %
Initial Dry Unit Weight = 84 pcf

KLEINFELDER

PROJECT NO. 52307

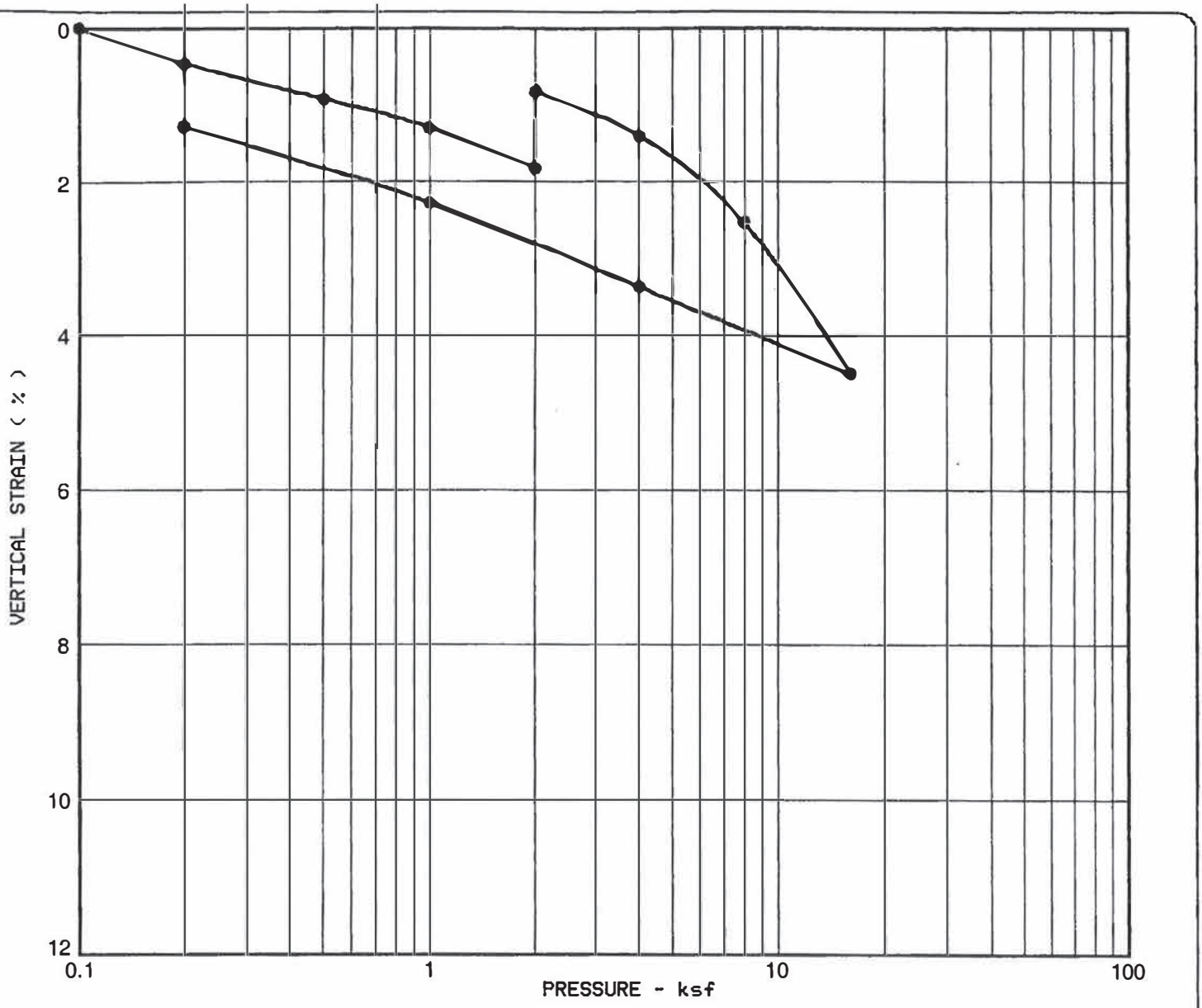
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-17

10108282006 35900



Sample	B-6
Depth	25.0 ft
Description	Siltstone/Claystone
Classification	--
Compression Ratio	0.067
Recompression Ratio	0.018

Moisture Content Before = 30.8 %
Moisture Content After = 32.8 %
Initial Dry Unit Weight = 93 pcf

KLEINFELDER

PROJECT NO. 52307

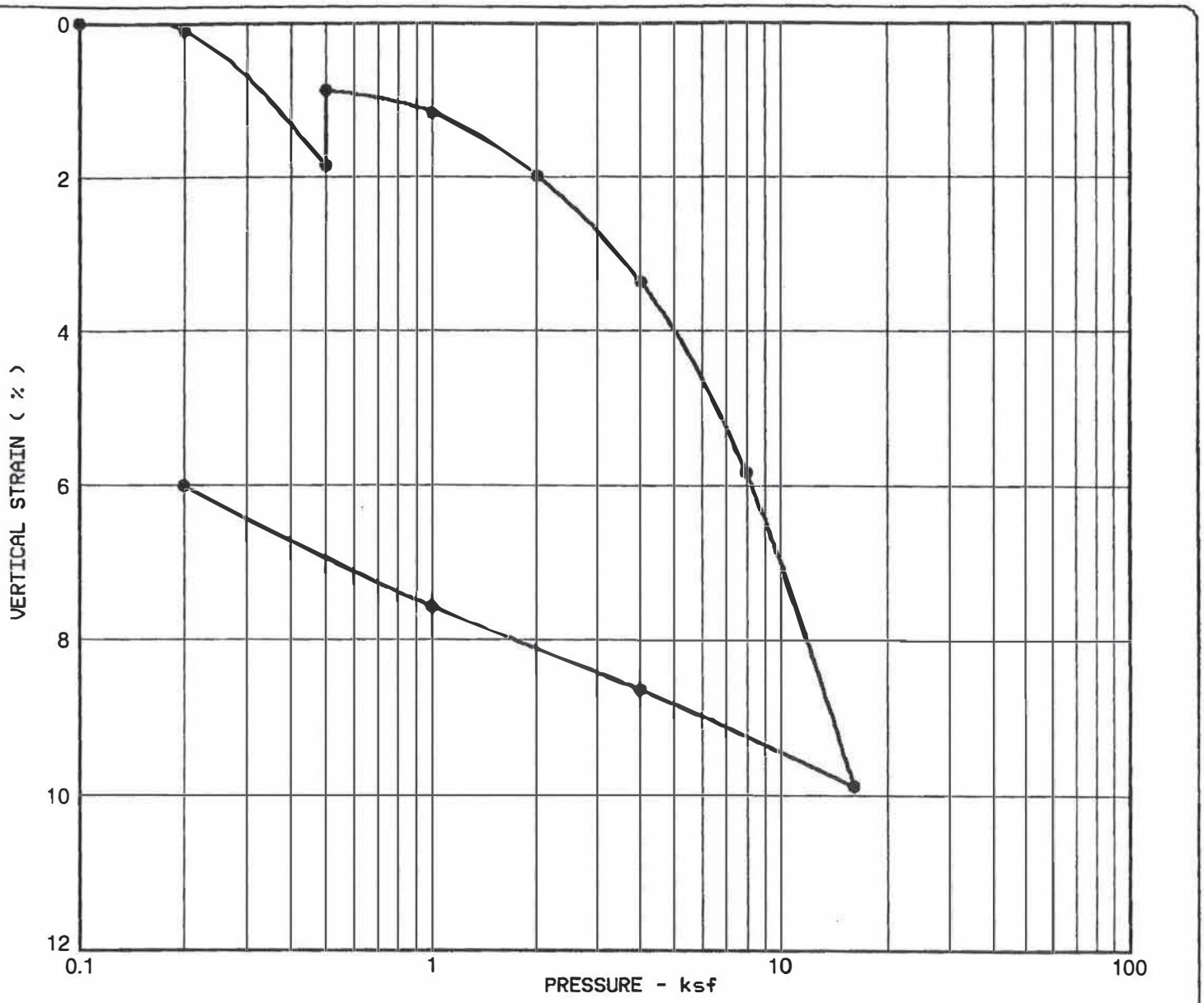
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-18

10108282006 35900



Sample	B-7
Depth	8.0 ft
Description	Siltstone/Claystone
Classification	--
Compression Ratio	0.130
Recompression Ratio	0.020

Moisture Content Before = 34.1 %
Moisture Content After = 33.6 %
Initial Dry Unit Weight = 88 pcf

KLEINFELDER

PROJECT NO. 52307

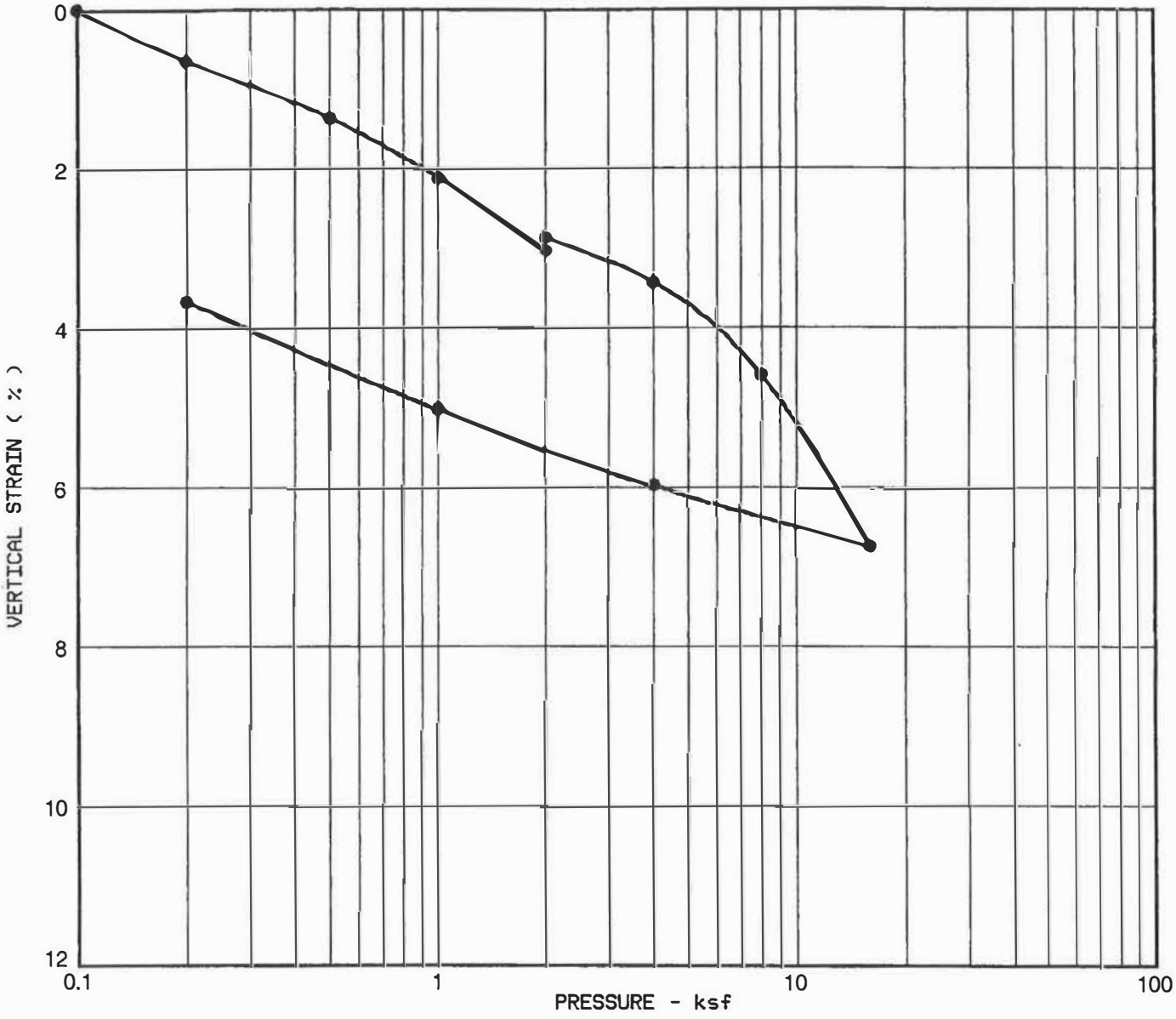
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-19

10108282006 35900



Sample	B-11
Depth	25.0 ft
Description	Silty Clay
Classification	CL
Compression Ratio	0.075
Recompression Ratio	0.016

Moisture Content Before = 28.3 %
Moisture Content After = 26.8 %
Initial Dry Unit Weight = 98 pcf

KLEINFELDER

PROJECT NO. 52307

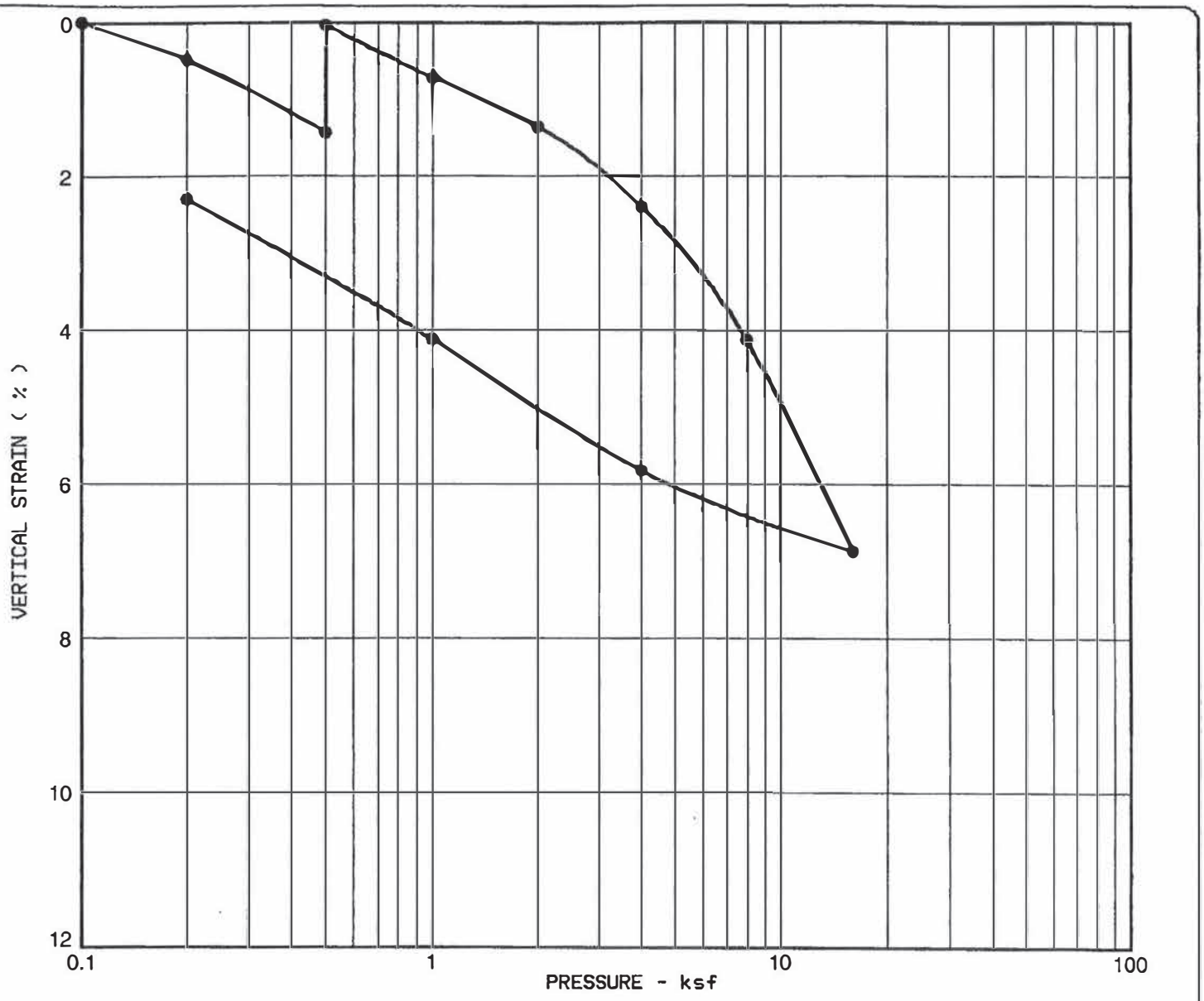
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-20

10108282006 35900



Sample	B-12
Depth	7.5 ft
Description	Clayey Silt
Classification	ML
Compression Ratio	0.091
Recompression Ratio	0.025

Moisture Content Before = 29.7 %
Moisture Content After = 31.2 %
Initial Dry Unit Weight = 94 pcf

KLEINFELDER

PROJECT NO. 52307

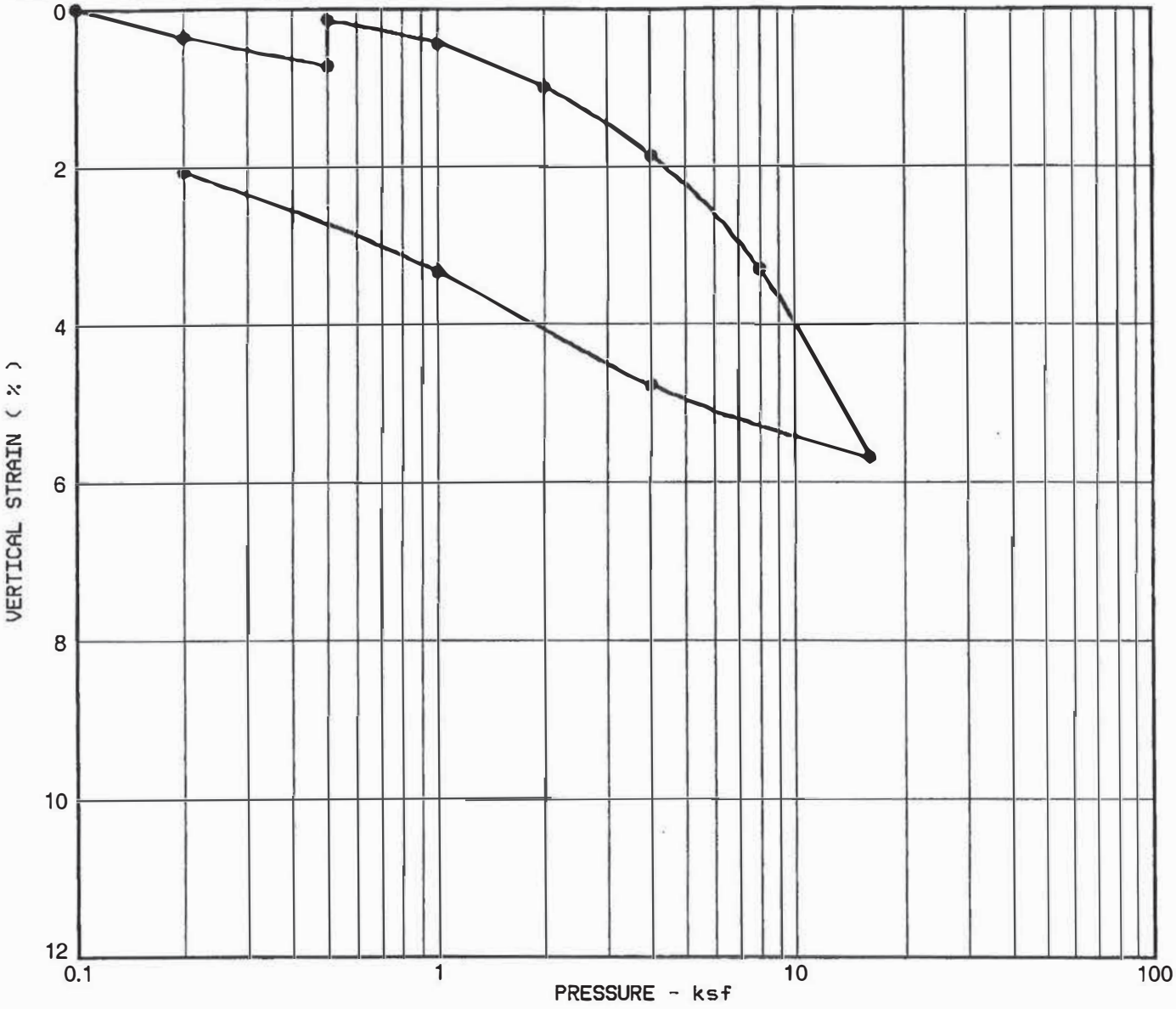
New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

PLATE

B-21

10108282006 35900



Sample	B-13A
Depth	8.0 ft
Description	Clayey Silt
Classification	ML
Compression Ratio	0.008
Recompression Ratio	0.018

Moisture Content Before = 30.3 %
Moisture Content After = 31.8 %
Initial Dry Unit Weight = 94 pcf

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

CONSOLIDATION TEST

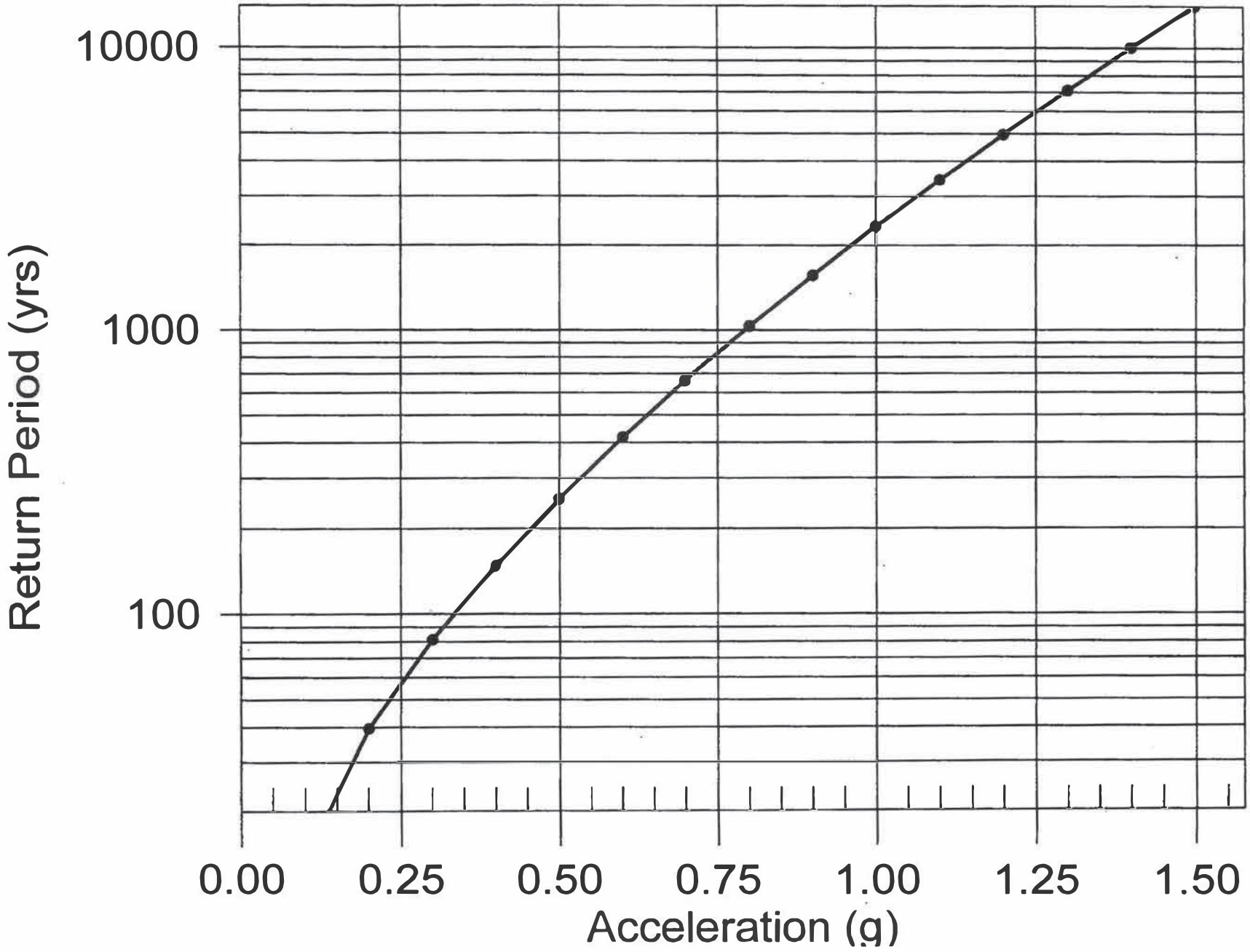
PLATE

B-22

10108282006 35900

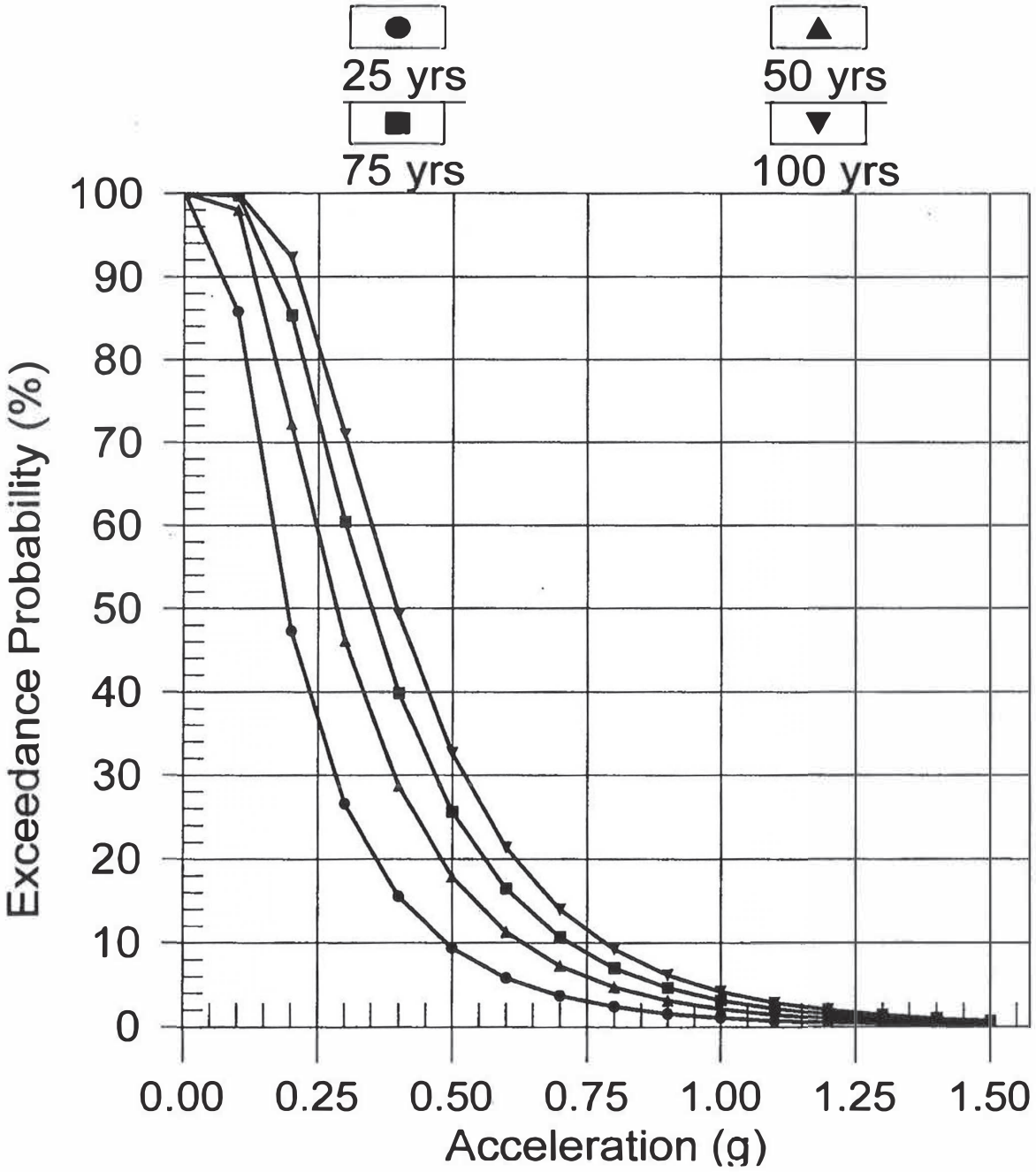
RETURN PERIOD vs. ACCELERATION

ABRAHAMSON & SILVA (1997) RX



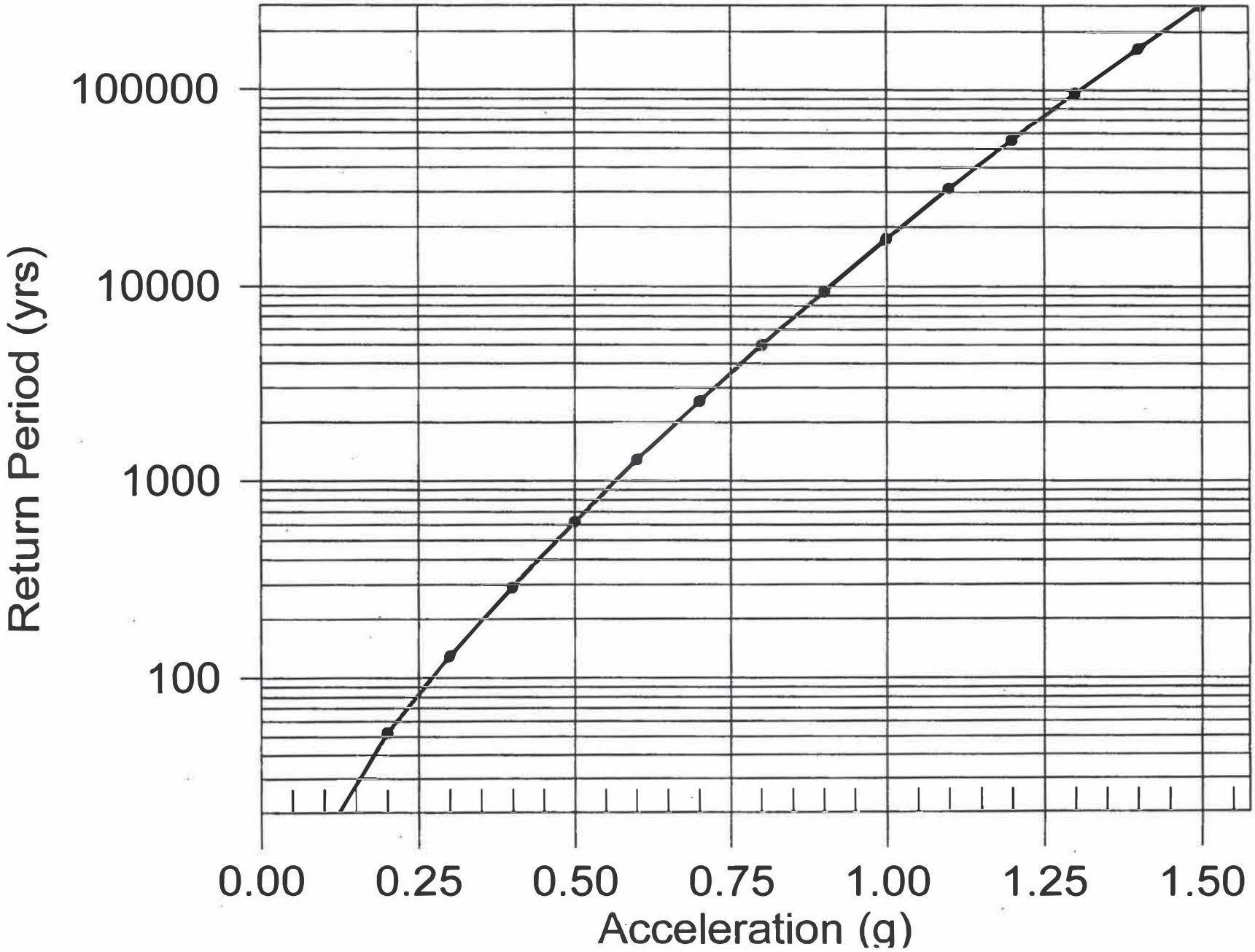
PROBABILITY OF EXCEEDANCE

ABRAHAMSON & SILVA (1997) RX



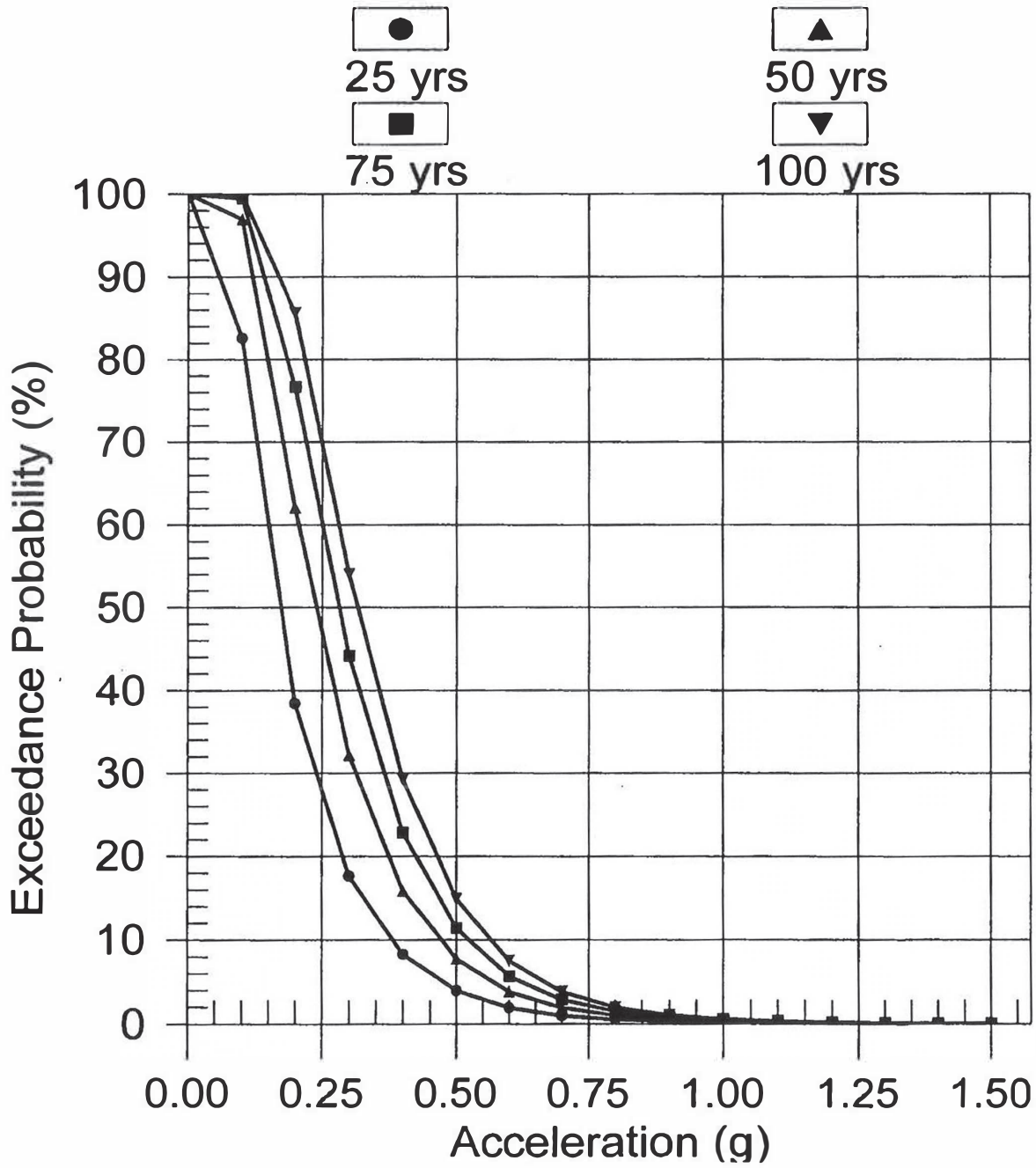
RETURN PERIOD vs. ACCELERATION

BOZ. ET AL.(1999)HOR SR COR



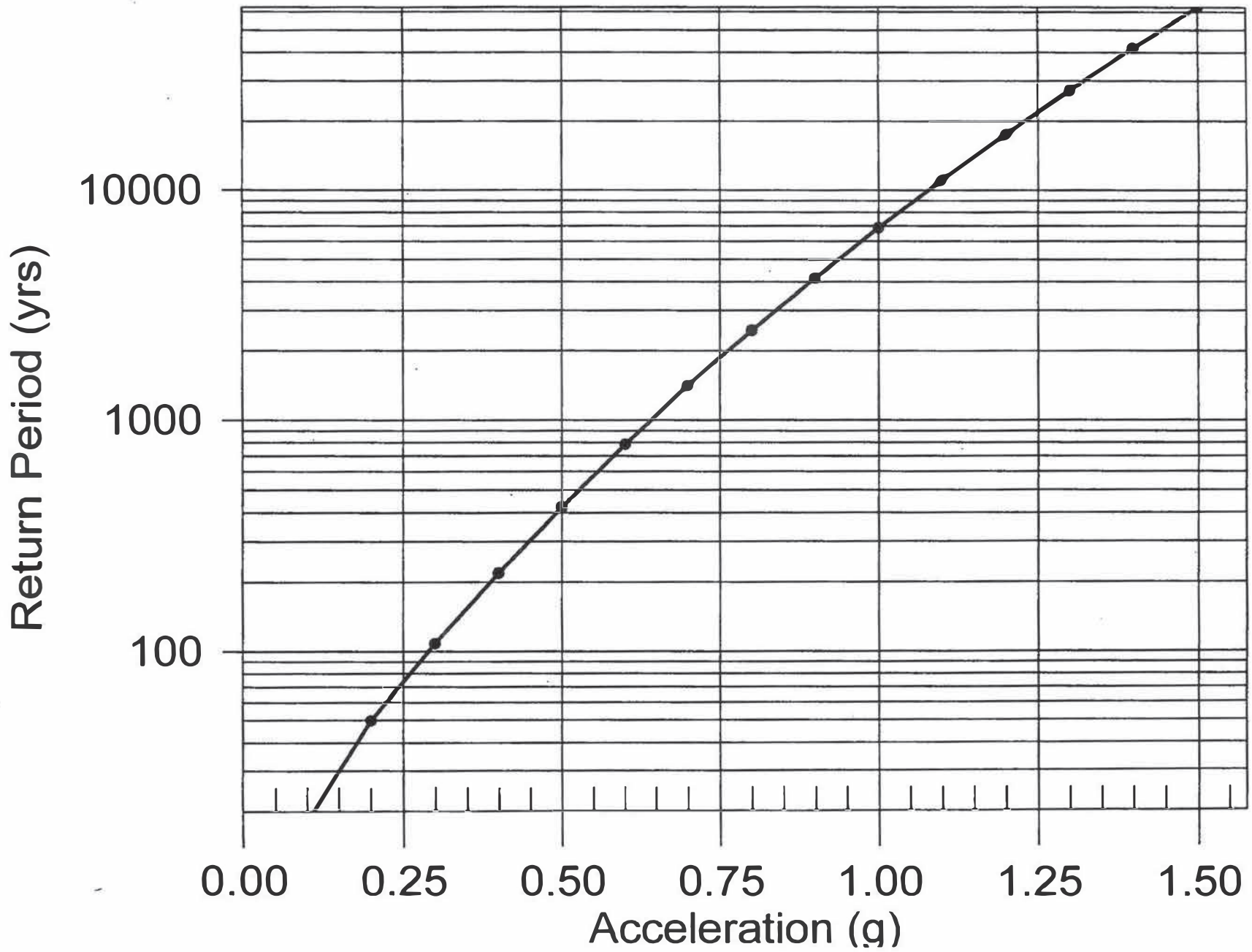
PROBABILITY OF EXCEEDANCE

BOZ. ET AL.(1999)HOR SR COR



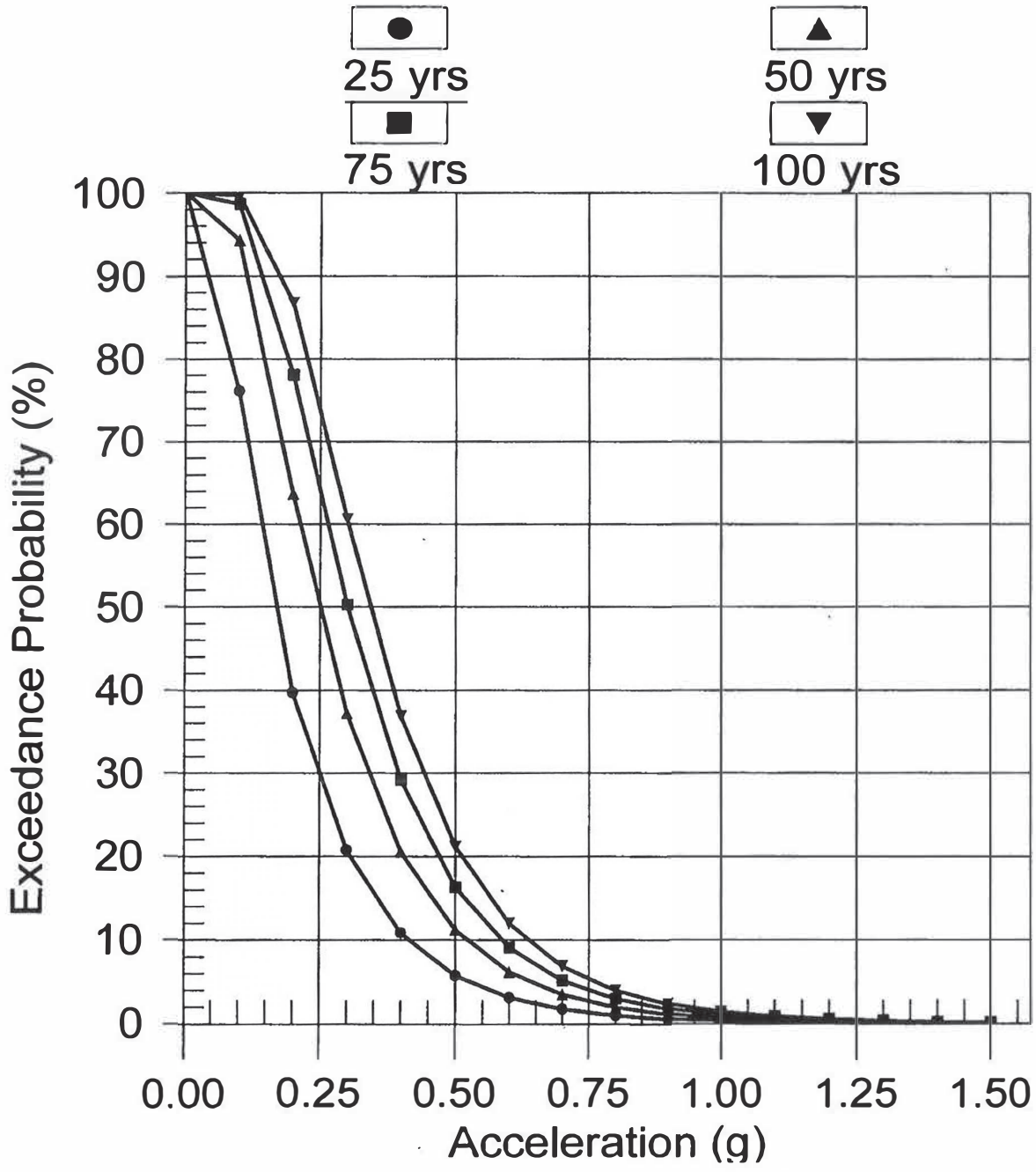
RETURN PERIOD vs. ACCELERATION

SADIGH ET AL. (1997) ROCK



PROBABILITY OF EXCEEDANCE

SADIGH ET AL. (1997) ROCK



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LOS ANGELES, CA 90012

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SOIL REPORT CORRECTION LETTER

April 7, 2005

LOG # 47253
SOILS FILE - 2
LIQ

City of Los Angeles
221 N. Figueroa Street, #1600
Los Angeles, CA 90012

TRACT:	LACA Map No.94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	-	//	1
LOT:	PCL 15	//	FR 4
LOCATION:	120 & 141 S. Spring St	//	106-114 W.1st St.

TRACT:	LACA Map No. 94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	-	//	1
LOT:	PCL 14	//	FR 8
LOCATION:	-	//	100-110 S. Spring St. & 120-132 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soil Report	04-120	02/15/2005	Geotech. Eng. Div.
Field & Laboratory Testing	52307-1	01/26/2005	Kleinfelder

The referenced reports providing recommendations for the proposed New Police Headquarters Facility have been reviewed by the Grading Division of the Department of Building and Safety. According to the report dated 02/15/2005, the project will consist of a eleven-story structure tower in the central portion of the site, an auditorium, café and utility structures along the east side of the site, and subterranean levels.

The site soils consist of up to 10 feet of uncertified fill underlain by natural sands, silts and clays. The clays, in turn are underlain by siltstone/claystone bedrock. The bedrock was encountered from 7 to 27 feet below the grade. According to the boring logs provided, the bedrock contains bedding planes. Excavations up to 20 deep are planned. The referenced Kleinfelder report was not signed by a certified engineering geologist. Consequently, no information on a bedding plane orientation, jointing and other geologic features was provided, which may be crucial for a shoring and retaining wall design.

The report cannot be approved as it lacks sufficient information to determine the stability or safety of the proposed development. An addendum to the report shall be submitted which contains the following information:

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

1. Provide a geologic report for the site signed by a certified engineering geologist.

2. Provide the most critical geologic cross-sections, generally in N-S and E-W directions and show the existing and proposed grades and structures.

3. Revise recommendations for shoring and retaining wall design to include surcharge from bedding. Active pressure analyses shall utilize the limit equilibrium method (free-body-diagram, and vectors) for a minimum factor of safety of 1.25 and 1.5 for temporary and permanent conditions, respectively. Note, that re-sheared strength for bedrock along a bedding shall be used in the calculations.

4. In addition to the fee for the review of the response to this letter, a fee shall be paid for the review of a geologic report .

The geologist and/or soil engineer shall prepare a report containing the corrections indicated in this letter. The report shall be in the form of an itemized response. It is recommended that once all correction items have been addressed in a response report, to contact the report review engineer and/or geologist to schedule a verification appointment to demonstrate compliance with all the corrections. Do not schedule an appointment until all corrections have been addressed. Bring three copies of the response report, including one unbound wet-signed original for microfilming in the event that the report is found to be acceptable.

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

ATS/ats
47250
(213) 482-0480

cc: Dept. of Public Works, Geotechnical Engineering Division
Applicant
VN District Office

10108200835900

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: May 24, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin/Rebecca Abano, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL GEOTECHNICAL ENGINEERING REPORT-NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES, WO E170910B, GED FILE 04-120**

This report has been prepared in response to the "Soil Report Correction Letter" letter received from the City of Los Angeles Department of Building & Safety (CLADBS) Grading Division. The letter was prepared in regards to the Geotechnical Engineering Division's (GED) Geotechnical Engineering Report for the New Police Headquarters Facility dated February 15, 2005. The geotechnical report was submitted to the CLADBS on March 4, 2005 under Log No 47253. A copy of the "Soil Report Correction Letter" is presented in Appendix A of this letter report. GED received the "Soil Report Correction Letter" on April 7, 2005.

This report responds to the "Soil Report Correction Letter" and request's approval of the geotechnical report. For ease of reference, each of the review comments/requests is repeated with our response.

Comment No. 1

"Provide a geologic report for the site signed by a certified engineering geologist."

Response: The submitted report was a combined soils engineering and geology report for the project. The report contains geologic data for the site and was signed by a certified engineering geologist. The report was submitted to CLADBS for review as a combined Soils Engineering & Geology report. A copy of the "Application for Review of Technical Reports and Import-Export Routes" under which the report was submitted to CLADBS is presented in Appendix B of this letter report.

10210172006 38640

Comment No. 2

"Provide the most critical geologic cross-sections, generally in the N-S and E-W directions and show the existing and proposed grades and structures."

Response: Proposed site grades will not be greatly different from existing site grades. However, as requested, cross sections were prepared and are attached.

Comment No. 3

Revise recommendations for shoring and retaining wall design to include surcharge from bedding. Active pressure analyses shall utilize the limit equilibrium method (free-body-diagram and vectors) for a minimum factor of safety of 1.25 and 1.5 for temporary and permanent conditions, respectively. Note, that re-sheared strength for bedrock along a bedding shall be used in the calculations.

Response: Additional direct shear testing was performed to determine the re-shear strength for a representative sample of the formational materials that underlie the site. The direct shear test results are presented in Appendix C of this letter report. The repeat shear strength parameters were used to calculate lateral earth pressures using vector analyses. The results of the analyses are presented in Appendix D. The results confirm that the earth pressures presented in the referenced February 15, 2005 geotechnical report are reasonable for the project.

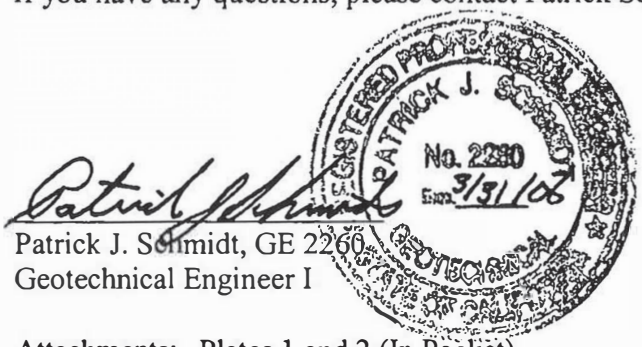
Comment No. 4

In addition to the fee for review of the response to this letter, a fee shall be paid for the review of a geologic report.

Response: As stated in the response to Comment No. 1, the report was submitted to CLADBS for review as a combined Soils Engineering & Geology report. At the time the report was submitted a few was paid for geological review.

10210172806386040

If you have any questions, please contact Patrick Schmidt at (213) 847-4046.



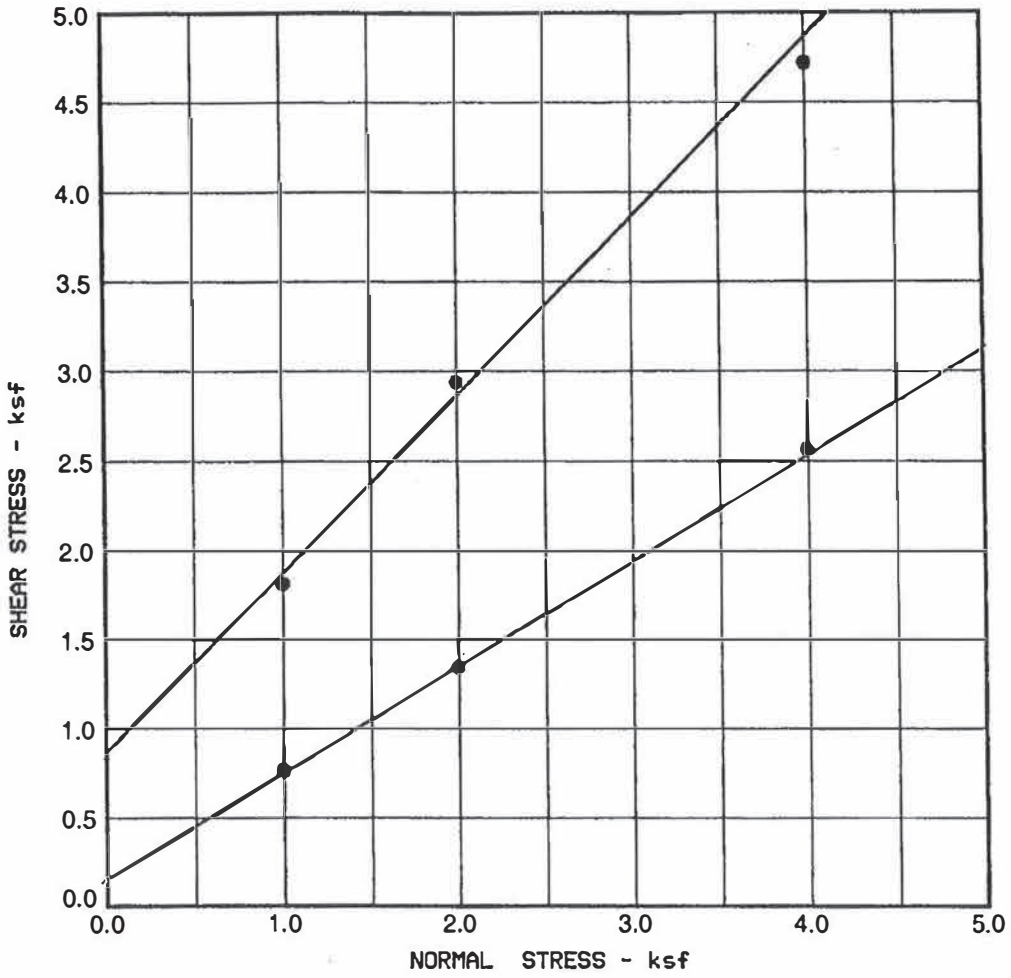
Patrick J. Schmidt, GE 2260
Geotechnical Engineer I

Fred Burnett, CEG 2052
Engineering Geologist I

Attachments: Plates 1 and 2 (In Pocket)
Appendix A- CLADBS Review Letter
Appendix B- Application for Review of Technical Reports and Import-Export Routes
Appendix C - Re-shear Direct Shear Test Results
Appendix D – Lateral Earth Pressure by Vector Analysis

Q:\04\04-120 New Police Headquarters Facility\B&S Response Letter.doc

10210172006 06640



Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1812	2940	4716
Residual Shear - psf	768	1344	2568

Moisture Content Before Test= 26.5 %
Moisture Content After Test = 36.1 %
Sample was resheared for 5 cycles

Sample	B-4
Depth - ft	35.0
Description	Claystone
Classification	–

Shear Strength	Peak	Residual
Cohesion - ksf	800	150
Friction Angle - deg	45	31

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE

B-1

10210172006 38640

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File: 04-120

W.O. No.: E170910B

		Radians
C (psf)	150	
Phi (degrees)	31	0.541052
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	100	
Phi(m)	21.82974	0.381001

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	40	
Alpha (degrees)	55	0.959931
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.366433
W (lbs)	69775.68
X (ft)	26.35131
L (ft)	45.9421

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	7794.825
b	61980.86

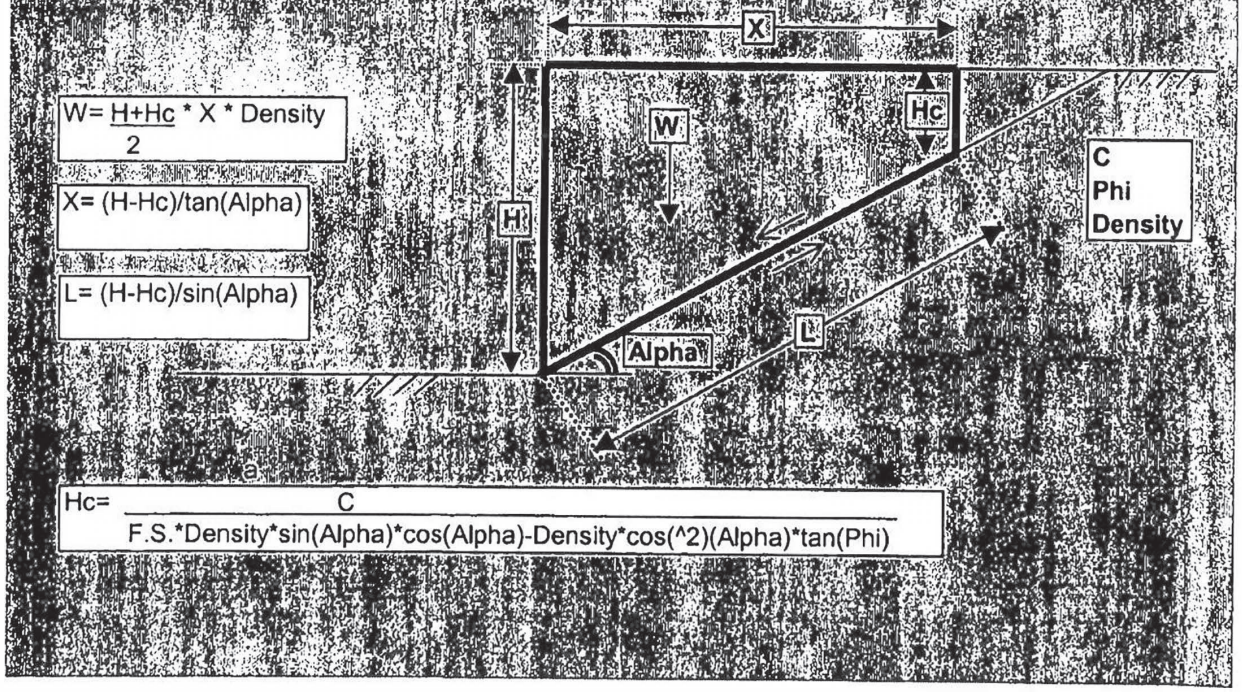
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	40513.2

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	51
EFP w/water	51

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



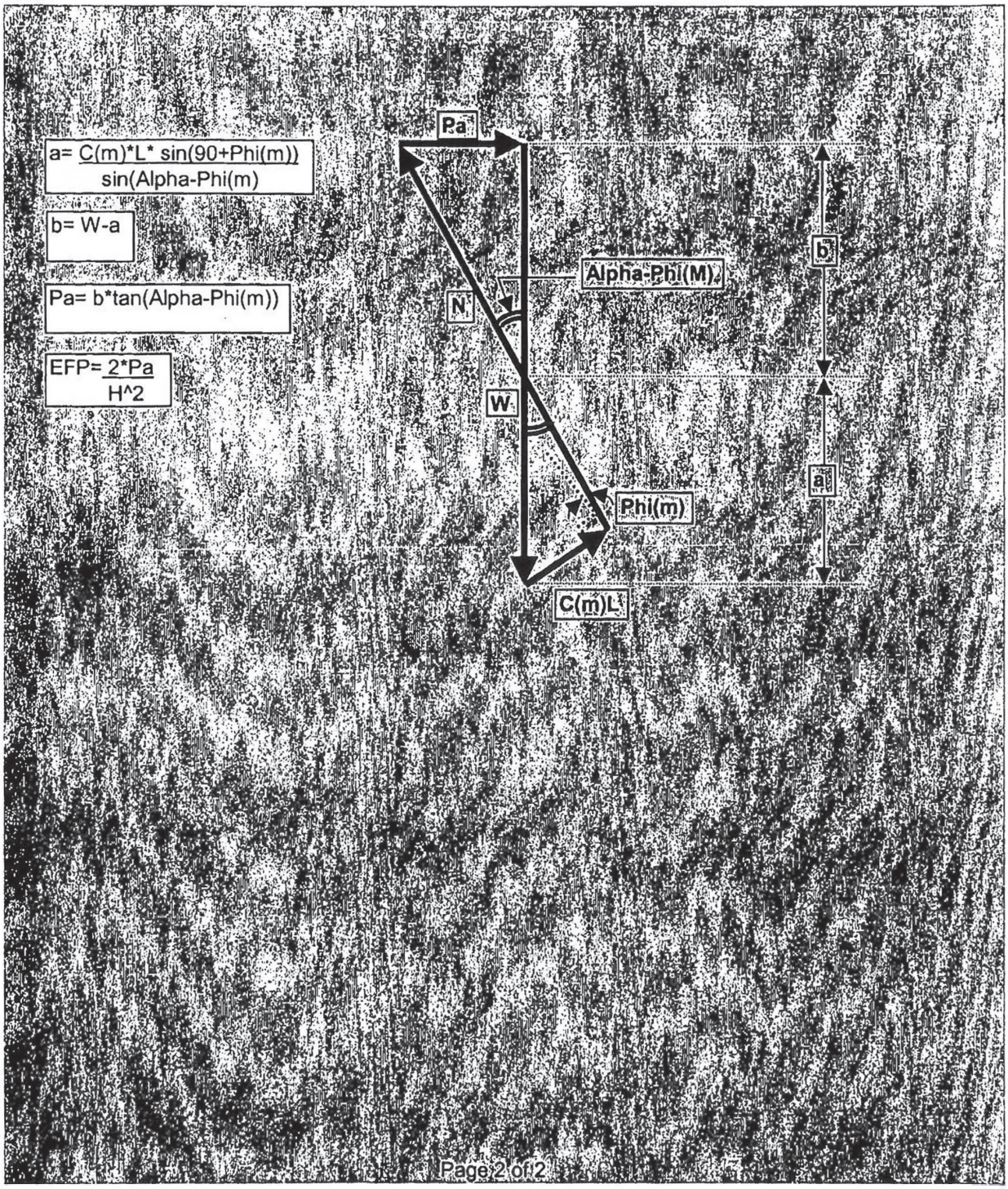
$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10210172006 38640



10210172000038040

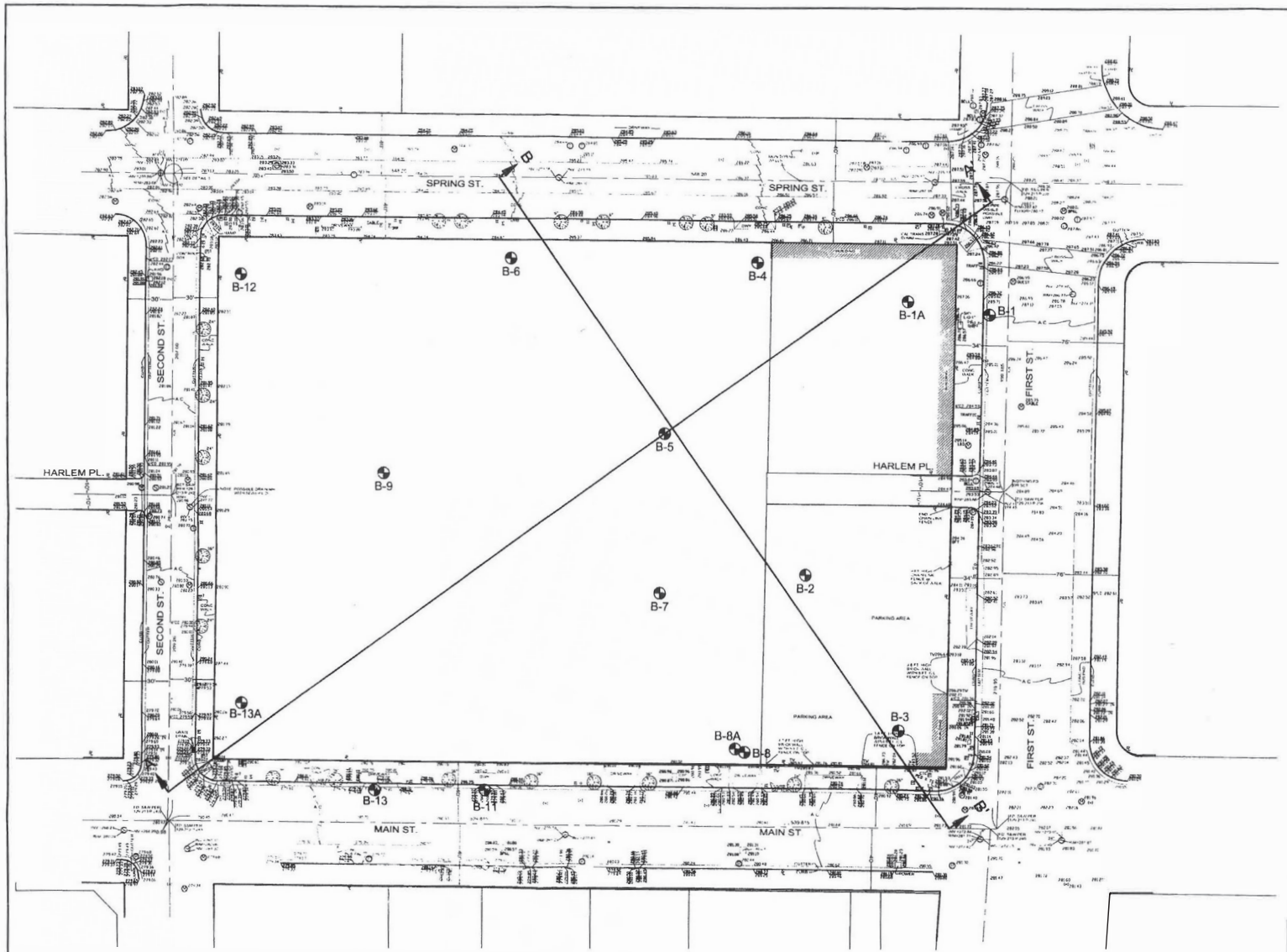
GRADING
OVERSIZE DOCUMENT

To view the Grading
oversize document for:

Tract: AM 1-74 // MR 53-66-73
Block: - // 1 Lot: PCL 15+14 // Fr. 4, Fr. 8
Job Address: 120+141 S. Spring St // 106-114 W. 1st St, 100-110 S. Spring St + 120-132 W. 1st St
X-Ref: 2x Date: 5/24/05

Look for the document type called "Grading Oversize Document" dated 5/24/05 from the Document Type list in DAFS Retrieval; copy the corresponding Reel/Batch/Doc numbers (document location on microfilm); and request assistance from the Automated Records Counter staff to view the film and/or print a copy of the images. Prints require special permission which will be explained to you by Department staff.

10210172000338040



1 INCH = 30 FEET

LEGEND:

B-2 BORING LOCATION

A A' GEOLOGIC CROSS SECTION

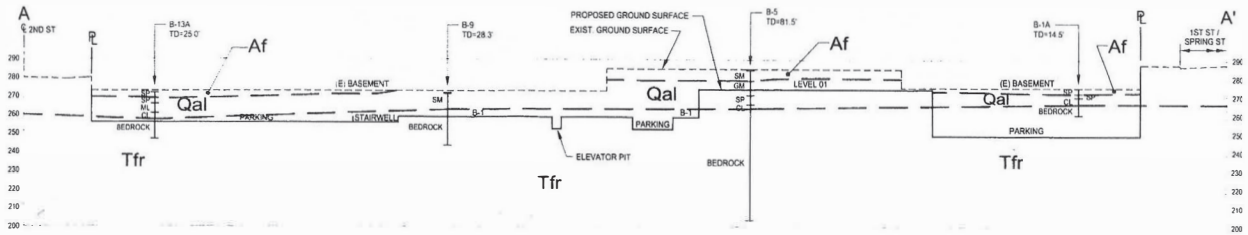
NEW POLICE HEADQUARTERS FACILITY
BORING PLAN
W. O. # E170910B

PLATE 1

BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION

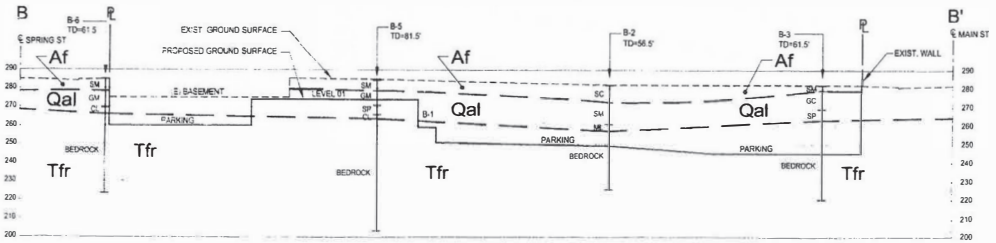
File No. 04-120 Date 05/18/05
CADD by MTR Checked by FB Supervised by CJ

2x 5/24/05
Tract AM 1-74//MR 53-66-73
Lots: PCL 15+14//Fr 4+Fr 8, Block 1
Address: 120+141 S Spring St // 106-114 W 1st St, 106-116 S Spring St // 120-132 W 1st St



SECTION A-A'

SCALE : 1" = 30'-0"



SECTION B-B'

SCALE : 1" = 30'-0"

LEGEND:

SP, SM, ML, CL, GM	UNIFIED SOIL CLASSIFICATION SYSTEM SOIL GROUP SYMBOLS
Af	ARTIFICIAL FILL
Qal	ALLUVIUM
Tfr	FERNANDO FORMATION (BEDROCK)

NEW POLICE HEADQUARTERS FACILITY
GEOLOGIC CROSS SECTIONS
W. O. # E170910B

PLATE 2

BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION

File No. 04-120 Date 05/18/05
CADD by MTR Checked by FB Supervised by CJ

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LOS ANGELES, CA 90012

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RAYMOND CHAN
EXECUTIVE OFFICER

SOIL REPORT CORRECTION LETTER

June 21, 2005

LOG # 47253-01
SOILS FILE - 2
LIQ

City of Los Angeles
221 N. Figueroa Street, #1600
Los Angeles, CA 90012

TRACT:	LACA Map No.94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	-	//	1
LOT:	PCL 15	//	FR 4
LOCATION:	120 & 141 S. Spring St	//	106-114 W. 1st St.

TRACT:	LACA Map No. 94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	-	//	1
LOT:	PCL 14	//	FR 8
LOCATION:	-	//	100-110 S. Spring St. & 120-132 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soil Report	04-120	05/24/2005	Geotech. Eng. Div.
Oversized Doc.	"	"	"

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Correction Letter	47253	04/07/2005	LADBS
Soil Report	04-120	02/15/2005	Geotech. Eng. Div.
Field & Laboratory Testing	52307-1	01/26/2005	Kleinfelder

The current referenced report responding to the Department Correction Letter dated 04/07/20045 has been reviewed by the Grading Division of the Department of Building and Safety.

The referenced reports provide recommendations for the proposed New Police Headquarters Facility. According to the report dated 02/15/2005, the project will consist of a eleven-story structure tower in the central portion of the site, an auditorium, café and utility structures along the east side of the site, and subterranean levels.

The site soils consist of up to 10 feet of uncertified fill underlain by natural sands, silts and clays. The clays, in turn are underlain by siltstone/claystone bedrock. The bedrock was encountered from 7 to 27 feet below the grade. According to the boring logs provided, the bedrock contains bedding planes. Excavations up to 20 deep are planned. The referenced Kleinfelder report was not signed by a certified engineering geologist. Consequently, no information on a bedding plane orientation, jointing and other geologic features was provided, which may be crucial for a shoring and retaining wall design.

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

The report cannot be approved as it lacks sufficient information to determine the stability or safety of the proposed development. An addendum to the report shall be submitted which contains the following information:

1. Provide a geologic report for the site signed by a certified engineering geologist, as previously requested. Note, that the report by Kleinfelder indicates bedding planes present (Boring B-1A @ 25', Boring B-3 @ 20', Boring B-4 @ 18' etc.), however no bedding attitudes are given.

2. Provided re-shear strength of the claystone bedrock appears to be to high. In addition, reported shearing of the sample for only 5 cycles may not result in the lowest shear strength. Provide additional testing to justified the values given in the report together with the laboratory "raw" data. The depth of a sample selected for testing shall match but need not to exceed the depth of the proposed excavation.

3. Revise recommendations for shoring and retaining wall design to include surcharge from bedding. It is not clear were the angle "alpha." equals to 55 degrees was obtained from. The calculations shall also utilize the angle of bedding given by the engineering geologist..

4. Provide dry density of the sheared sample to demonstrate the saturation prior to testing.

5. Revise cross-sections to show the bedding attitudes.

The geologist and/or soil engineer shall prepare a report containing the corrections indicated in this letter. The report shall be in the form of an itemized response. It is recommended that once all correction items have been addressed in a response report, to contact the report review engineer and/or geologist to schedule a verification appointment to demonstrate compliance with all the corrections. Do not schedule an appointment until all corrections have been addressed. Bring three copies of the response report, including one unbound wet-signed original for microfilming in the event that the report is found to be acceptable.

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

ATS/ats
47253-01
(213) 482-0480

cc: Dept. of Public Works, Geotechnical Engineering Division
Applicant
VN District Office

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: August 9, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL GEOTECHNICAL ENGINEERING REPORT-NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES, WO E170910B, GED FILE 04-120**

This report was prepared in response to a telephone message received from Mr. Andrzej Szpikowski with the City of Los Angeles Department of Building & Safety (CLADBS) Grading Division on August 8, 2005. In the telephone message Mr. Szpikowski stated that it is the CLADBS policy that the most conservative, worst case shear strength be used for the calculation of earth pressures. In this case, Mr. Szpikowski is requiring the lowest re-shear strength be used for the analyses.

BACKGROUND

The Geotechnical Engineering Division's (GED) Geotechnical Engineering Report for the New Police Headquarters Facility is dated February 15, 2005. The geotechnical report was submitted to the CLADBS on March 4, 2005 under Log No 47253. A "Soil Report Correction Letter", dated April 7, 2005, was received from CLADBS. GED responded to the CLADBS "Soil Report Correction Letter" in a letter dated May 24, 2005. A second "Soil Report Correction Letter", dated June 21, 2005, was received from CLADBS on June 28, 2005. GED responded to the second CLADBS "Soil Report Correction Letter" in a letter report dated July 28, 2005.

As noted in our February 15, 2005 report, the bedrock is generally massive. Prior to the preparation of our July 28, 2005 response letter report, a geologist re-observed samples obtained from the borings in an effort to more clearly define the bedding conditions of the bedrock beneath the site. Of the samples collected from the exploratory borings, approximately 70 were logged as bedrock. Of these, Kleinfelder was only able to clearly identify bedding on seven samples. Of the samples where bedding was observed, the

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bedding was faint with no signs of previous shearing. Based on this information, there appears to be no justification for the use of re-shear strengths for the design of shoring and subterranean walls for the project. The data indicates that the use of peak or possibly ultimate shear strength parameters is more appropriate for the design of shoring and subterranean walls for the project.

However, in accordance with the requirements of the reviewer, additional analyses was performed using the lowest re-shear (residual) shear strength parameters obtained for the project consisting of 50 pounds per square foot cohesion and a friction angle of 30 degrees. As requested by the reviewer, analyses were performed in five-degree intervals for bedding varying from 10 to 60 degrees with additional analyses for angles of plus and minus 2 and 4 degrees of the critical angle determined from the analyses performed at 5 degree increments. The vector analyses results are presented in Appendix A of this letter report. For these analyses, the largest equivalent fluid pressure values were calculated for an "alpha" angle of 55 degrees.

Based on the results of these additional analyses, braced shoring for the project can be designed using a uniform rectangular soil pressure of 24H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. The subterranean basement walls of the structure, fixed against rotation (no movement allowed), that retain a level backfill for a horizontal distance equal to or greater than the height of the wall can be designed using at-rest equivalent fluid pressure of 56 pounds per cubic foot (pcf). Alternatively, braced subterranean walls retaining level backfills can be designed using a uniform rectangular soil pressure of 28H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. These earth pressures presented herein assume that sufficient drainage will be provided behind the walls to reduce the build-up of hydrostatic pressures from surface and subsurface water infiltration. All other recommendations for shoring and subterranean retaining walls presented in the February 15, 2005 geotechnical report are still valid.

If you have any questions, please contact Patrick Schmidt at (213) 847-4046.

REGISTERED PROFESSIONAL ENGINEER PATRICK J. SCHMIDT No. 2260 Exp 3/31/06 GEOTECHNICAL STATE OF CALIFORNIA

Patrick J. Schmidt, GE 2260
Geotechnical Engineer I

Fred Burnett, CEG 2052
Engineering Geologist I

Attachment: Appendix A- Lateral Earth Pressure by Vector Analysis

Q:\04\04-120 New Police Headquarters Facility\B&S Response Letter3.doc

Appendix A
Lateral Earth Pressure by Vector Analysis

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	10	0.174533
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	-1.318279
W (lbs)	433591.5
X (ft)	205.9712
L (ft)	209.1486

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-33940.94
b	467532.5

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-91317.2

Pa=Resultant force calculated from the free-body diagram

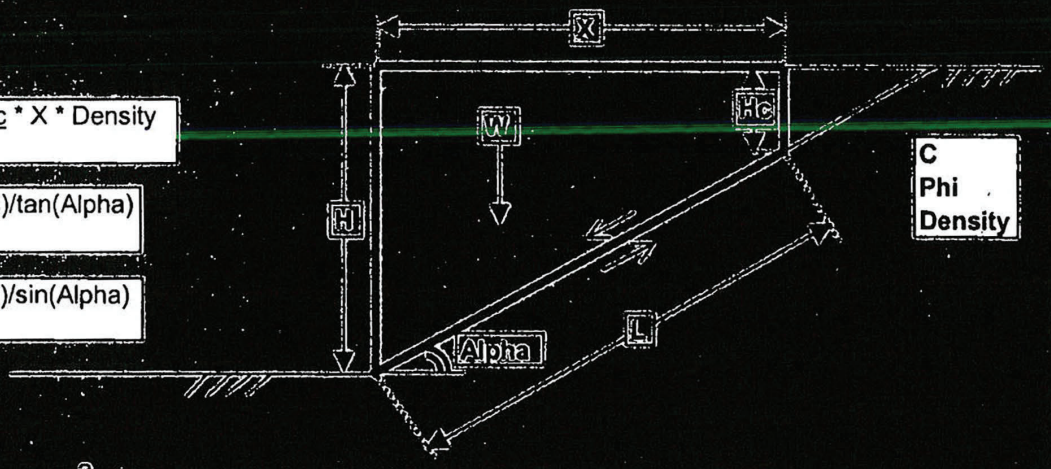
EFP (pcf)	-149
EFP w/water	-149

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on laboratory direct shear test
Phi=Internal friction angle from direct shear test
Density=Saturated density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C3/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	15	0.261799
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	-2.743865
W (lbs)	284342
X (ft)	139.7424
L (ft)	144.672

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-42688.95
b	327031

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-34670.86

Pa=Resultant force calculated from the free-body diagram

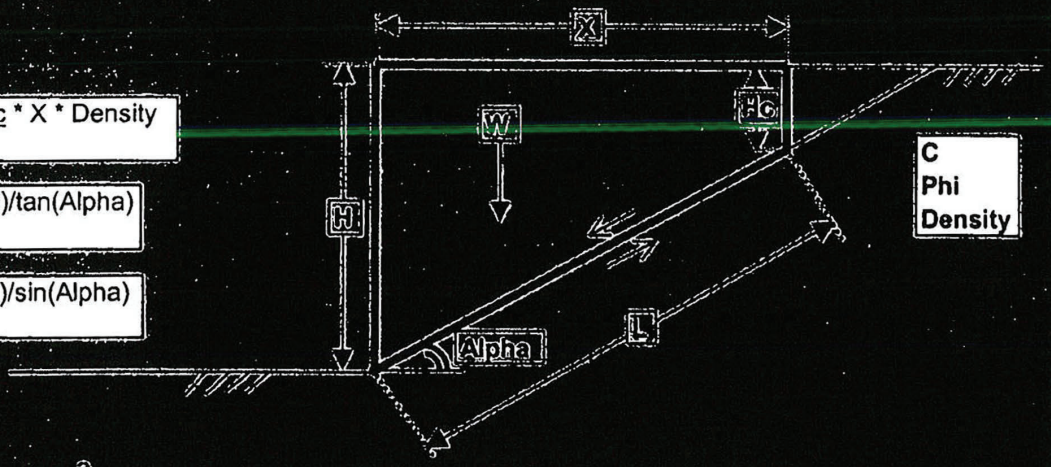
EFP (pcf)	57
EFP w/water	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{a \quad C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Phi (ø) Residual angle from direct shear test
Density=Backfill density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C/FS)
Phi(m)=Phi divided by a Factor of Safety (Phi/FS)

H (ft)	35	
Alpha (degrees)	20	0.349066
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	14.42876
W (lbs)	174604.1
X (ft)	135.8044
L (ft)	144.52

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-244936.1
b	419540.2

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-7701.968

Pa=Resultant force calculated from the free-body diagram

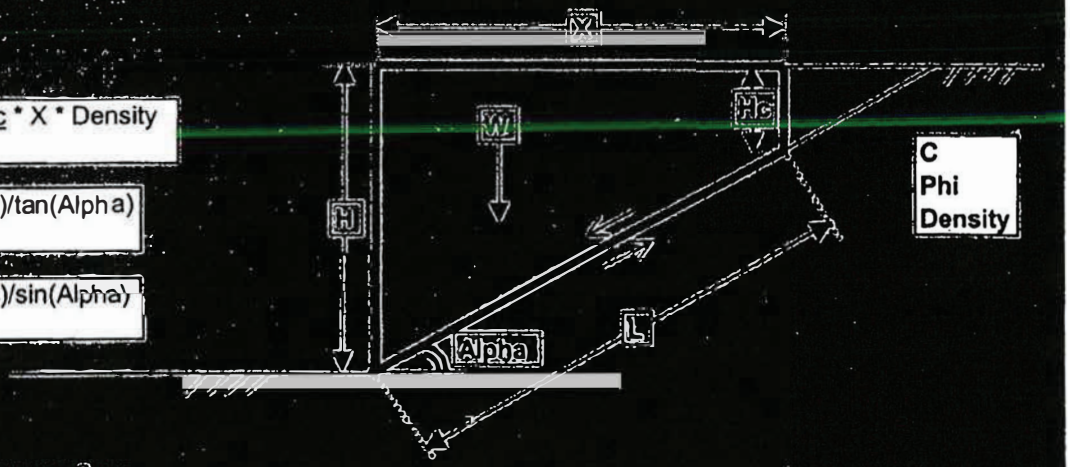
EFP (pcf)	13
EFP w/water	2

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=Moisture density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C5/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	25	0.436332
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	3.98798
W (lbs)	162057.2
X (ft)	66.50549
L (ft)	73.38069

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	33152.82
b	128904.3

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	8896.939

Pa=Resultant force calculated from the free-body diagram

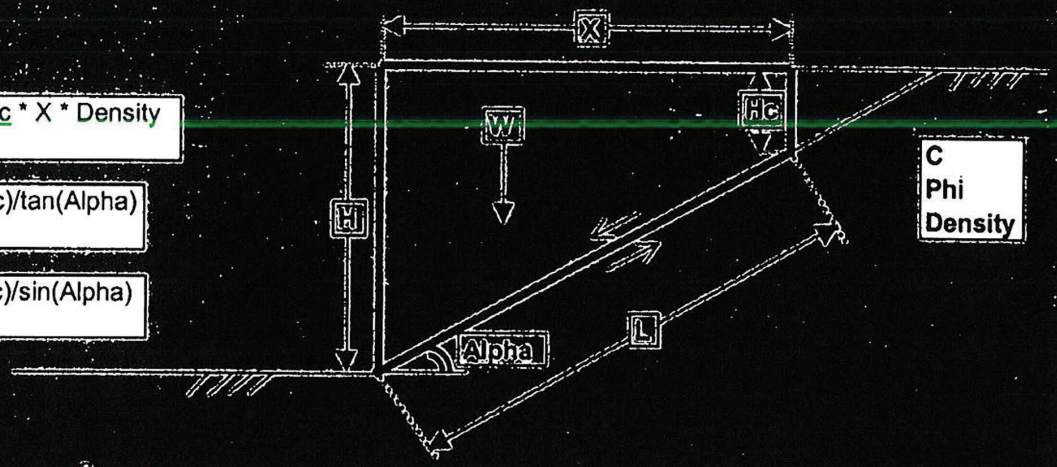
EFP (pcf)	15
EFP w/water	15

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. E1/09 HB

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	30	0.523599
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.847521
W (lbs)	132240.6
X (ft)	57.42178
L (ft)	66.30496

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	13260.99
b	118979.6

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	18734.44

Pa=Resultant force calculated from the free-body diagram

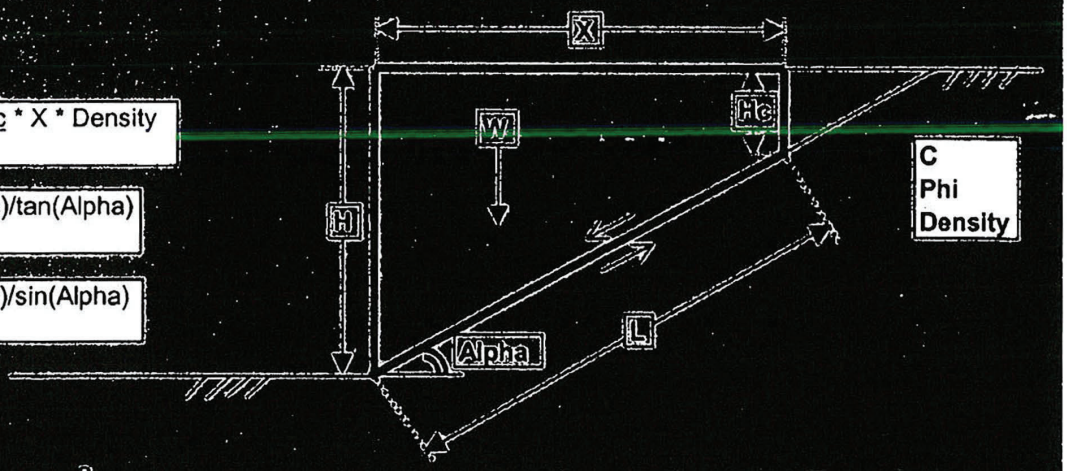
EFP (pcf)	31
EFP w/water	31

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
Files:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=Moisture density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C/F.S.)
Phi(m)=Phi divided by a Factor of Safety (Ø/F.S.)

H (ft)	35	
Alpha (degrees)	35	0.610865
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.260392
W (lbs)	109200.8
X (ft)	48.18515
L (ft)	58.82321

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	7591.522
b	101609.3

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	25236.63

Pa=Resultant force calculated from the free-body diagram

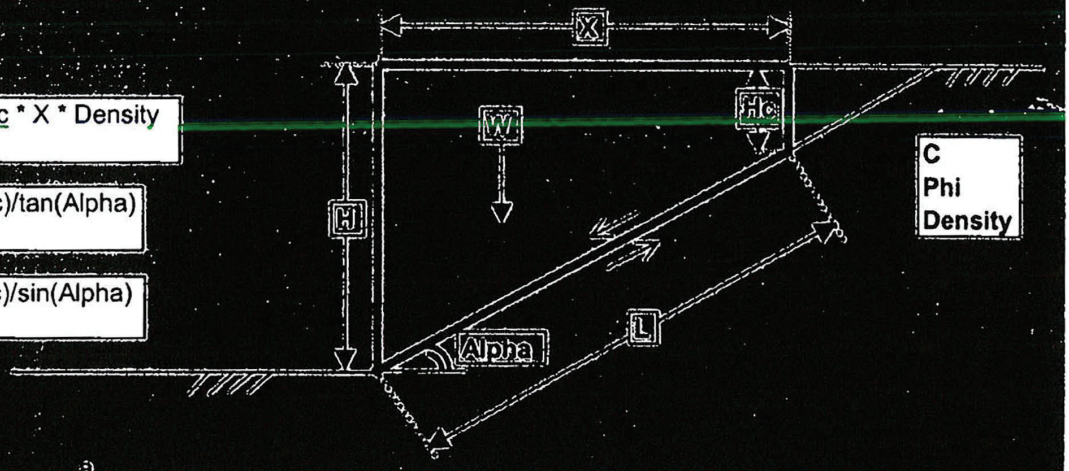
EFP (pcf)	41
EFP w/water	41

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\text{^2})(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

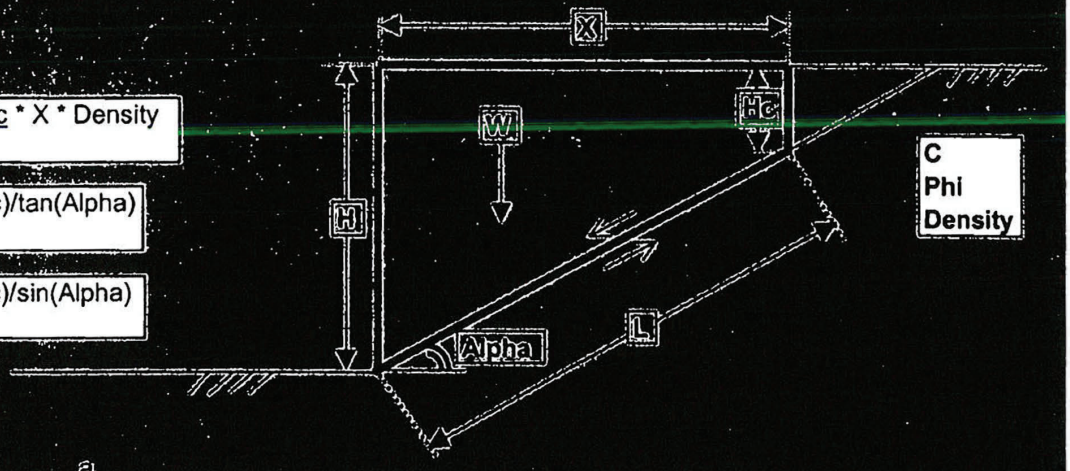
Project: Police Headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=Unit mass density
C(m)	33.33333		C(m)=C divided by a Factor of Safety (C/1.5)
Phi(m)	21.05172	0.367422	Phi(m)=Phi divided by a Factor of Safety (Phi/1.5)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	40	0.698132	Alpha=Angle from horizontal of block failure
F.S.	1.5		F.S.=Factor of Safety
Hc (ft)	1.900493		Hc=Height of tension crack
W (lbs)	91169.08		W=Weight of sliding block defined by H, Alpha, and Hc
X (ft)	40.51903		X=Horizontal projection of inclined failure surface at base
L (ft)	52.89384		L=Length of inclined failure surface at base of sliding block
a	5067.378		a and b are two components of W that are calculated from
b	86101.7		the free-body diagram
Pa (lbs)	29560.27		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	48		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	48		EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(^2)(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E[illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	45	0.785398
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.867068
W (lbs)	76515.51
X (ft)	34.13293
L (ft)	48.27126

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3699.446
b	72816.07

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32341.07

Pa=Resultant force calculated from the free-body diagram

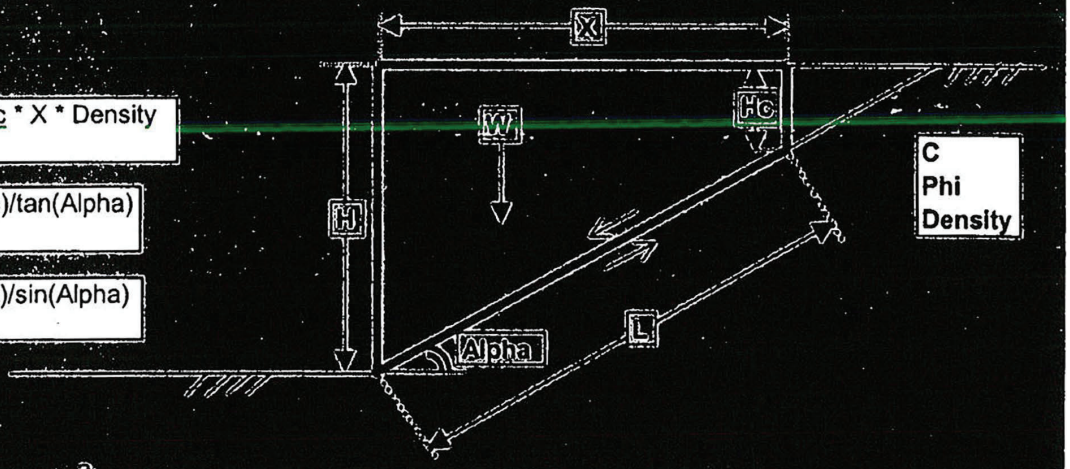
EFP (pcf)	53
EFP w/water	53

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

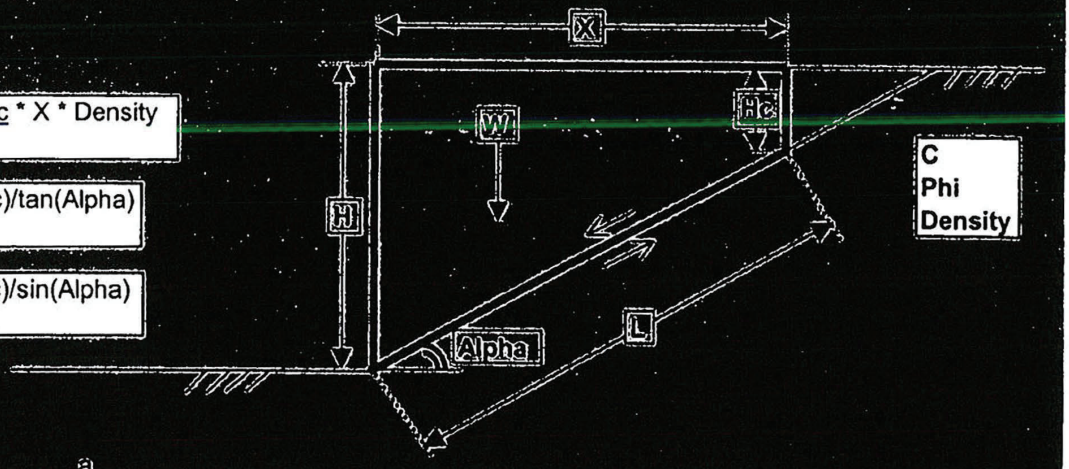
Project: Police Headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=In-place density
C(m)	33.33333		C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)	21.05172	0.367422	Phi(m)=Phi divided by a Factor of Safety (C5/C13)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	50	0.872665	Alpha=Angle from horizontal of block failure
F.S.	1.5		F.S.=Factor of Safety
Hc (ft)	0.799906		Hc=Height of tension crack
W (lbs)	64210.01		W=Weight of sliding block defined by H, Alpha, and Hc.
X (ft)	28.69729		X=Horizontal projection of inclined failure surface at base
L (ft)	44.64505		L=Length of inclined failure surface at base of sliding block
a	2869.392		a and b are two components of W that are calculated from the free-body diagram
b	61340.62		
Pa (lbs)	33929.3		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	55		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	55		EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



a)

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	55	0.959931
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.77696
W (lbs)	53583.22
X (ft)	23.96323
L (ft)	41.77862

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2327.309
b	51255.91

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34505.27

Pa=Resultant force calculated from the free-body diagram

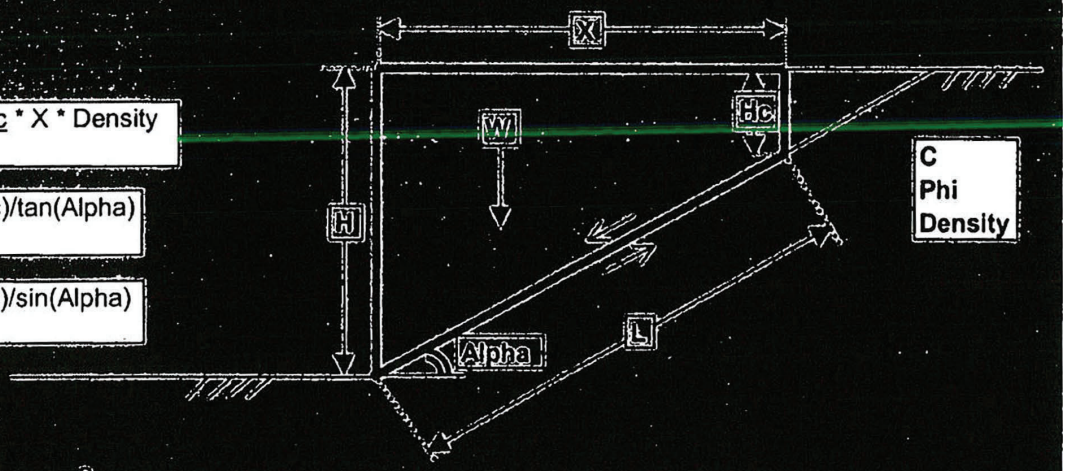
EFP (pcf)	56
EFP w/water	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=Moist unit density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C18)
Phi(m)=Phi divided by a Factor of Safety (C5/C18)

H (ft)	35	
Alpha (degrees)	60	1.047198
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	9.791795
W (lbs)	44180.76
X (ft)	19.75012
L (ft)	39.50023

Hc=Height of tension crack
W=Weight of sliding block, defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	1954.755
b	42226

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34130.87

Pa=Resultant force calculated from the free-body diagram

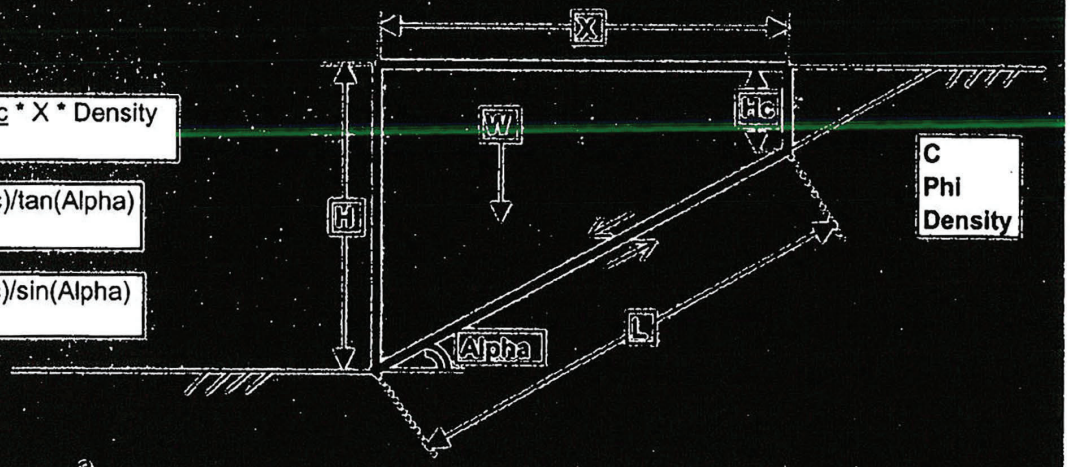
EFP (pcf)	56
EFP w/water	66

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



a)

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on geotech direct shear test
Phi=Internal friction angle from direct shear test
Density=Soil unit weight

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C5/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	65	1.134464
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.848509
W (lbs)	35680.7
X (ft)	15.9251
L (ft)	37.682

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	1689.075
b	33991.62

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32766.08

Pa=Resultant force calculated from the free-body diagram

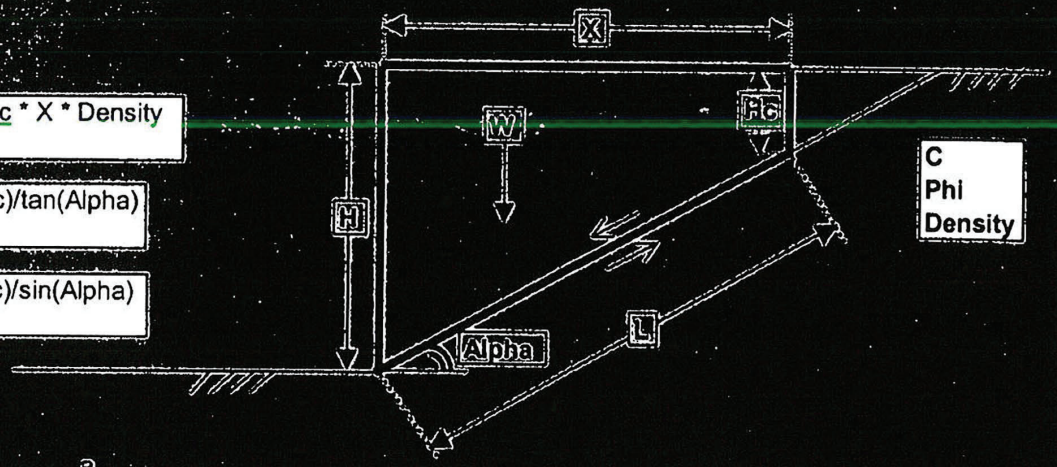
EFP (pcf)	53
EFP w/water	54

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C18)
Phi(m)=Phi divided by a Factor of Safety (C5/C18)

H (ft)	35	
Alpha (degrees)	51	0.890118
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.792151
W (lbs)	61967.33
X (ft)	27.70097
L (ft)	44.01728

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2742.917
b	59224.41

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34121.98

Pa=Resultant force calculated from the free-body diagram

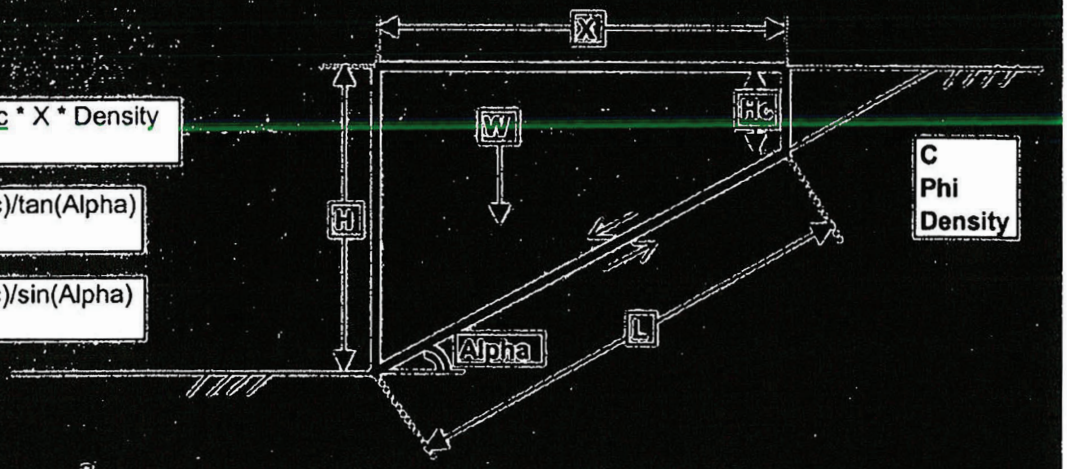
EFP (pcf)	56
EFP w/water .	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	53	0.925025
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.781493
W (lbs)	57665.22
X (ft)	25.78549
L (ft)	42.84621

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2518.898
b	55146.32

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34390.06

Pa=Resultant force calculated from the free-body diagram

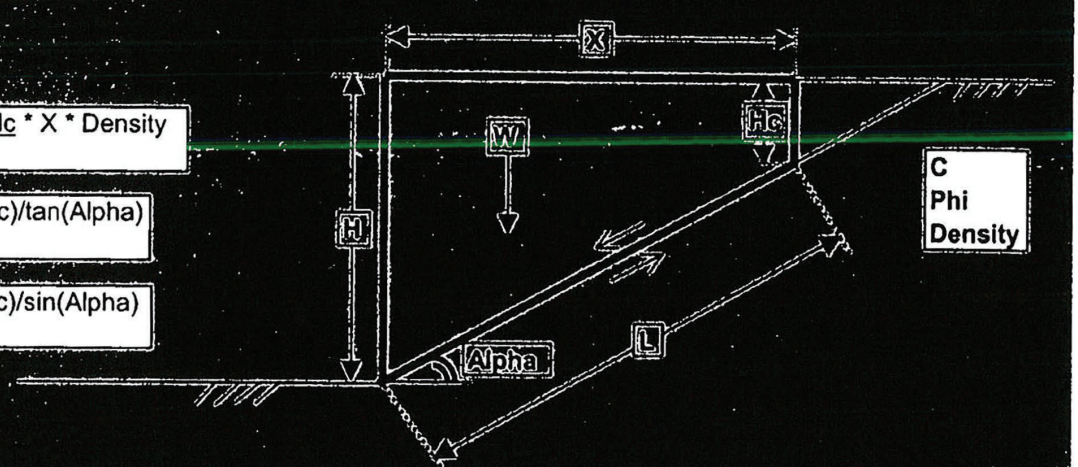
EFP (pcf)	56
EFP w/water	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	57	0.994838
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.778363
W (lbs)	49695.68
X (ft)	22.22379
L (ft)	40.80462

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2162.273
b	47533.41

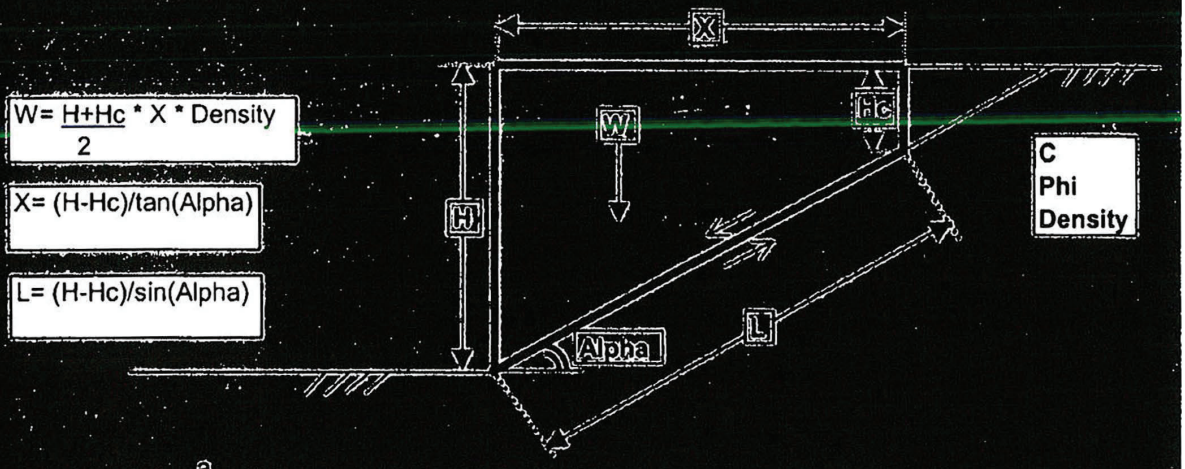
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34469.52

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	56
EFP w/water	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\text{^2})(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on results of direct shear test
Phi=Internal friction angle from direct shear test
Density=Pregrade density

C(m)	33.33333	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C1/C1.5)
Phi(m)=Phi divided by a Factor of Safety (C5/C1.5)

H (ft)	35	
Alpha (degrees)	59	1.029744
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	0.785761
W (lbs)	45980.2
X (ft)	20.55799
L (ft)	39.91547

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2019.209
b	43961

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	34282.23

Pa=Resultant force calculated from the free-body diagram

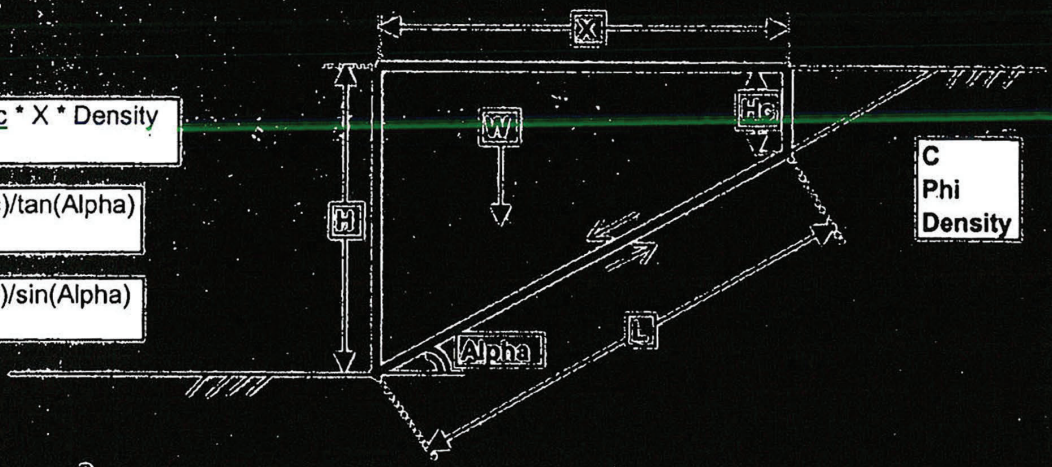
EFP (pcf)	56
EFP w/water	56

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{a}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	10	0.174533
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	-1.155473
W (lbs)	433734.3
X (ft)	205.0479
L (ft)	208.2111

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-29615.92
b	463350.2

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-122347

Pa=Resultant force calculated from the free-body diagram

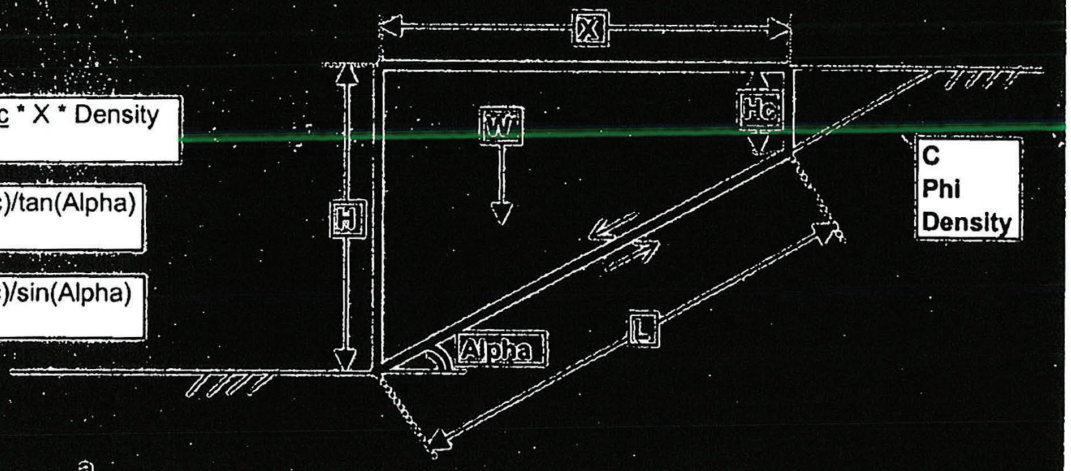
EFP (pcf)	-200
EFP w/water	-200

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

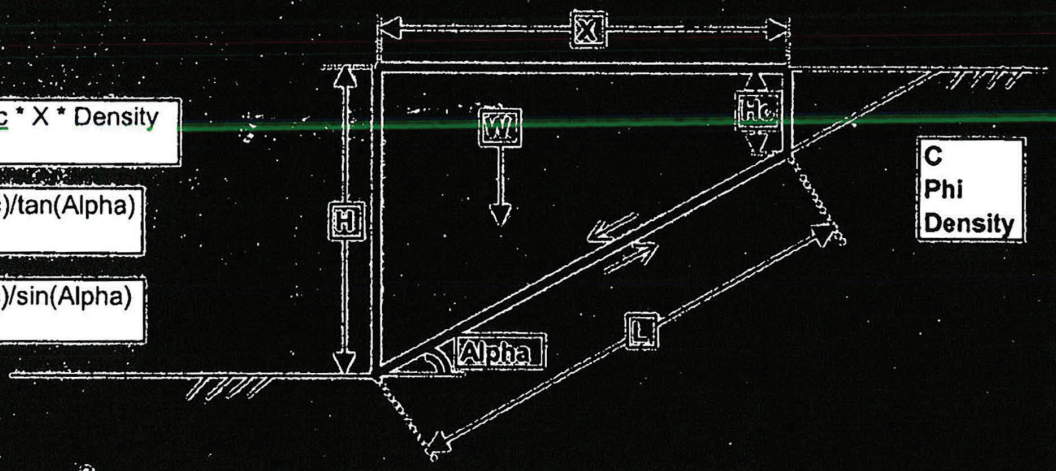
Project: Police Headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=In place density
C(m)	40		C(m)=C divided by a Factor of Safety (C15/C18)
Phi(m)	24.79128	0.432689	Phi(m)=Phi divided by a Factor of Safety (C5/C18)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	15	0.261799	Alpha=Angle from horizontal of break failure
F.S.	1.25		F.S.=Factor of Safety
Hc (ft)	-1.768541		Hc=Height of tension crack
W (lbs)	285005.6		W=Weight of sliding block defined by H, Alpha, and Hc
X (ft)	137.2221		X=Horizontal projection of inclined failure surface at base
L (ft)	142.0627		L=Length of inclined failure surface at base of sliding block
a	-30335.36		a and b are two components of W that are calculated from the free-body diagram
b	315340.9		
Pa (lbs)	-54419.42		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	89		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	89		EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\wedge 2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=Unit mass density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C/FS)
Phi(m)=Phi divided by a Factor of Safety (PS/FS)

H (ft)	35	
Alpha (degrees)	20	0.349066
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	3.701275
W (lbs)	208001.3
X (ft)	106.3309
L (ft)	113.155

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizonal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-49194.98
b	257196.3

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-21557.96

Pa=Resultant force calculated from the free-body diagram

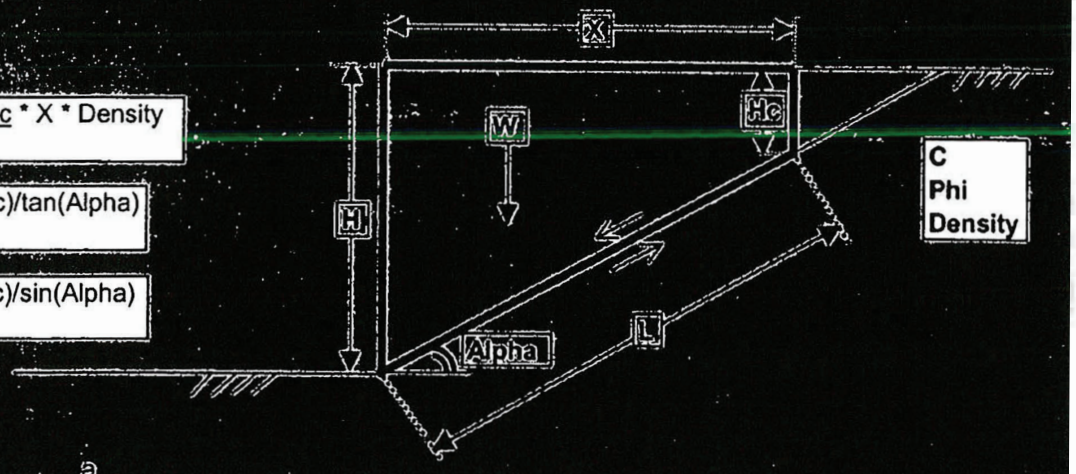
EFP (pcf)	35
EFP w/water	34

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	25	0.436332
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	-87.99249
W (lbs)	-873575.3
X (ft)	-113.6428
L (ft)	-125.3909

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-1249964
b	376388.3

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	1371.127

Pa=Resultant force calculated from the free-body diagram

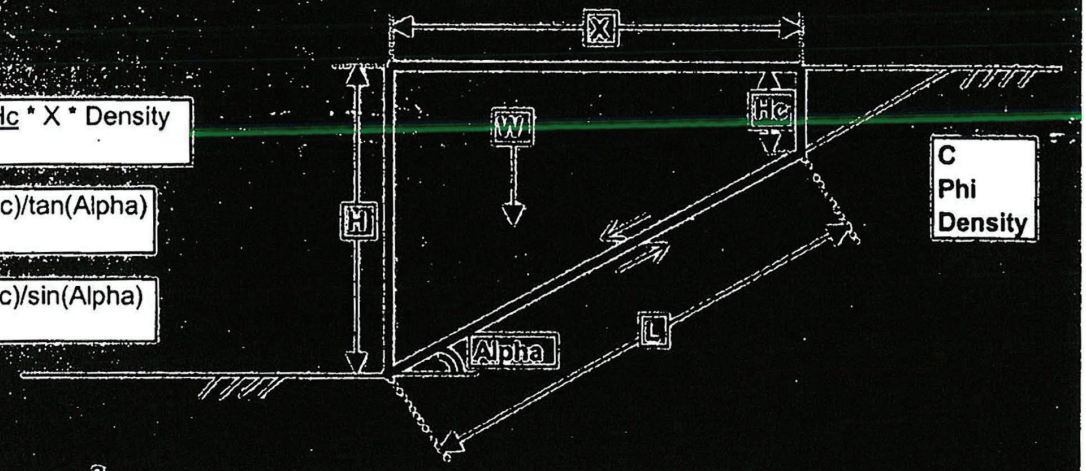
EFP (pcf)	2
EFP w/water	397

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C18)
Phi(m)=Phi divided by a Factor of Safety (C5/C19)

H (ft)	35	
Alpha (degrees)	30	0.523599
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of back failure
F.S.=Factor of Safety

Hc (ft)	31695042
W (lbs)	131132.1
X (ft)	54.22178
L (ft)	62.60992

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	25043.97
b	106088.2

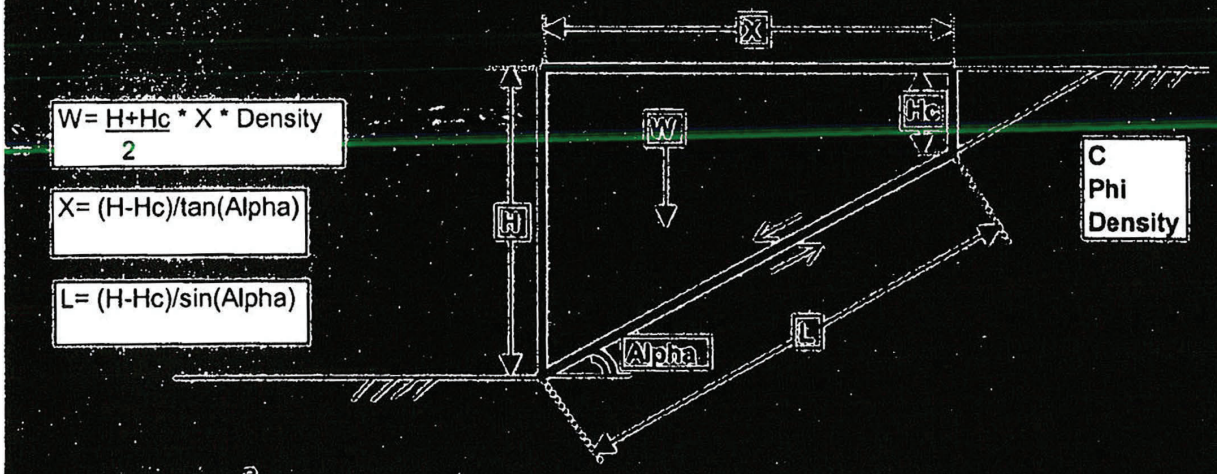
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	9671.057

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	16
EFP w/water	16

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

a

$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(^2)(\text{Alpha})*\tan(\text{Phi})}$$

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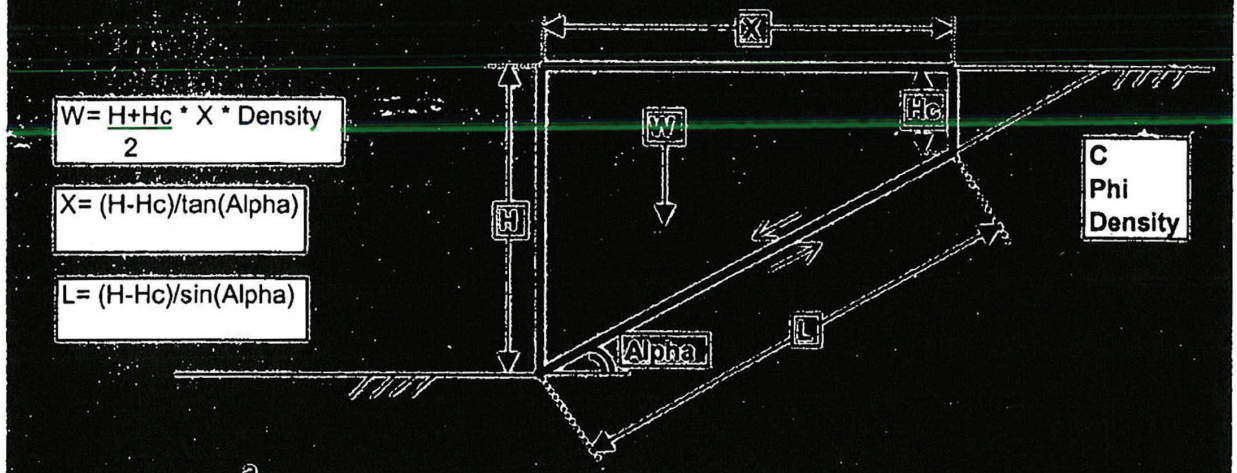
LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=In-place density
C(m)	40		C(m)=C divided by a Factor of Safety (C9/C13)
Phi(m)	24.79128	0.432689	Phi(m)=Phi divided by a Factor of Safety (C9/C13)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	35	0.610865	Alpha=Angle from horizontal of block failure
F.S.	1.25		F.S.=Factor of Safety
Hc (ft)	2.001		Hc=Height of tension crack
W (lbs)	108985.2		W=Weight of sliding block defined by H, Alpha, and Hc
X (ft)	47.12746		X=Horizontal projection of inclined failure surface at base
L (ft)	57.532		L=Length of inclined failure surface at base of sliding block
a	11787.76		a and b are two components of W that are calculated from
b	97197.43		the free-body diagram
Pa (lbs)	17503.85		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	29		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	29		EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{a}{F.S.*\text{Density}*\sin(Alpha)*\cos(Alpha)-\text{Density}*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: 1179113

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C/F.S.)
Phi(m)=Phi divided by a Factor of Safety (Ø/F.S.)

H (ft)	35	
Alpha (degrees)	40	0.698132
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	14.4456
W (lbs)	91087.98
X (ft)	39.98858
L (ft)	52.20138

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	7225.934
b	83862.05

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	22798.52

Pa=Resultant force calculated from the free-body diagram

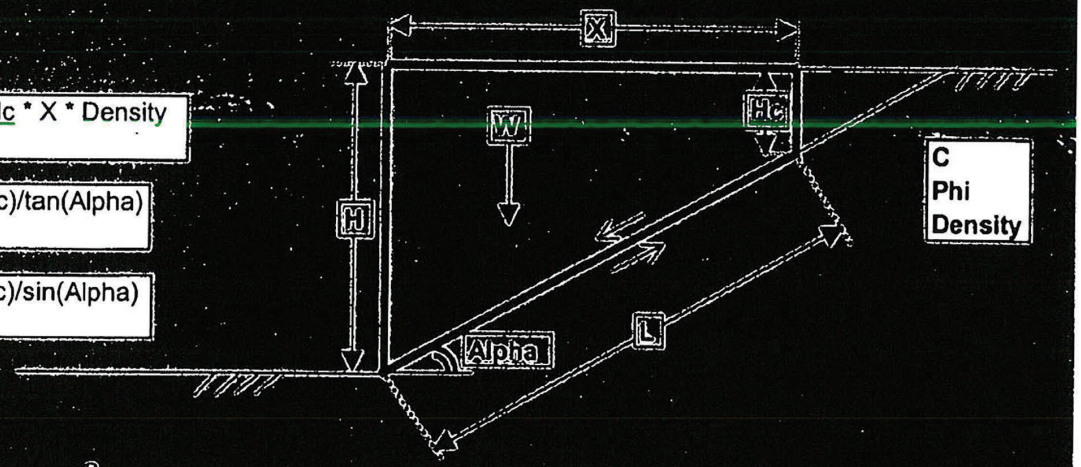
EFP (pcf)	37
EFP w/water	37

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

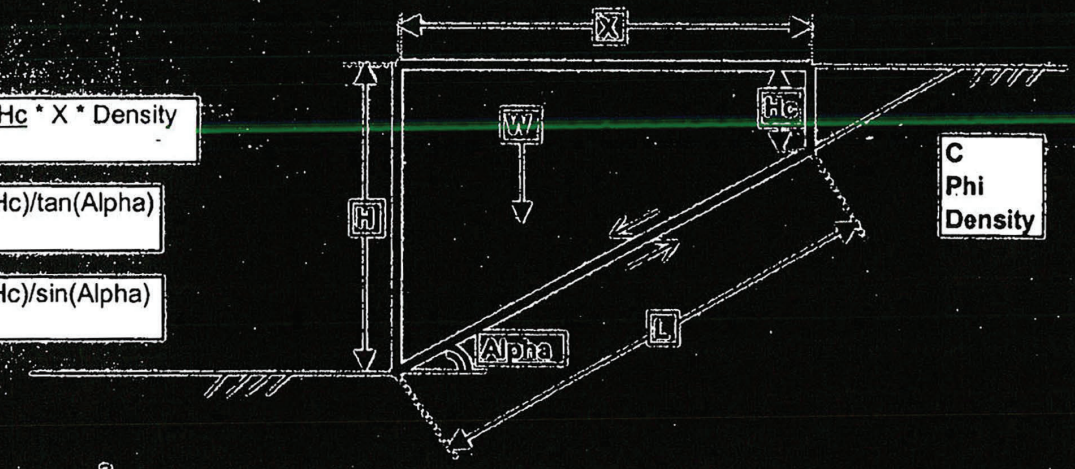
Project: Police Headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=In-place density
C(m)	40		C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)	24.79128	0.432689	Phi(m)=Phi divided by a Factor of Safety (C5/C13)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	45	0.785398	Alpha=Angle from horizontal of block failure
F.S.	1.25		F.S.=Factor of Safety
Hc (ft)	1.189326		Hc=Height of tension crack
W (lbs)	76474.09		W=Weight of sliding block defined by H, Alpha, and Hc
X (ft)	33.81067		X=Horizontal projection of inclined failure surface at base
L (ft)	47.81551		L=Length of inclined failure surface at base of sliding block
a	5026.49		a and b are two components of W that are calculated from the free-body diagram
b	71447.6		
Pa (lbs)	26299.94		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	43		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	43		EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C*/C18)
Phi(m)=EPhi divided by a Factor of Safety (C5/C18)

H (ft)	35	
Alpha (degrees)	50	0.872665
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	11.06112
W (lbs)	64184.51
X (ft)	28.4781
L (ft)	44.30405

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3777.36
b	60407.15

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	28436.68

Pa=Resultant force calculated from the free-body diagram

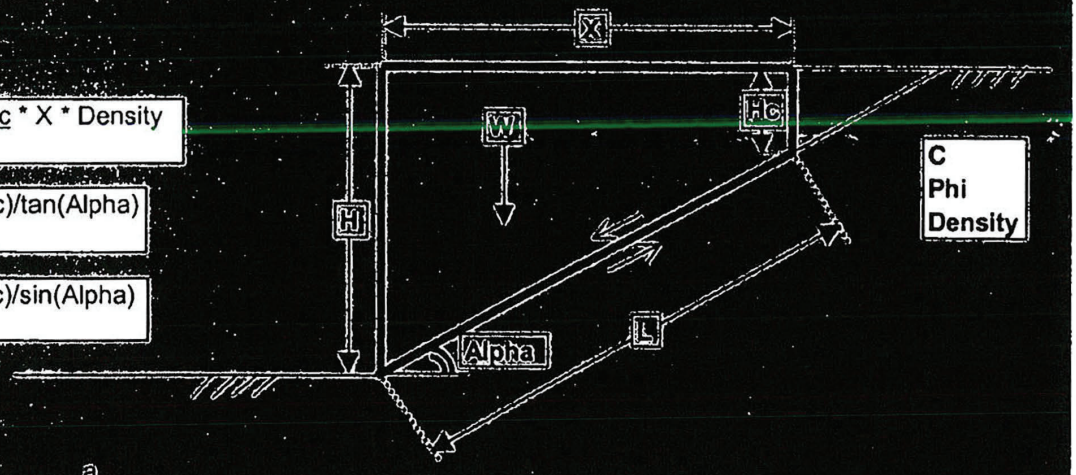
EFP (pcf)	46
EFP w/water	46

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W/O No. E[illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	55	0.959931
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.00663
W (lbs)	53565.29
X (ft)	23.80241
L (ft)	41.49824

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2995.028
b	50570.27

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	29442.9

Pa=Resultant force calculated from the free-body diagram

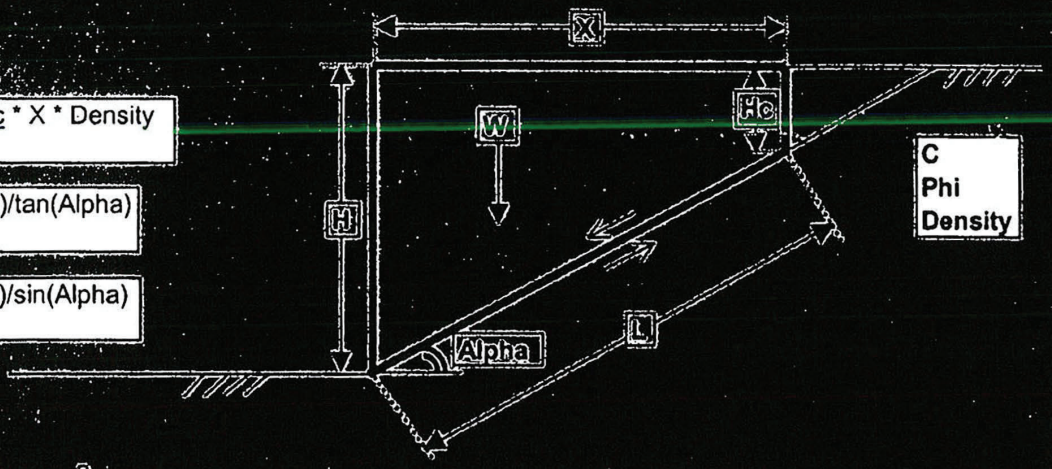
EFP (pcf)	48
EFP w/water	48

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



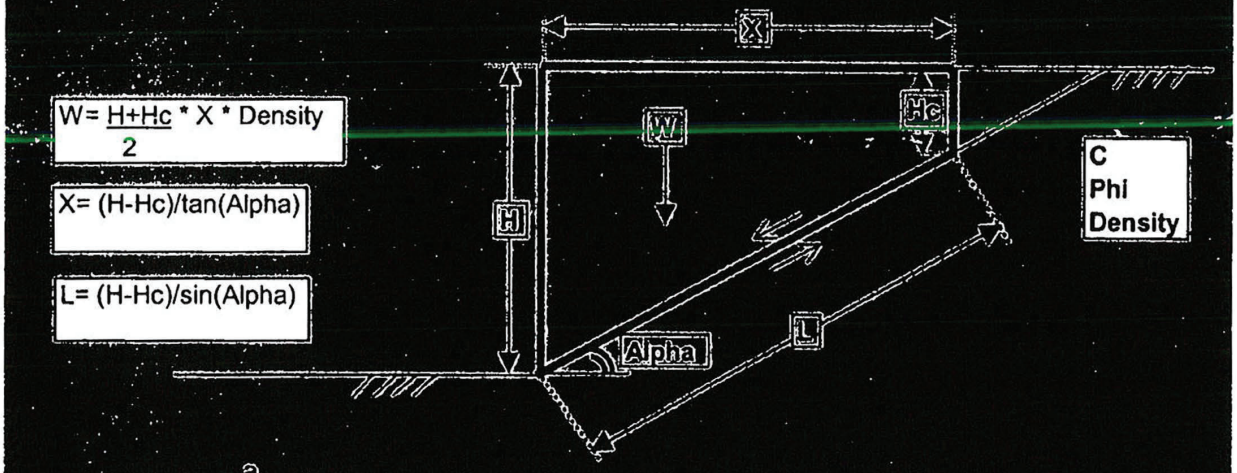
a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

		Radians	
C (psf)	50		C=Cohesion based on residual direct shear test
Phi (degrees)	30	0.523599	Phi=Internal friction angle from direct shear test
Density (pcf)	125		Density=In-place density
C(m)	40		C(m)=C divided by a Factor of Safety (C/FS)
Phi(m)	24.79128	0.432689	Phi(m)=Phi divided by a Factor of Safety (C/FS)
H (ft)	35		H=Retained height of wall
Alpha (degrees)	60	1.047198	Alpha=Angle from horizontal of block failure
F.S.	1.25		F.S.=Factor of Safety
Hc (ft)	1.007739		Hc=Height of tension crack
W (lbs)	44166.73		W=Weight of sliding block defined by H, Alpha, and Hc
X (ft)	19.62544		X=Horizontal projection of inclined failure surface at base
L (ft)	39.25088		L=Length of inclined failure surface at base of sliding block
a	2472.164		a and b are two components of W that are calculated from the free-body diagram
b	41694.57		
Pa (lbs)	29421.79		Pa=Resultant force calculated from the free-body diagram
EFP (pcf)	48		EFP=Equivalent fluid pressure based on Pa and H
EFP w/water	48		EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

a

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	65	1.134464
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.064794
W (lbs)	35668.64
X (ft)	15.82425
L (ft)	37.44336

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2106.196
b	33562.44

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	28371.22

Pa=Resultant force calculated from the free-body diagram

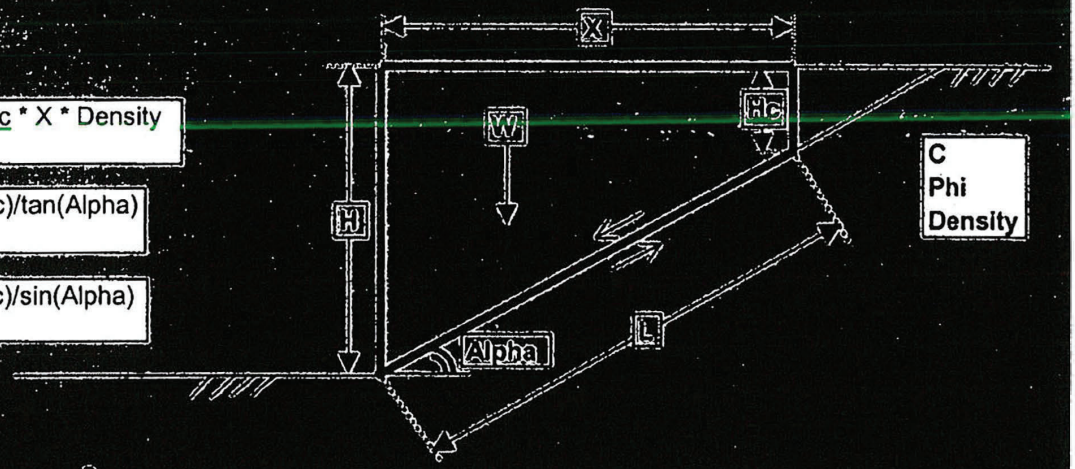
EFP (pcf)	46
EFP w/water	46

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	51	0.890118
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.045243
W (lbs)	61943.8
X (ft)	27.49602
L (ft)	43.69161

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3592.504
b	58351.29

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	28723.43

Pa=Resultant force calculated from the free-body diagram

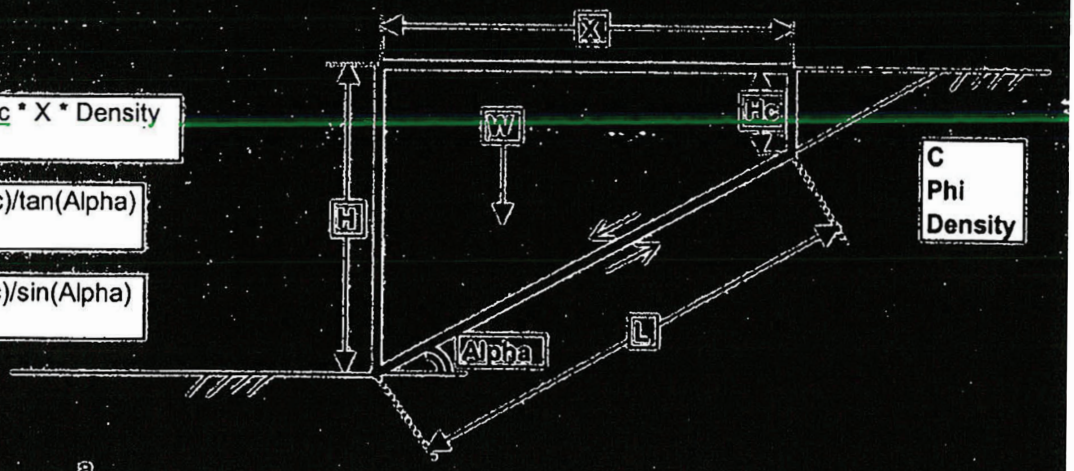
EFP (pcf)	47
EFP w/water	47

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



a.

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E-Pos HB

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	53	0.925025
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.021234
W (lbs)	57644.86
X (ft)	25.60484
L (ft)	42.54602

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3268.566
b	54376.3

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	29166.97

Pa=Resultant force calculated from the free-body diagram

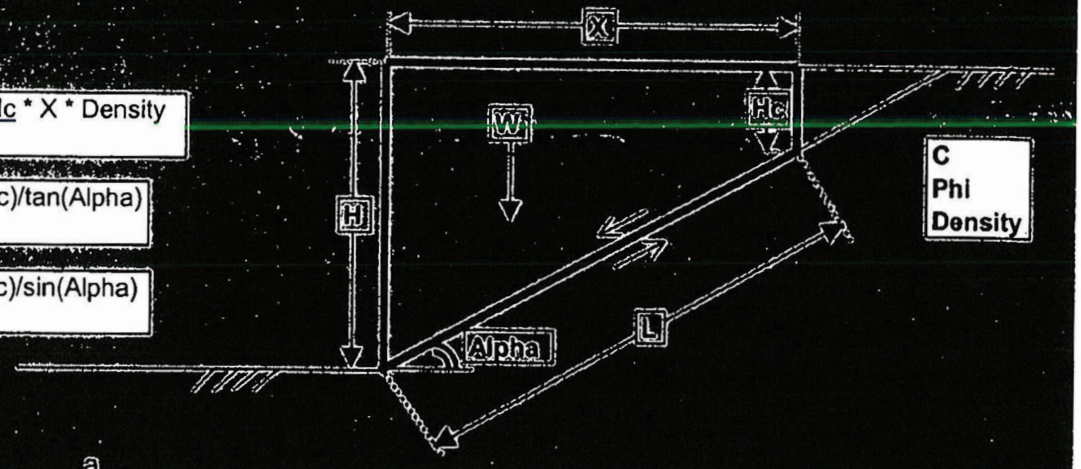
EFP (pcf)	48
EFP w/water	48

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(^2)(Alpha)*\tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	57	0.994838
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.000737
W (lbs)	49679.62
X (ft)	22.07938
L (ft)	40.53947

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2761.956
b	46917.67

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	29555.6

Pa=Resultant force calculated from the free-body diagram

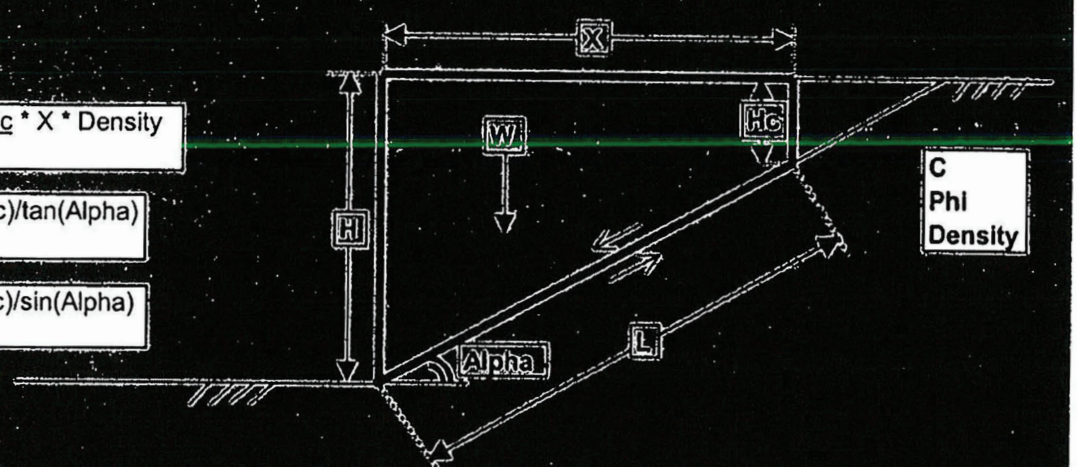
EFP (pcf)	48
EFP w/water	48

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. [illegible]

		Radians
C (psf)	50	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	40	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	59	1.029744
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.003281
W (lbs)	45965.59
X (ft)	20.42729
L (ft)	39.66171

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	2561.789
b	43403.8

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	29506.85

Pa=Resultant force calculated from the free-body diagram

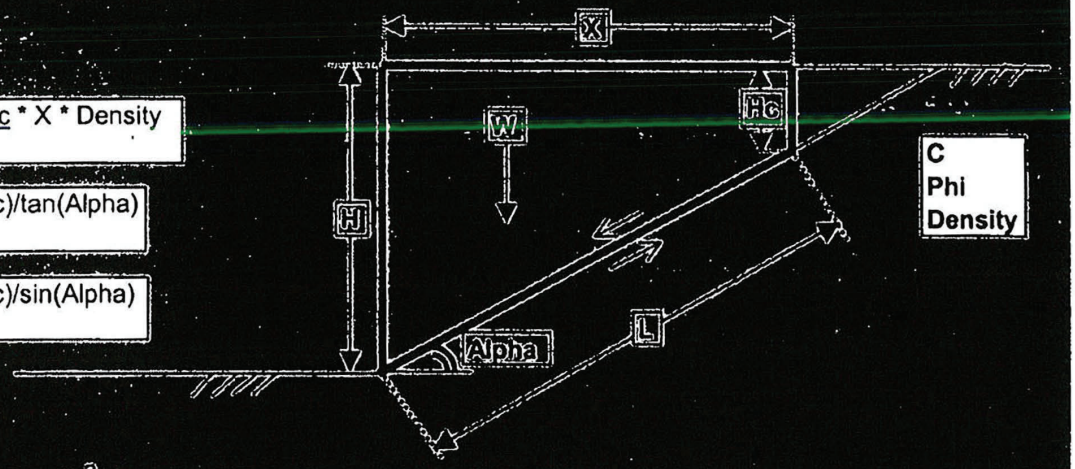
EFP (pcf)	48
EFP w/water	48

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



a

$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

47253-02

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: July 28, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL GEOTECHNICAL ENGINEERING REPORT-NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES, WO E170910B, GED FILE 04-120**

This report has been prepared in response to the "Soil Report Correction Letter" letter received from the City of Los Angeles Department of Building & Safety (CLADBS) Grading Division on June 28, 2005. The Geotechnical Engineering Division's (GED) Geotechnical Engineering Report for the New Police Headquarters Facility is dated February 15, 2005. The geotechnical report was submitted to the CLADBS on March 4, 2005 under Log No 47253. A "Soil Report Correction Letter", dated April 7, 2005, was received from CLADBS. GED responded to the CLADBS "Soil Report Correction Letter" in a letter dated May 24, 2005. A second "Soil Report Correction Letter", dated June 21, 2005, was received from CLADBS on June 28, 2005. A copy of the June 21, 2005 correction letter s is presented in Appendix A of this letter report.

This report responds to the second "Soil Report Correction Letter" and request's approval of the geotechnical report. For ease of reference, each of the review comments/requests is repeated with our response.

Project Description

Since the issuance of the February 15, 2005 geotechnical report and May 24, 2005 supplement report, the project scope has been revised to remove the lowest parking level and a portion of the second lowest parking level. As a result, the lowest subterranean parking level is now expected to extend down to an elevation of approximately 260 feet. This corresponds to depths of approximately 20 to 27 feet below the ground surface. This is expected to result in excavations extending to depths of approximately 10 feet or less into the underlying bedrock.

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Comment No. 1

"Provide a geologic report for the site signed by a certified engineering geologist, as previously requested. Note, that the report by Kleinfelder indicates bedding plans present (Boring B-1A@ 25', Boring B-3 @ 20', Boring B-4 @ 18' etc.), however no bedding attitudes given."

Response: The February 15, 2005 GED report was a combined soils engineering and geology report that contained geologic data for the site and was signed by a certified engineering geologist. A Geotechnical Data Report prepared by Kleinfelder was presented as Appendix A of the GED report. A geologist did not sign this data report. At the request of CLADBS, Kleinfelder's geotechnical data report was revised to include the signature of a geologist and was submitted to CLADBS on June 24, 2005. Based on our correspondence with CLADBS we understand that the submittal of this data report has adequately addressed Comment No. 1.

Comment No. 2

"Provided re-shear strength of the claystone bedrock appears to be high. In addition, reported shearing of the sample for only 5 cycles may not result in the lowest shear strength. Provide additional testing to justified the values given in the report together with the laboratory "raw" data. The depth of the sample selected for testing shall match but not exceed the depth of proposed excavation."

Response: It is our opinion that the use of re-shear test results for the determination of earth pressures for design of temporary shoring and subterranean walls for the project is overly conservative. Re-shear testing was not performed or even considered during the geotechnical design of the new Caltrans District 7 headquarters building located across Main Street from the proposed project site. Subterranean levels of the Caltrans building extend deeper into bedrock than the proposed Police headquarters building. As noted in the February 15, 2005 report, the bedrock is generally massive. The response to comment No. 5, presented herein, goes into more detail about the lack of distinguishable bedding for the majority of the bedrock samples collected from the site. Where bedding was identifiable, it was typically faint with no observed indication of previous shearing. Based on all these considerations, it is our opinion that peak or possibly ultimate shear strength parameters are more appropriate for the design of shoring and subterranean walls for the project.

However, in accordance with the requirements of the reviewer, an additional re-shear direct shear test was performed for another sample of the site bedrock. Plots of the direct shear test results, stress-strain plots and test data are presented in Appendix B of this report. The previous re-shear test yielded re-shear (residual) shear strength parameters of 150 pounds per square foot cohesion and a friction angle of 31 degrees. This test was ran for five cycles, which was sufficient as indicated by the data. The most recent test yielded re-shear (residual) shear strength parameters of 50 pounds per square foot cohesion and a

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friction angle of 30 degrees. This test was stopped after four cycles since the fourth cycle resulted in higher strength than the third cycle. The values presented herein are based on the results of the third, more conservative cycle.

Comment No. 3

Revise recommendations for shoring and retaining wall design to include surcharge from bedding. It is not clear where the angle "alpha" equals to 55 degrees was obtained from. The calculations shall also utilize the angle of bedding given by the engineering geologist.."

Response: As presented in the response to Comment No. 5, the majority of the bedrock beneath the site is massive with indistinctive bedding. Of the small percentage of samples were bedding could be determined the bedding ranged from 30 to 60 degrees. Bedding was undeterminable in the majority of the samples. The angle "alpha" of 55 degrees was presented in the May 24, 2005 letter because it resulted in the highest equivalent fluid earth pressure.

Additional analyses were performed as requested by the reviewer. As requested by the reviewer we have performed the analyses for five-degree intervals for bedding varying from 10 to 60 degrees. As also requested, we have performed additional analyses for angles of plus and minus 2 and 4 degrees of the critical angle determined from the analyses performed at 5 degree increments. To avoid adding conservatism to conservatism, we believe that if we are required to used re-shear strength parameters for the analyses of earth pressures for the design of shoring and subterranean walls that it is only appropriate to use the average of the two re-shear (residual) strength tests. Thus, we have used re-shear (residual) shear strength parameters of 100 pounds per square foot cohesion and a friction angle of 30 degrees. The vector analyses results are presented in Appendix C of this letter report. For these analyses, the largest equivalent fluid pressure values were calculated for an "alpha" angle of 55 degrees.

Based on the results of these additional analyses, braced shoring for the project can be designed using a uniform rectangular soil pressure of 23H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. The subterranean basement walls of the structure, fixed against rotation (no movement allowed), that retain a level backfill for a horizontal distance equal to or greater than the height of the wall can be designed using at-rest equivalent fluid pressure of 55 pounds per cubic foot (pcf). Alternatively, braced subterranean walls retaining level backfills can be designed using a uniform rectangular soil pressure of 28H pounds per square foot, where H is equal to the depth of the excavation in feet being shored. These earth pressures presented herein assume that sufficient drainage will be provided behind the walls to reduce the build-up of hydrostatic pressures from surface and subsurface water infiltration. All other recommendations for shoring and subterranean retaining walls presented in the February 15, 2005 geotechnical report are still valid.

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Comment No. 4

"Provide dry density of the sheared sample to demonstrate the saturation prior to shearing."

Response: The direct shear plots presented in Appendix B of this report provide the dry densities of the samples.

Comment No. 5

"Re-vise cross-sections to show bedding attitudes."

Response: As stated in the February 15, 2005 report, bedrock beneath the site is generally massive in nature. As a result it was difficult to obtain bedding orientations for the formation. However, in order to respond to the reviewer's request a geologist re-observed samples obtained from the borings in an effort to more clearly define the bedding conditions of the bedrock beneath the site.

Of the samples collected from the exploratory borings, approximately 70 were logged as bedrock. Of these, Kleinfelder was only able to clearly identify bedding on seven samples. Of the samples where bedding was observed, the bedding was faint with no signs of previous shearing. Based on these additional observations, Kleinfelder has prepared a cover letter and revised boring logs which are presented in the attached Appendix D. As stated in Kleinflelder's cover letter, the bedrock beneath the site has been confirmed to be generally massive with indistinctive bedding. Of the seven samples that showed evidence of bedding, the bedding ranged from 30 to 60 degrees. GED has reviewed the Kleinfelder report presented in Appendix D, concurs with and accepts responsibility for the use the data. Due the lack of distinct bedding in the majority of the samples, the cross-sections have not been revised to show bedding attitudes.

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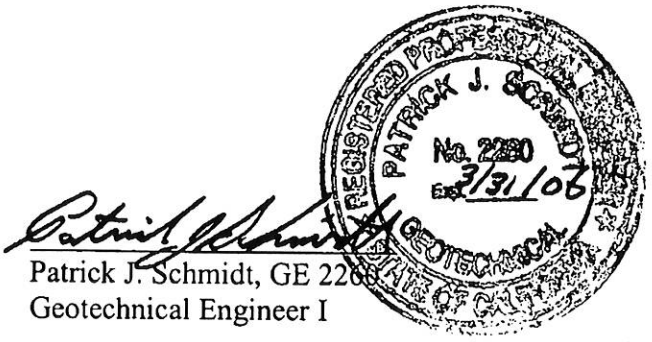
If you have any questions, please contact Patrick Schmidt at (213) 847-4046.



Patrick J. Schmidt, GE 2280
Geotechnical Engineer I

Fred Burnett, CEG 2052
Engineering Geologist I

Attachments: Appendix A- CLADBS Second Correction Letter
Appendix B- Re-shear Direct Shear Test Results and Data
Appendix C - Lateral Earth Pressure by Vector Analysis
Appendix D – Kleinfelder Letter Report with Revised Boring Logs

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Appendix B
Re-shear Direct Shear Test Results
And Raw Data

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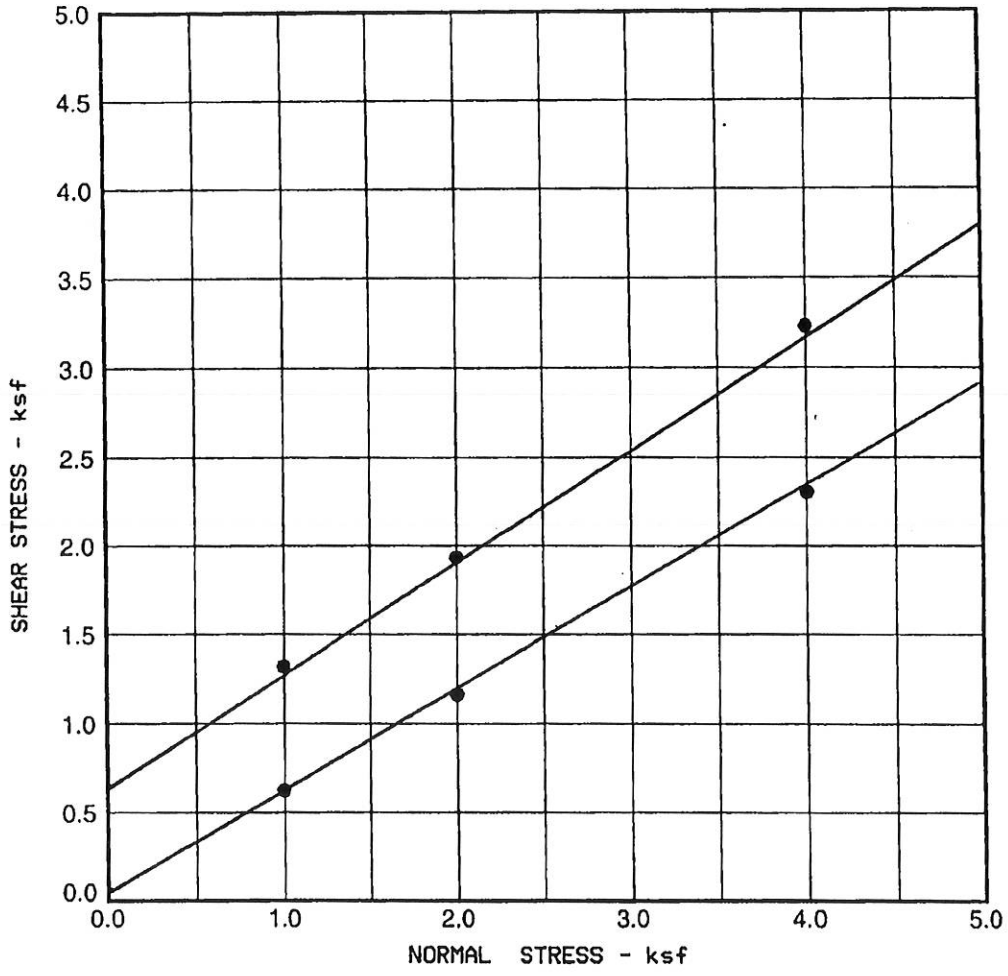

Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1320	1932	3228
Residual Shear - psf	624	1164	3204

Moisture Content Before Test= 27.4 %
Moisture Content After Test = 36.3 %
Initial Dry Density = 90 pcf
Sample was resheared for 4 cycles

Sample	B-4
Depth - ft	25.0
Description	Claystone
Classification	--

Shear Strength	Peak	Residual
Cohesion - ksf	0.65	0.05
Friction Angle - deg	32	30

KLEINFELDER

PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE 1

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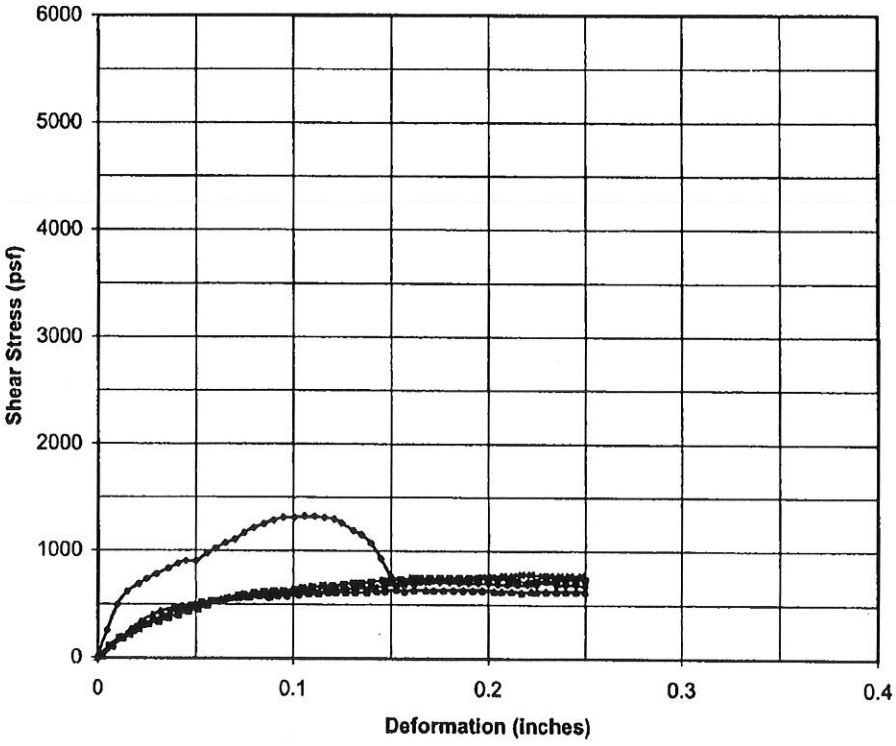
Normal Stress - 1000 psf



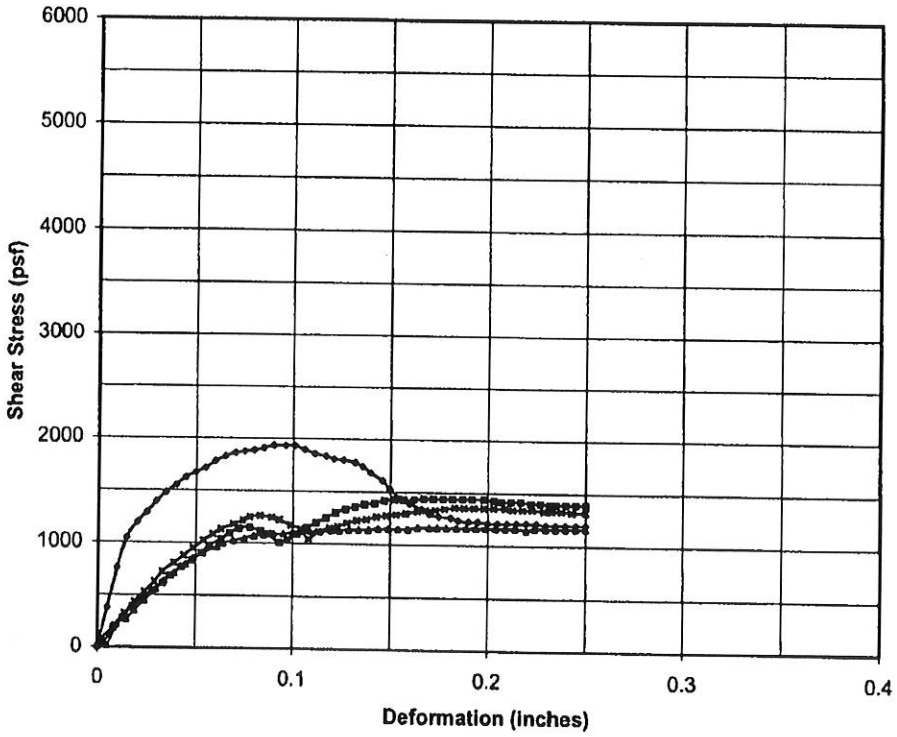
Project Name:	GED Police HQ
Project Number:	52307
Boring No.:	B-4
Sample No.:	--
Depth (ft):	25
Sample Type:	Undisturbed
Soil Type:	Dark Gray Claystone
Test Condition:	Saturated
Initial Dry Density:	90 pcf
Moisture Content (Before):	27.4 %
Moisture Content (After):	%

Residual Direct Shear Test Results

Kleinfelder

Plate 1

Normal Stress - 2000 psf



Project Name:	GED Police HQ
Project Number:	52307
Boring No.:	B-4
Sample No.:	--
Depth (ft):	25
Sample Type:	Undisturbed
Soil Type:	Dark Gray Claystone
Test Condition:	Saturated
Initial Dry Density:	90 pcf
Moisture Content (Before):	27.4 %
Moisture Content (After):	%

Residual Direct Shear Test Results

Kleinfelder

Plate 2

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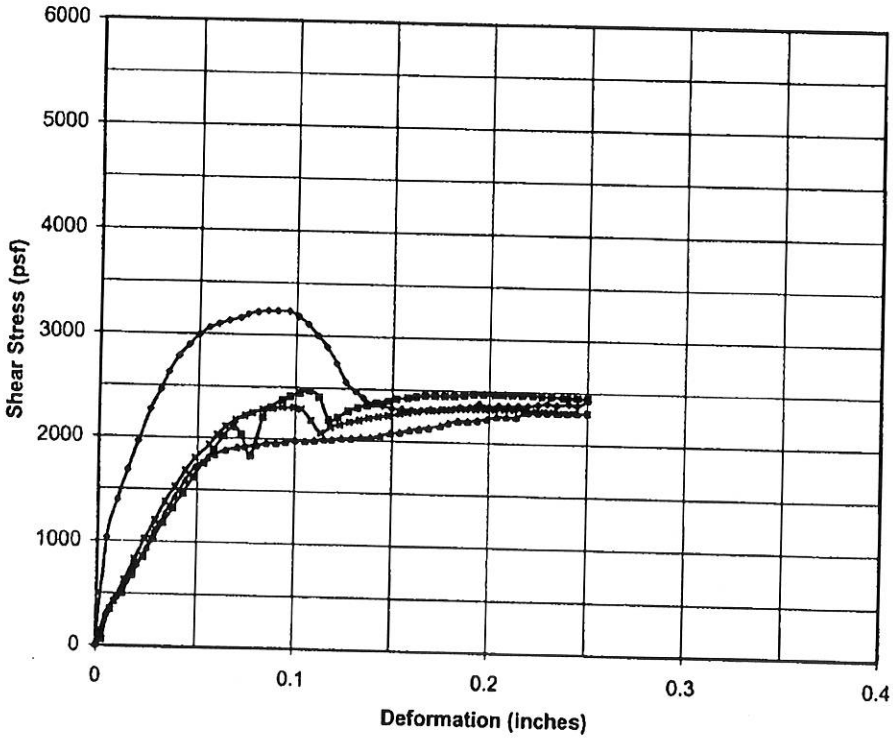
Normal Stress - 4000 psf



Project Name:	GED Police HQ
Project Number:	52307
Boring No.:	B-4
Sample No.:	--
Depth (ft):	25
Sample Type:	Undisturbed
Soil Type:	Dark Gray Claystone
Test Condition:	Saturated
Initial Dry Density:	90 pcf
Moisture Content (Before):	27.4 %
Moisture Content (After):	%

Residual Direct Shear Test Results

Kleinfelder

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GED POLICE HQ
52307
7/14/05
JDW
LOS ANGELES
2.416
1000
4
0.25
CLAYSTONE
B-4

25
0.002

0	0
0.005	252
0.01	492
0.015	612
0.021	684
0.025	732
0.03	780
0.036	828
0.041	876
0.045	900
0.05	900
0.056	972
0.06	1020
0.065	1068
0.07	1104
0.075	1164
0.08	1212
0.085	1248
0.09	1284
0.095	1308
0.101	1308
0.106	1320
0.111	1320
0.116	1308
0.121	1296
0.125	1260
0.131	1188
0.135	1152
0.14	1068
0.145	924
0.15	768
0.155	732
0.16	720
0.165	708
0.17	708
0.175	708
0.18	708
0.185	696
0.19	696
0.195	696
0.2	696

GED POLICE HQ
52307
7/15/05
JDW
LOS ANGELES
2.416
2000
4
0.25
CLAYSTONE
B-4

25
0.002

0	0
0.005	372
0.01	756
0.015	1044
0.02	1188
0.025	1284
0.03	1392
0.035	1476
0.04	1548
0.045	1620
0.05	1668
0.055	1716
0.06	1776
0.065	1824
0.07	1860
0.075	1872
0.08	1884
0.085	1908
0.09	1932
0.096	1932
0.101	1932
0.106	1896
0.111	1860
0.117	1836
0.121	1812
0.126	1800
0.132	1776
0.136	1740
0.14	1680
0.146	1608
0.15	1524
0.155	1440
0.16	1392
0.166	1344
0.17	1296
0.175	1272
0.181	1260
0.185	1236
0.19	1224
0.195	1224
0.2	1212

GED POLICE HQ
52307
7/15/05
JDW
LOS ANGELES
2.416
4000
4
0.25
CLAYSTONE
B-4

25
0.002

0	0
0.005	1032
0.01	1392
0.015	1680
0.02	1956
0.026	2268
0.031	2460
0.035	2628
0.04	2784
0.045	2892
0.05	2988
0.055	3060
0.06	3096
0.065	3132
0.071	3156
0.075	3192
0.08	3216
0.085	3228
0.09	3228
0.096	3228
0.101	3180
0.106	3108
0.111	3000
0.116	2892
0.121	2736
0.126	2556
0.131	2472
0.135	2412
0.14	2352
0.145	2340
0.15	2316
0.155	2316
0.16	2304
0.165	2304
0.17	2316
0.175	2316
0.181	2316
0.185	2340
0.19	2340
0.195	2376
0.2	2352

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0.205	684	0.205	1212	0.205	2364
0.21	684	0.21	1212	0.21	2364
0.215	684	0.215	1212	0.215	2364
0.22	684	0.22	1212	0.22	2364
0.225	684	0.225	1212	0.225	2376
0.23	720	0.23	1200	0.23	2388
0.235	684	0.235	1200	0.235	2376
0.24	684	0.24	1200	0.241	2388
0.245	684	0.245	1200	0.245	2376
0.25	672	0.25	1200	0.251	2424

PASS- 2

0	0
0.006	108
0.011	180
0.016	216
0.021	264
0.026	312
0.031	336
0.036	372
0.041	396
0.046	432
0.051	456
0.056	492
0.061	528
0.066	552
0.072	576
0.075	588
0.08	600
0.085	612
0.09	624
0.095	624
0.101	636
0.105	648
0.11	660
0.115	672
0.12	672
0.126	684
0.131	696
0.135	696
0.14	708
0.146	720
0.15	720
0.155	732
0.161	744
0.165	744
0.17	744
0.175	744
0.18	744
0.185	744
0.19	744
0.195	744
0.2	744

PASS- 2

0	0
0.002	72
0.008	180
0.013	276
0.018	384
0.022	456
0.028	540
0.033	612
0.037	684
0.043	768
0.048	828
0.053	900
0.057	972
0.063	1032
0.067	1092
0.072	1140
0.078	1152
0.083	1116
0.087	1092
0.093	1008
0.097	1032
0.102	1092
0.107	1152
0.112	1200
0.117	1248
0.122	1296
0.127	1332
0.132	1356
0.137	1380
0.142	1392
0.147	1416
0.152	1428
0.157	1428
0.162	1428
0.167	1440
0.172	1440
0.177	1440
0.182	1440
0.187	1440
0.192	1440
0.198	1440

PASS-2

0	0
0.003	60
0.007	348
0.013	504
0.018	672
0.023	852
0.028	1020
0.033	1176
0.038	1320
0.043	1464
0.048	1620
0.053	1752
0.058	1884
0.063	2016
0.068	2112
0.072	2040
0.077	1836
0.083	2208
0.087	2304
0.093	2376
0.097	2412
0.102	2448
0.107	2472
0.112	2412
0.117	2196
0.122	2220
0.127	2280
0.132	2316
0.137	2340
0.142	2364
0.148	2388
0.152	2412
0.158	2424
0.162	2436
0.167	2448
0.172	2448
0.177	2448
0.182	2448
0.187	2460
0.192	2472
0.197	2472

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0.205	744
0.211	732
0.215	720
0.221	708
0.225	720
0.23	720
0.235	720
0.24	732
0.245	732
0.25	732

0.203	1428
0.207	1416
0.212	1416
0.217	1416
0.222	1404
0.227	1404
0.232	1392
0.235	1392
0.24	1392
0.245	1392
0.25	1392

0.203	2472
0.207	2472
0.212	2472
0.217	2472
0.222	2472
0.227	2460
0.232	2460
0.238	2448
0.24	2448
0.245	2448
0.25	2448

PASS- 3

0	0
0.003	12
0.008	108
0.013	180
0.017	264
0.022	336
0.028	396
0.032	432
0.039	468
0.043	480
0.047	492
0.053	516
0.058	528
0.063	540
0.067	564
0.073	564
0.077	564
0.083	576
0.088	564
0.092	576
0.097	576
0.103	588
0.108	600
0.113	600
0.118	612
0.122	612
0.127	612
0.132	612
0.138	612
0.143	624
0.147	624
0.153	636
0.157	624
0.162	636
0.168	636
0.172	636
0.177	636
0.182	636
0.187	636
0.192	636
0.197	636

PASS- 3

0	0
0.005	12
0.01	216
0.015	264
0.019	348
0.024	444
0.03	552
0.034	636
0.039	708
0.045	792
0.049	852
0.054	900
0.061	960
0.064	996
0.069	1020
0.075	1044
0.08	1068
0.085	1080
0.09	1092
0.095	1092
0.1	1104
0.105	1116
0.109	1116
0.114	1116
0.12	1128
0.124	1128
0.129	1140
0.134	1140
0.139	1140
0.144	1152
0.149	1152
0.154	1152
0.159	1152
0.164	1164
0.17	1164
0.174	1164
0.179	1164
0.184	1164
0.189	1164
0.194	1164
0.199	1164

PASS-3

0	0
0.005	300
0.01	468
0.014	600
0.02	780
0.025	936
0.029	1104
0.034	1260
0.039	1428
0.044	1584
0.049	1716
0.055	1800
0.059	1836
0.064	1884
0.07	1908
0.074	1920
0.08	1932
0.085	1956
0.09	1956
0.095	1968
0.1	1992
0.105	1980
0.11	1992
0.115	2004
0.119	2004
0.124	2016
0.129	2016
0.134	2028
0.139	2028
0.144	2052
0.149	2076
0.154	2088
0.159	2112
0.164	2124
0.169	2136
0.175	2160
0.179	2184
0.184	2208
0.189	2208
0.194	2220
0.199	2232

0.203	624
0.207	624
0.212	624
0.217	612
0.222	624
0.225	624
0.23	624
0.235	624
0.24	624
0.245	624
0.25	624

0.204	1164
0.209	1164
0.214	1164
0.22	1152
0.224	1164
0.23	1164
0.235	1164
0.24	1164
0.245	1164
0.25	1164

0.204	2256
0.209	2256
0.214	2256
0.219	2304
0.22	2304
0.225	2304
0.23	2304
0.235	2304
0.24	2304
0.245	2304
0.25	2304

PASS- 4

0	0
0.002	12
0.007	96
0.013	192
0.018	240
0.023	300
0.028	348
0.033	384
0.037	420
0.043	456
0.048	492
0.053	516
0.058	528
0.064	540
0.068	552
0.072	552
0.078	564
0.082	576
0.087	576
0.092	588
0.097	588
0.102	600
0.107	612
0.112	612
0.118	624
0.122	636
0.127	636
0.132	648
0.138	648
0.142	660
0.147	672
0.153	684
0.157	684
0.162	696
0.167	708
0.173	720
0.177	720
0.182	732
0.187	732
0.192	744

PASS- 4

0	0
0.003	24
0.009	204
0.014	324
0.019	432
0.024	528
0.029	624
0.033	720
0.039	804
0.044	876
0.049	948
0.054	1020
0.059	1080
0.063	1128
0.069	1176
0.074	1212
0.078	1248
0.083	1260
0.089	1248
0.093	1224
0.099	1176
0.104	1140
0.108	1044
0.113	1116
0.119	1152
0.123	1164
0.128	1200
0.133	1224
0.138	1236
0.143	1260
0.148	1272
0.153	1284
0.158	1296
0.164	1320
0.168	1332
0.173	1332
0.178	1344
0.183	1356
0.188	1356
0.193	1356

PASS-4

0	0
0.003	132
0.009	420
0.014	624
0.019	828
0.024	1020
0.029	1200
0.034	1380
0.039	1524
0.044	1680
0.049	1800
0.056	1932
0.06	2028
0.064	2112
0.069	2172
0.074	2220
0.078	2244
0.083	2280
0.088	2292
0.093	2304
0.099	2304
0.103	2292
0.108	2184
0.113	2064
0.118	2124
0.123	2148
0.128	2172
0.133	2196
0.138	2220
0.143	2232
0.148	2244
0.154	2268
0.158	2280
0.163	2292
0.169	2304
0.173	2304
0.178	2316
0.183	2328
0.188	2328
0.193	2328

0.197	756	0.198	1356	0.198	2328
0.202	756	0.203	1356	0.203	2328
0.208	768	0.209	1356	0.208	2328
0.213	768	0.213	1344	0.213	2328
0.217	780	0.218	1344	0.218	2328
0.222	780	0.223	1344	0.224	2316
0.228	768	0.229	1332	0.228	2316
0.232	768	0.233	1332	0.233	2316
0.237	768	0.238	1332	0.238	2304
0.242	768	0.243	1320	0.243	2304
0.248	768	0.25	1320	0.25	2304

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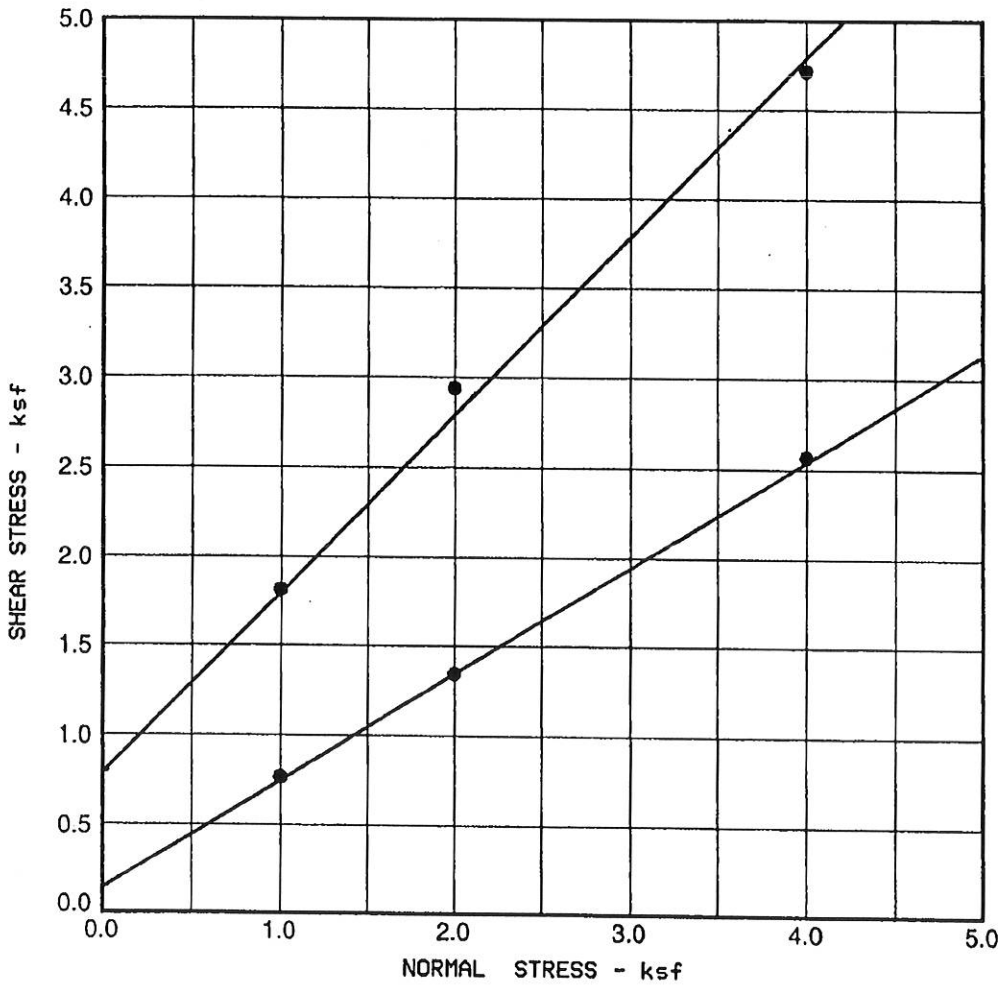


Test type	controlled - strain test		
Rate of shear - in/min	0.004		
Normal Stress - psf	1000	2000	4000
Maximum Shear - psf	1812	2940	4716
Residual Shear - psf	768	1344	2568

Moisture Content Before Test= 26.5 %
Moisture Content After Test = 36.1 %
Initial Dry Density = 85 pcf
Sample was resheared for 5 cycles

Sample	B-4
Depth - ft	35.0
Description	Claystone
Classification	--

Shear Strength	Peak	Residual
Cohesion - ksf	0.80	0.15
Friction Angle - deg	45	31

KLEINFELDER

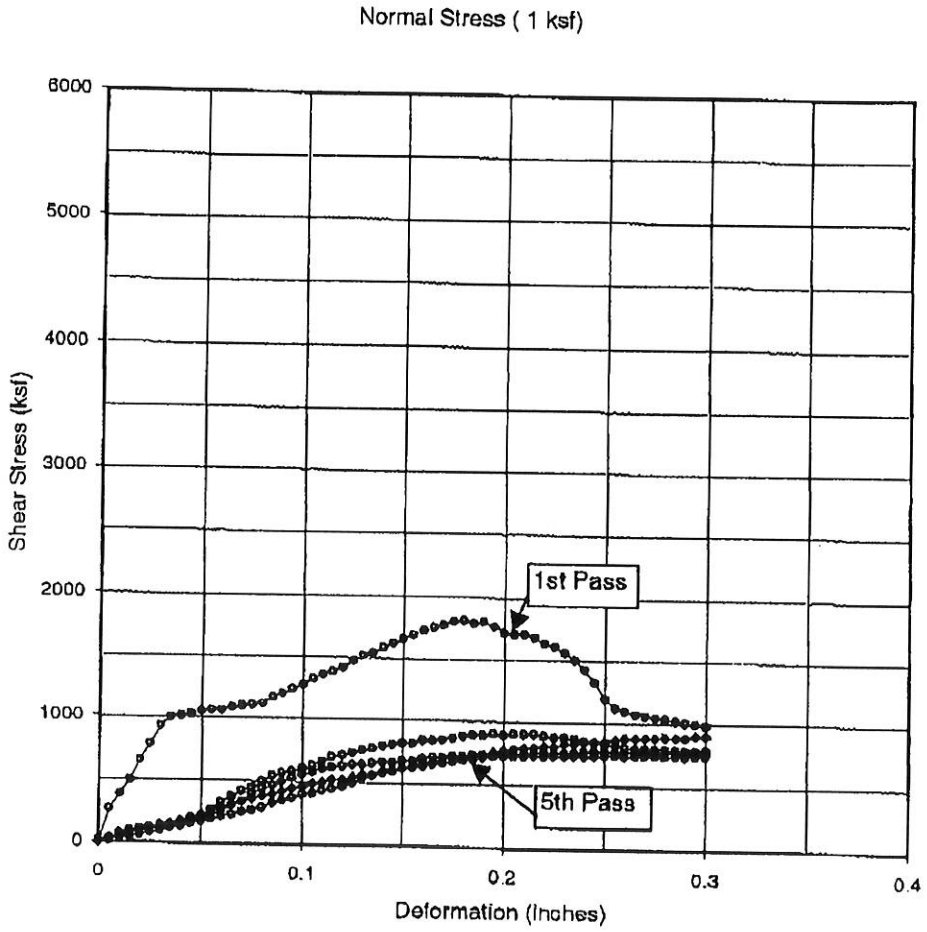
PROJECT NO. 52307

New Police Headquarters Facility
City Block Bounded by 1st, Main, 2nd and Spring St
Los Angeles, California

DIRECT SHEAR TEST

PLATE 2

10211142006400661

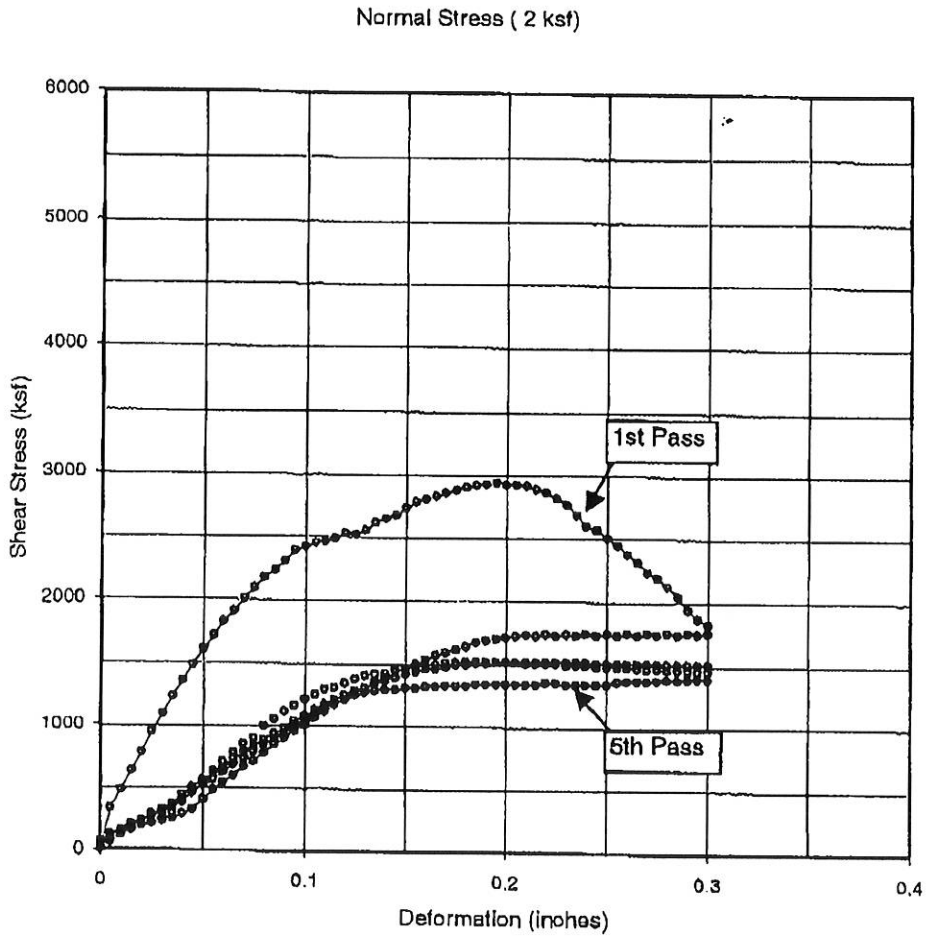


Project Name:	:	GED Police HQ
Project No.	:	52307/001
Boring No.	:	B-4
Sample No.	:	-
Depth (ft)	:	35
Sample Type	:	Undisturbed
Soil Type	:	Dark Gray Claystone
Test Condition	:	Saturated
Initial Dry Density	:	84.5 pcf
Moisture Content (before)	:	26.5 %
Moisture Content (after)	:	36.1 %

AP ENGINEERING AND TESTING, INC.

RESIDUAL DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

Jul-05 Figure No.

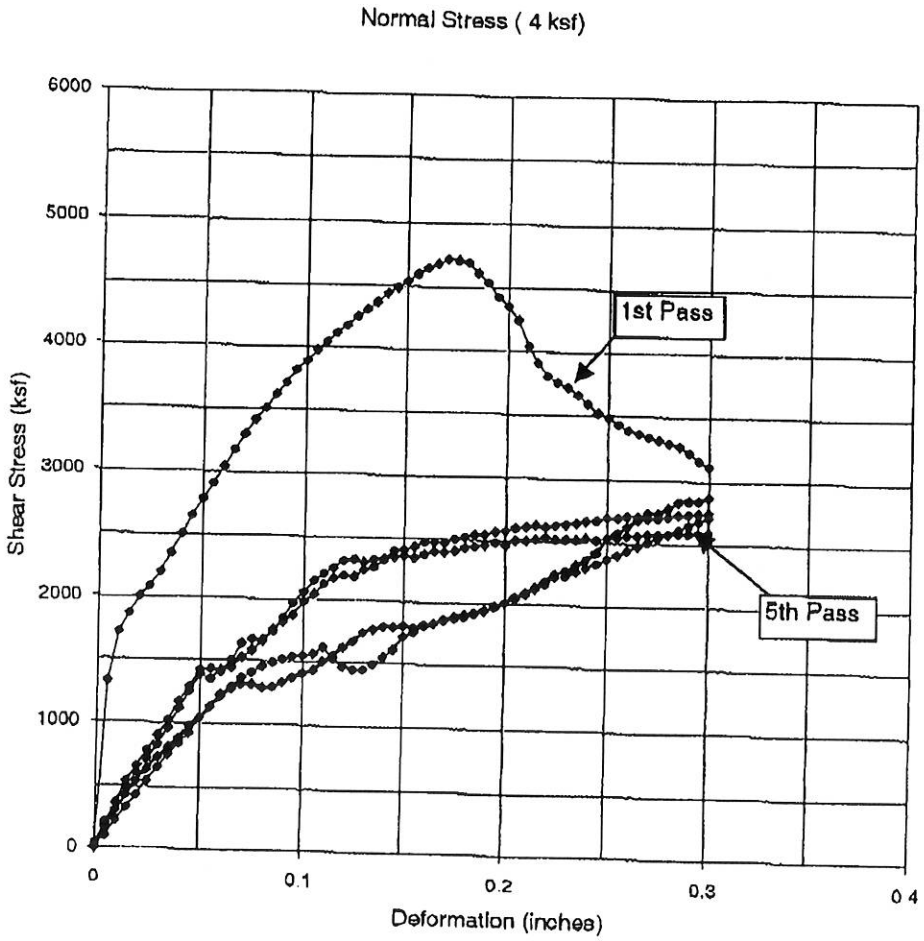


Project Name:	:	GED Police HQ
Project No.	:	52307/001
Boring No.	:	B-4
Sample No.	:	-
Depth (ft)	:	35
Sample Type	:	Undisturbed
Soil Type	:	Dark Gray Claystone
Test Condition	:	Saturated
Initial Dry Density	:	84.5 pcf
Moisture Content (before)	:	26.5 %
Moisture Content (after)	:	36.1 %

AP ENGINEERING AND TESTING, INC.

RESIDUAL DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

Jul-05 Figure No.



Project Name:	:	GED Police HQ
Project No.	:	52307/001
Boring No.	:	B-4
Sample No.	:	-
Depth (ft)	:	35
Sample Type	:	Undisturbed
Soil Type	:	Dark Gray Claystone
Test Condition	:	Saturated
Initial Dry Density	:	84.5 pcf
Moisture Content (before)	:	26.5 %
Moisture Content (after)	:	36.1 %

AP ENGINEERING AND TESTING, INC.

RESIDUAL DIRECT SHEAR
TEST RESULTS
(ASTM D 3080)

Jul-05 Figure No.

STRESS/STRAIN DATA

Normal Stress=1 ksf		Normal Stress=2 ksf		Normal Stress=4 ksf	
L:\DS_files\a050205a.DAT		L:\DS_files\a050205b.DAT		L:\DS_files\a050205c.DAT	
0	0	0	0	0	0
0.005	264	0.005	336	0.005	1320
0.01	384	0.01	480	0.01	1716
0.015	492	0.015	636	0.015	1860
0.02	648	0.02	780	0.02	2000
0.025	780	0.025	948	0.025	2080
0.03	924	0.03	1092	0.03	2200
0.035	996	0.035	1236	0.035	2352
0.04	1008	0.04	1356	0.04	2508
0.045	1020	0.045	1488	0.045	2652
0.05	1044	0.05	1608	0.05	2784
0.055	1056	0.055	1716	0.055	2904
0.06	1056	0.06	1824	0.06	3036
0.065	1080	0.065	1908	0.065	3168
0.07	1092	0.07	2004	0.07	3288
0.075	1104	0.075	2088	0.075	3408
0.08	1116	0.08	2172	0.08	3504
0.085	1164	0.085	2232	0.085	3612
0.09	1200	0.09	2304	0.09	3708
0.095	1236	0.095	2390	0.095	3816
0.1	1272	0.1	2420	0.1	3888
0.105	1320	0.105	2450	0.105	3972
0.11	1356	0.11	2460	0.11	4044
0.115	1380	0.115	2490	0.115	4116
0.12	1416	0.12	2530	0.12	4176
0.125	1476	0.125	2520	0.125	4248
0.13	1512	0.13	2556	0.13	4308
0.135	1536	0.135	2616	0.135	4368
0.14	1584	0.14	2652	0.14	4440
0.145	1620	0.145	2676	0.145	4488
0.15	1656	0.15	2736	0.15	4536
0.155	1692	0.155	2784	0.155	4596
0.16	1728	0.16	2808	0.16	4644
0.165	1752	0.165	2832	0.165	4680
0.17	1776	0.17	2856	0.17	4716
0.175	1800	0.175	2880	0.175	4704
0.18	1812	0.18	2904	0.18	4692
0.185	1788	0.185	2916	0.185	4608
0.19	1800	0.19	2928	0.19	4536
0.195	1764	0.195	2940	0.195	4428
0.2	1716	0.2	2928	0.2	4356
0.205	1704	0.205	2928	0.205	4248
0.21	1704	0.21	2916	0.21	4044
0.215	1680	0.215	2892	0.215	3912
0.22	1632	0.22	2868	0.22	3804
0.225	1608	0.225	2820	0.225	3756
0.23	1560	0.23	2772	0.23	3720
0.235	1500	0.235	2688	0.235	3660
0.24	1428	0.24	2604	0.24	3588
0.245	1320	0.245	2568	0.245	3516
0.25	1188	0.25	2508	0.25	3480
0.255	1116	0.255	2448	0.255	3432
0.26	1092	0.26	2376	0.26	3384
0.265	1068	0.265	2316	0.265	3360
0.27	1056	0.27	2232	0.27	3336
0.275	1044	0.275	2184	0.275	3312
0.28	1032	0.28	2124	0.28	3288
0.285	1020	0.285	2040	0.285	3264
0.29	1008	0.29	1944	0.29	3216
0.295	996	0.295	1872	0.295	3156
0.3	984	0.3	1824	0.3	3108

PASS-	2	PASS-	2	PASS-	2
0	0	0	0	0	0
0.005	24	0 005	60	0.005	96
0 01	36	0,01	120	0.01	228
0.015	48	0 015	156	0.015	336
0.02	60	0 02	192	0.02	432
0.025	84	0.025	216	0 025	540
0.03	96	0,03	252	0.03	648
0,035	120	0.035	252	0 035	756
0.04	132	0.04	290	0,04	840
0 045	156	0,045	324	0,045	924
0.05	168	0 05	408	0,05	1044
0 055	192	0.055	480	0,055	1128
0.06	216	0 06	540	0.06	1224
0,065	228	0.065	600	0.065	1284
0.07	252	0 07	672	0.07	1356
0 075	264	0.075	720	0,075	1404
0,08	288	0,08	780	0.08	1452
0.085	324	0.085	852	0.085	1488
0.09	348	0.09	900	0.09	1512
0.095	372	0,095	960	0.095	1536
0.1	396	0.1	1008	0.1	1548
0.105	408	0.105	1068	0,105	1560
0.11	432	0.11	1116	0.11	1620
0 115	444	0.115	1176	0.115	1524
0.12	468	0.12	1212	0.12	1464
0.125	492	0.125	1272	0.125	1440
0.13	528	0.13	1308	0.13	1440
0.135	552	0.135	1356	0.135	1488
0.14	576	0.14	1392	0 14	1548
0 145	588	0.145	1440	0.145	1608
0.15	612	0,15	1464	0.15	1716
0.155	624	0.155	1500	0.155	1752
0.16	636	0.16	1536	0.16	1800
0.165	648	0.165	1572	0.165	1824
0 17	660	0,17	1596	0,17	1848
0.175	672	0.175	1620	0.175	1872
0.18	684	0.18	1644	0.18	1884
0.185	696	0.185	1680	0.185	1908
0 19	708	0.19	1692	0,19	1932
0.195	720	0.195	1704	0.195	1980
0.2	720	0.2	1716	0.2	2004
0 205	724	0 205	1728	0.205	2040
0.21	722	0.21	1740	0.21	2076
0.215	726	0.215	1730	0.215	2124
0.22	724	0 22	1742	0 22	2160
0.225	728	0.225	1732	0.225	2220
0 23	726	0 23	1744	0.23	2228
0.235	730	0.235	1734	0.235	2263
0 24	728	0,24	1746	0.24	2297
0.245	732	0.245	1736	0 245	2332
0 25	730	0 25	1748	0,25	2367
0.255	734	0.255	1738	0.255	2402
0 26	732	0.26	1750	0.26	2437
0.265	736	0.265	1740	0.265	2472
0,27	734	0.27	1752	0,27	2507
0 275	738	0 275	1742	0.275	2542
0.28	736	0.28	1754	0.28	2577
0.285	740	0.285	1744	0 285	2612
0 29	738	0.29	1756	0.29	2647
0 295	742	0,295	1746	0 295	2681
0.3	740	0.3	1758	0.3	2716

PASS-	3	PASS-	3	PASS-	3
0	0	0	0	0	0
0.005	24	0.005	96	0.005	168
0 01	72	0,01	156	0.01	372
0.015	96	0 015	204	0,015	540
0 02	108	0.02	240	0,02	660
0 025	108	0,025	288	0,025	780
0,03	120	0 03	324	0.03	900
0,035	120	0.035	372	0.035	1020
0,04	132	0.04	444	0.04	1164
0.045	180	0.045	504	0.045	1284
0.05	216	0,05	564	0.05	1416
0.055	264	0.055	612	0.055	1428
0 06	324	0.06	660	0,06	1404
0.065	372	0.065	732	0,065	1500
0 07	420	0.07	780	0 07	1632
0.075	444	0.075	840	0.075	1668
0,08	492	0.08	888	0,08	1668
0,085	540	0.085	936	0,085	1752
0 09	564	0.09	984	0,09	1812
0 095	576	0,095	1044	0 095	1872
0.1	600	0.1	1080	0.1	1980
0 105	624	0.105	1128	0 105	2040
0.11	660	0,11	1176	0,11	2124
0.115	696	0,115	1212	0.115	2172
0.12	708	0,12	1248	0.12	2196
0 125	732	0,125	1284	0,125	2184
0 13	756	0.13	1308	0,13	2244
0 135	768	0,135	1344	0,135	2268
0,14	792	0,14	1368	0,14	2328
0 145	804	0.145	1392	0,145	2400
0.15	816	0.15	1416	0.15	2412
0,155	816	0,155	1440	0,155	2436
0.16	840	0,16	1464	0,16	2472
0 165	840	0.165	1464	0,165	2472
0 17	852	0,17	1476	0,17	2472
0,175	864	0,175	1500	0,175	2508
0,18	876	0,18	1500	0.18	2520
0,185	888	0,185	1512	0.185	2544
0.19	888	0,19	1512	0,19	2544
0,195	900	0,195	1524	0,195	2568
0.2	888	0,2	1524	0.2	2580
0 205	900	0.205	1524	0,205	2604
0,21	900	0.21	1524	0.21	2616
0.215	900	0.215	1524	0.215	2628
0.22	888	0 22	1524	0.22	2616
0.225	876	0.225	1524	0.225	2628
0.23	876	0.23	1524	0,23	2640
0.235	864	0.235	1524	0.235	2652
0,24	852	0.24	1524	0.24	2664
0 245	840	0,245	1512	0.245	2676
0.25	828	0.25	1512	0.25	2700
0,255	816	0.255	1516	0,255	2700
0,26	804	0.26	1515	0.26	2712
0.265	802	0,265	1514	0.265	2712
0.27	800	0.27	1513	0.27	2700
0,275	798	0.275	1512	0.275	2700
0,28	794	0,28	1511	0.28	2712
0 285	793	0.285	1510	0.285	2729
0.29	792	0,29	1509	0,29	2735
0,295	791	0,295	1508	0.295	2742
0.3	790	0.3	1507	0 3	2749
PASS-	4	PASS-	4	PASS-	4

0	0	0	0		
0.005	36	0 005	48	0	0
0.01	60	0.01	96	0.005	192
0.015	84	0.015	132	0.01	312
0.02	108	0.02	168	0.015	432
0.025	120	0.025	192	0.02	540
0.03	144	0.03	204	0.025	636
0.035	156	0 035	228	0 03	732
0 04	180	0.04	300	0.035	804
0.045	204	0.045	384	0.04	876
0.05	228	0.05	480	0.045	972
0.055	264	0.055	552	0.05	1044
0.06	288	0.06	636	0.055	1128
0.065	312	0.065	708	0.06	1212
0 07	336	0.07	780	0.065	1272
0.075	360	0.075	852	0.07	1308
0.08	384	0.08	900	0.075	1308
0 085	396	0.085	996	0.08	1284
0.09	420	0 09	1056	0.085	1296
0.095	444	0.095	1116	0.09	1332
0.1	456	0.1	1164	0.095	1368
0.105	480	0.105	1212	0.1	1404
0 11	492	0.11	1248	0.105	1428
0 115	516	0.115	1296	0.11	1500
0 12	516	0.12	1308	0.115	1548
0 125	540	0.125	1344	0.12	1620
0.13	564	0 13	1380	0.125	1668
0 135	564	0.135	1404	0.13	1740
0.14	588	0 14	1416	0.135	1764
0.145	600	0.145	1428	0.14	1788
0.15	612	0.15	1452	0.145	1788
0.155	636	0.155	1464	0.15	1800
0.16	660	0.16	1476	0.155	1788
0.165	672	0.165	1488	0 16	1812
0 17	696	0.17	1500	0.165	1824
0.175	708	0.175	1512	0.17	1860
0.18	720	0.18	1512	0.175	1884
0.185	732	0.185	1524	0.18	1896
0 19	732	0.19	1524	0.185	1920
0.195	756	0.195	1524	0.19	1944
0.2	768	0.2	1524	0.195	1968
0.205	780	0.205	1524	0.2	2004
0 21	792	0.21	1524	0.205	2052
0 215	792	0.215	1512	0.21	2088
0.22	804	0.22	1512	0.215	2136
0 225	804	0.225	1512	0.22	2184
0.23	828	0.23	1512	0.225	2244
0.235	828	0.235	1500	0.23	2270
0.24	840	0.24	1500	0.235	2320
0.245	852	0.245	1500	0.24	2360
0.25	852	0.25	1488	0.245	2420
0.255	864	0.255	1488	0.25	2532
0.26	876	0.26	1485	0 255	2580
0.265	879	0.265	1481	0.26	2632
0.27	882	0.27	1478	0 265	2686
0 275	883	0 275	1474	0 27	2741
0.28	888	0 28	1471	0 275	2740
0.285	886	0.285	1467	0.28	2780
0.29	888	0.29	1463	0 285	2830
0.295	900	0.295	1460	0.29	2840
0.3	902	0.3	1456	0.295	2840
PASS-	5	PASS-	5	PASS-	5
0	0	0	0	0	0

0 005	12	0.005	60	0.005	216
0.01	60	0.01	120	0.01	360
0.015	84	0.015	156	0.015	492
0,02	96	0.02	192	0.02	612
0,025	120	0,025	240	0.025	720
0.03	144	0,03	264	0,03	828
0,035	144	0,035	312	0,035	960
0.04	144	0,04	348	0,04	1116
0 045	168	0.045	396	0.045	1248
0.05	192	0.05	456	0.05	1380
0 055	228	0.055	516	0.055	1344
0.06	252	0.06	564	0.06	1416
0.065	300	0.065	624	0.065	1440
0.07	336	0.07	684	0.07	1524
0 075	396	0.075	732	0 075	1584
0 08	444	0.08	792	0.08	1656
0.085	468	0.085	852	0 085	1740
0.09	492	0.09	900	0 09	1848
0 095	528	0,095	948	0.095	1968
0 1	552	0 1	1008	0,1	2052
0 105	576	0.105	1056	0.105	2148
0.11	600	0.11	1104	0.11	2208
0.115	612	0.115	1152	0.115	2256
0.12	624	0 12	1188	0.12	2316
0 125	636	0.125	1212	0.125	2328
0 13	636	0.13	1248	0.13	2304
0,135	648	0.135	1272	0.135	2328
0 14	660	0.14	1284	0.14	2340
0.145	660	0.145	1296	0.145	2352
0.15	672	0.15	1296	0.15	2364
0.155	672	0.155	1308	0.155	2352
0.16	696	0.16	1308	0.16	2376
0.165	708	0.165	1320	0.165	2400
0.17	708	0.17	1320	0.17	2400
0.175	720	0.175	1332	0.175	2412
0.18	720	0.18	1332	0 18	2436
0 185	732	0.185	1332	0.185	2448
0 19	732	0.19	1344	0.19	2460
0.195	732	0.195	1344	0.195	2484
0 2	732	0.2	1344	0.2	2460
0,205	744	0,205	1344	0,205	2508
0 21	744	0.21	1344	0.21	2508
0 215	756	0,215	1344	0,215	2520
0 22	756	0,22	1344	0.22	2532
0.225	756	0,225	1356	0,225	2520
0,23	756	0,23	1356	0.23	2520
0 235	756	0.235	1344	0.235	2520
0 24	768	0 24	1344	0 24	2532
0,245	768	0.245	1344	0,245	2520
0.25	768	0.25	1344	0.25	2532
0.255	768	0.255	1344	0.255	2544
0.26	768	0.26	1352	0,26	2556
0.265	768	0.265	1355	0,265	2556
0.27	768	0.27	1358	0 27	2568
0.275	768	0,275	1355	0.275	2568
0.28	768	0,28	1356	0 28	2568
0 285	768	0.285	1352	0.285	2568
0 29	768	0.29	1348	0.29	2568
0 295	768	0.295	1344	0 295	2568
0 3	768	0,3	1344	0,3	2568

Appendix C
Lateral Earth Pressure by Vector Analysis

10211142006406O1

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	10	0.174533
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.310947
W (lbs)	432314.6
X (ft)	211.6009
L (ft)	214.8652

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-61124.8
b	493439.4

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-130292

Pa=Resultant force calculated from the free-body diagram

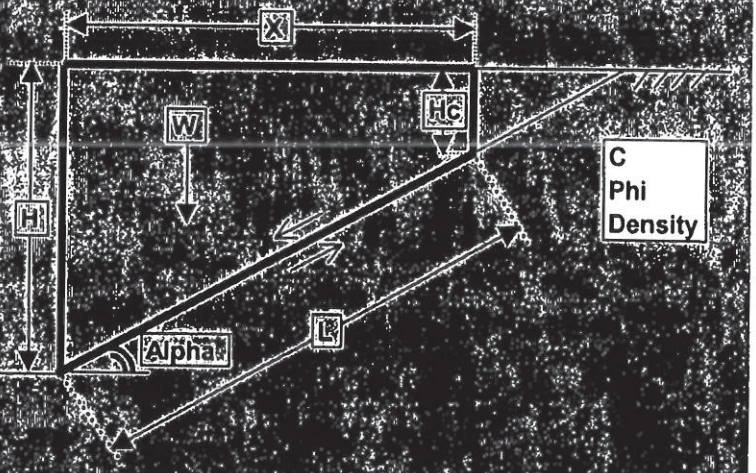
EFP (pcf)	213
EFP w/water	212

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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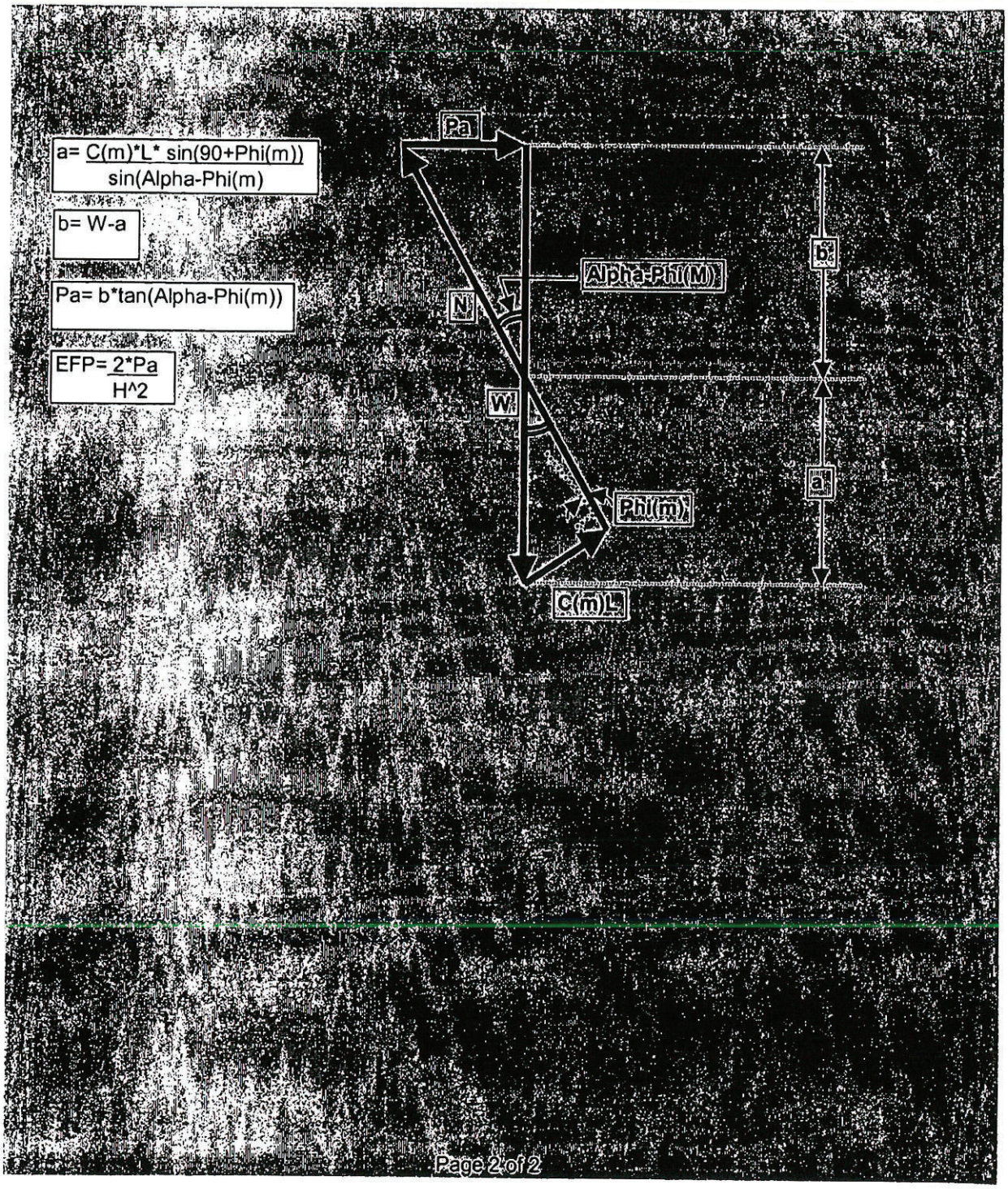

a= C(m)*L* sin(90+Phi(m))
sin(Alpha-Phi(m)
b= W-a
Pa= b*tan(Alpha-Phi(m))
EFP= 2*Pa
H^2
Pa
Alpha-Phi(M)
N
W
Phi(m)
C(m)L
b
a
Page 2 of 2

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	15	0.261799
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	-3.537082
W (lbs)	282816.9
X (ft)	143.8223
L (ft)	148.8959

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-63588.93
b	346405.9

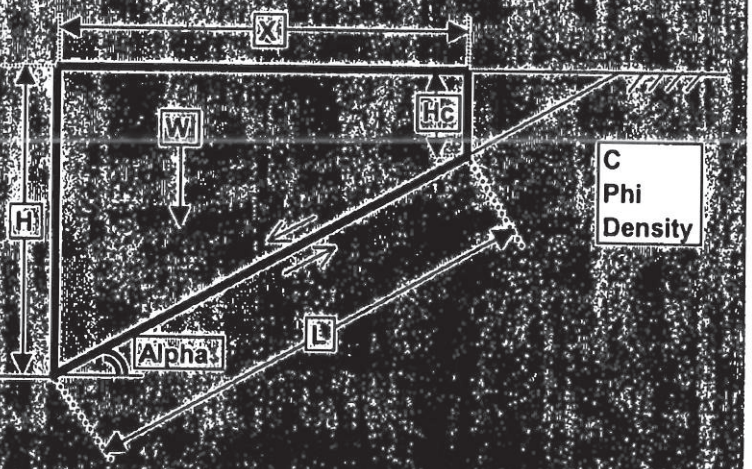
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-59780.39

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	98
EFP w/water	-97

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

a

$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	20	0.349066
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	7.40255
W (lbs)	200944
X (ft)	116.5
L (ft)	123.9768

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-107799.7
b	308743.7

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-25878.62

Pa=Resultant force calculated from the free-body diagram

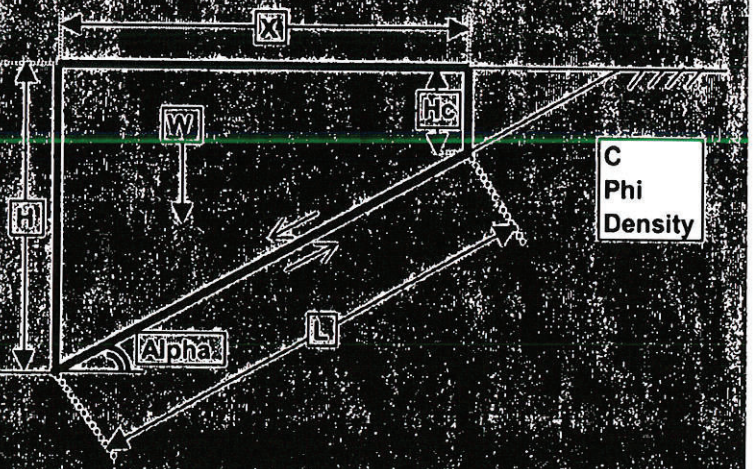
EFP (pcf)	42
EFP w/water	39

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006460601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	25	0.436332
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	175.985
W (lbs)	-3986868
X (ft)	-302.3433
L (ft)	-333.5989

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-6650984
b	2664116

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	9704.98

Pa=Resultant force calculated from the free-body diagram

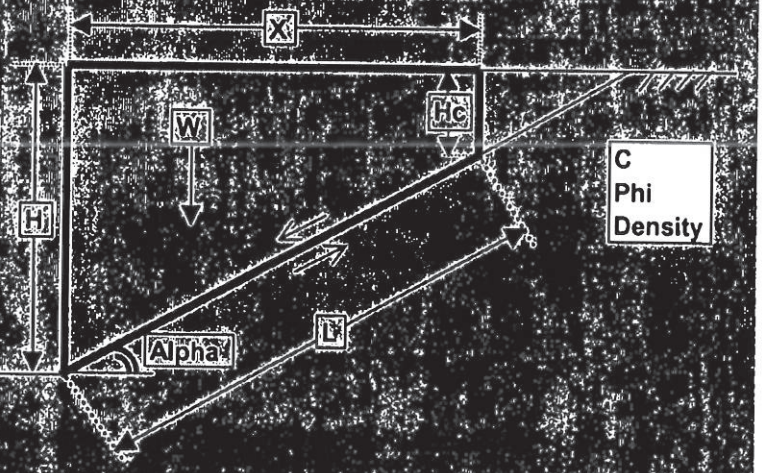
EFP (pcf)	16
EFP w/water	1593

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	30	0.523599
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	7.390083
W (lbs)	126698.1
X (ft)	47.82178
L (ft)	55.21983

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	44175.87
b	82522.21

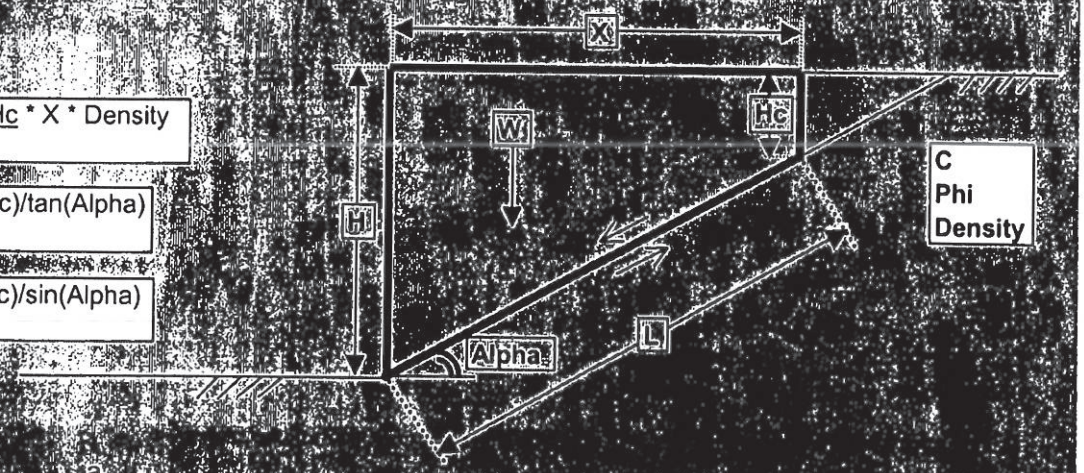
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	7522.771

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	12
EFP w/water	15

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

$$Hc = \frac{a}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006648661

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project File: Police Headquarters

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	35	0.610865
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	4.002
W (lbs)	107913
X (ft)	44.26973
L (ft)	54.04336

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	22145.93
b	85767.07

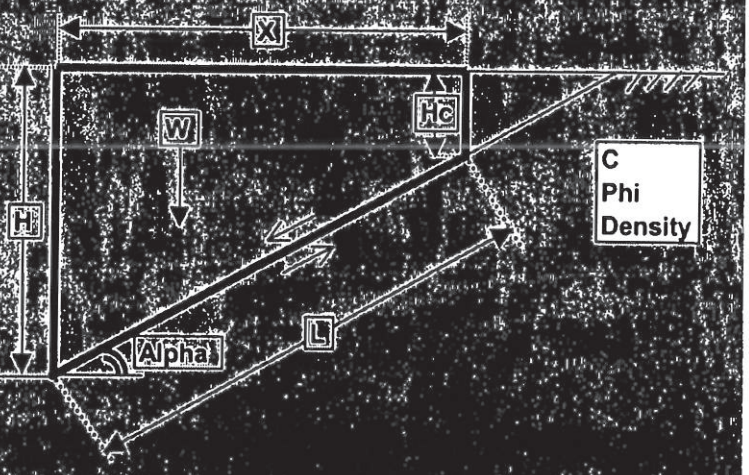
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	15445.41

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	25
EFP w/water	26

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006460601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	40	0.698132
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.891199
W (lbs)	90621.02
X (ft)	38.26578
L (ft)	49.95243

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	13829.25
b	76791.77

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	20876.41

Pa=Resultant force calculated from the free-body diagram

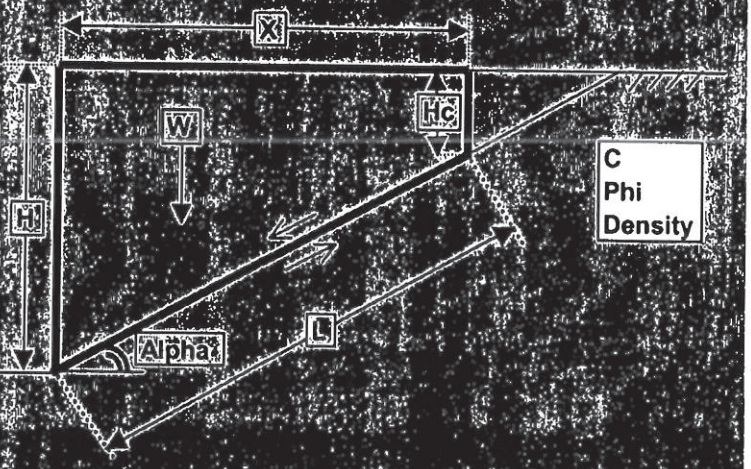
EFP (pcf)	34
EFP w/water	35

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006460601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	45	0.785398
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.378653
W (lbs)	76208.88
X (ft)	32.62135
L (ft)	46.13355

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	9699.356
b	66509.52

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	24482.23

Pa=Resultant force calculated from the free-body diagram

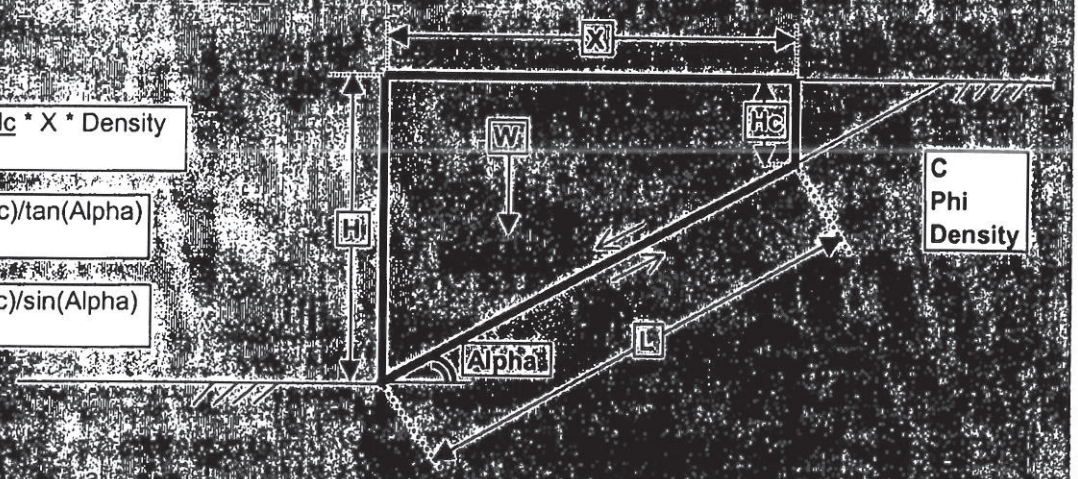
EFP (pcf)	40
EFP w/water	40

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006460681

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	50	0.872665
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.122254
W (lbs)	64007.36
X (ft)	27.5877
L (ft)	42.91885

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	7318.516
b	56688.84

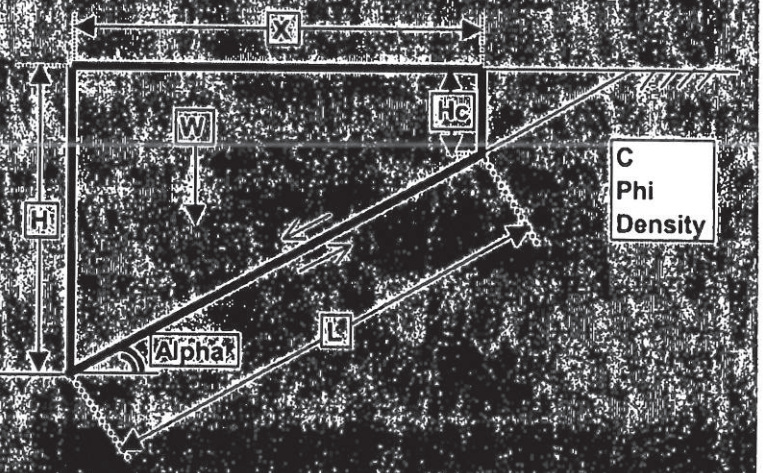
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	26686.28

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	44
EFP w/water	44

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142000040601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	55	0.959931
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.01326
W (lbs)	53432.26
X (ft)	23.09756
L (ft)	40.26937

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	5812.675
b	47619.58

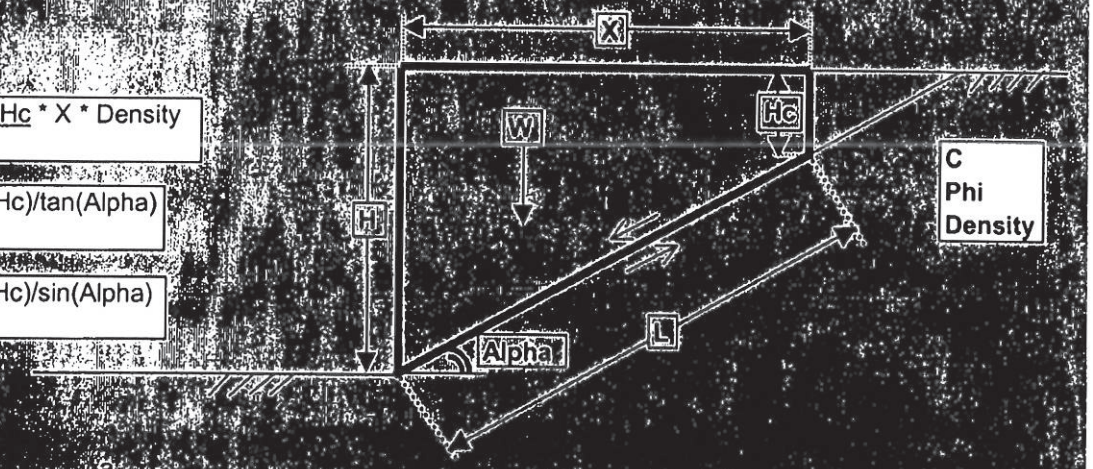
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	27724.96

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	45
EFP w/water	45

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006040681

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	60	1.047198
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.015477
W (lbs)	44056.8
X (ft)	19.04362
L (ft)	38.08725

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	4797.749
b	39259.05

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	27703.16

Pa=Resultant force calculated from the free-body diagram

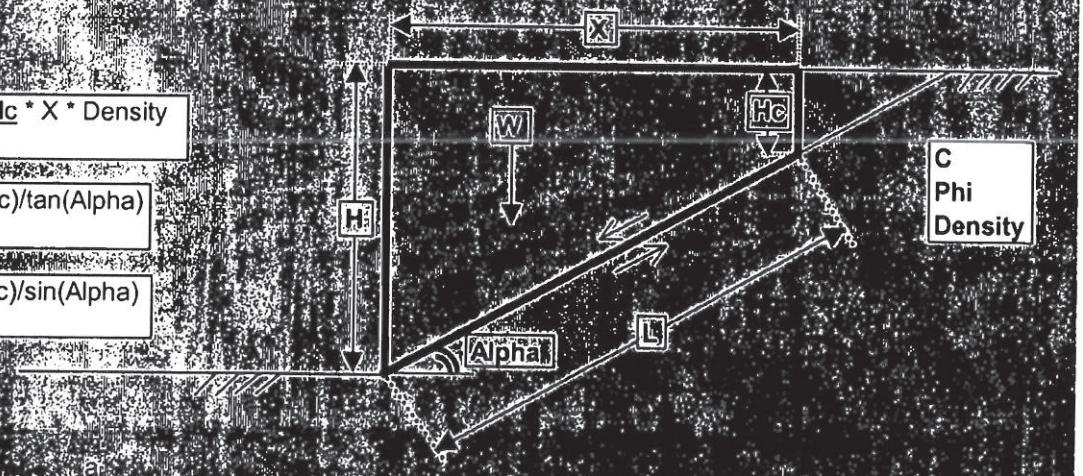
EFP (pcf)	45
EFP w/water	45

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\text{^2})(\text{Alpha})*\tan(\text{Phi})}$$

10211142006406061

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	51	0.890118
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.090486
W (lbs)	61777.91
X (ft)	26.6496
L (ft)	42.34663

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	6963.828
b	54814.08

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	26982.23

Pa=Resultant force calculated from the free-body diagram

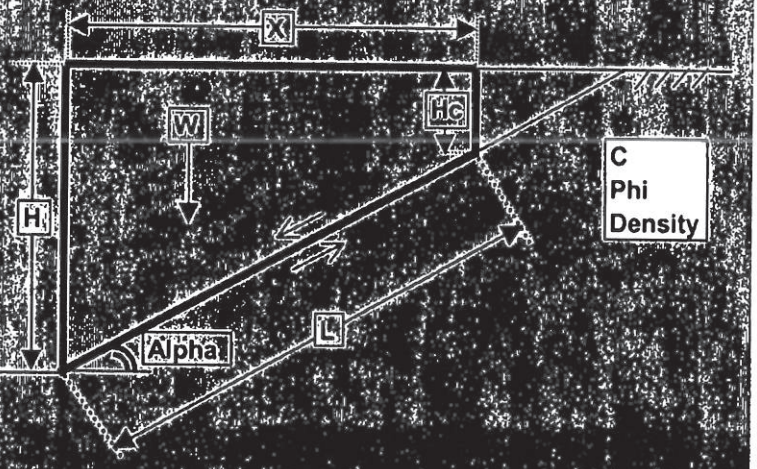
EFP (pcf)	44
EFP w/water	44

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006406 61

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	53	0.925025
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.042468
W (lbs)	57497.51
X (ft)	24.83528
L (ft)	41.2673

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	6340.657
b	51156.85

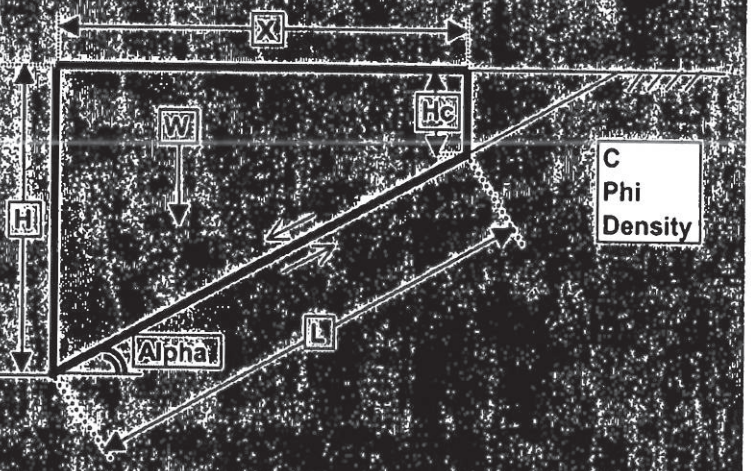
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	27440.09

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	45
EFP w/water	45

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{a - C}{F.S.*Density*\sin(Alpha)*\cos(Alpha) - Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006460601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	57	0.994838
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.001473
W (lbs)	49557.68
X (ft)	21.42949
L (ft)	39.34623

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	5361.32
b	44196.36

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	27841.33

Pa=Resultant force calculated from the free-body diagram

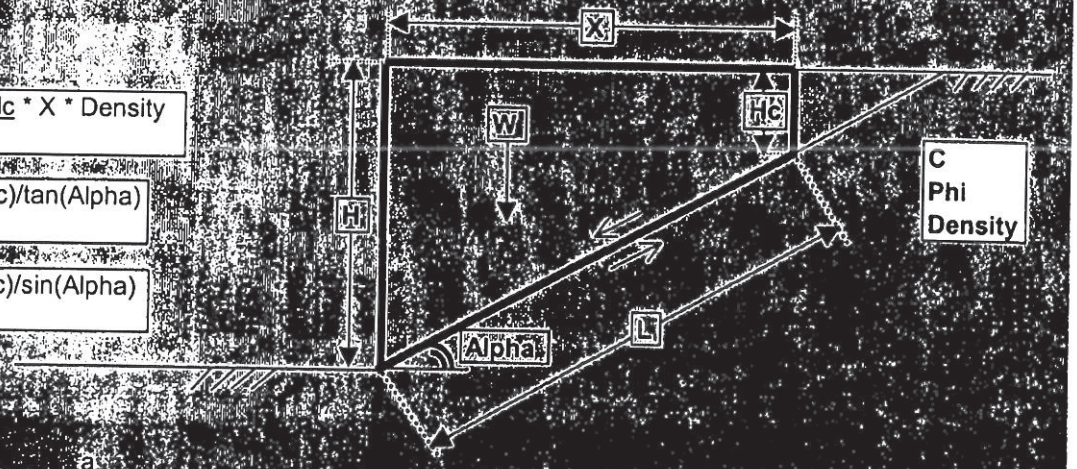
EFP (pcf)	45
EFP w/water	46

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(^2)(\text{Alpha})*\tan(\text{Phi})}$$

19211142006406601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	80	
Phi(m)	24.79128	0.432689

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	59	1.029744
F.S.	1.25	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.006562
W (lbs)	45852.19
X (ft)	19.82446
L (ft)	38.49125

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	4972.376
b	40879.81

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	27790.99

Pa=Resultant force calculated from the free-body diagram

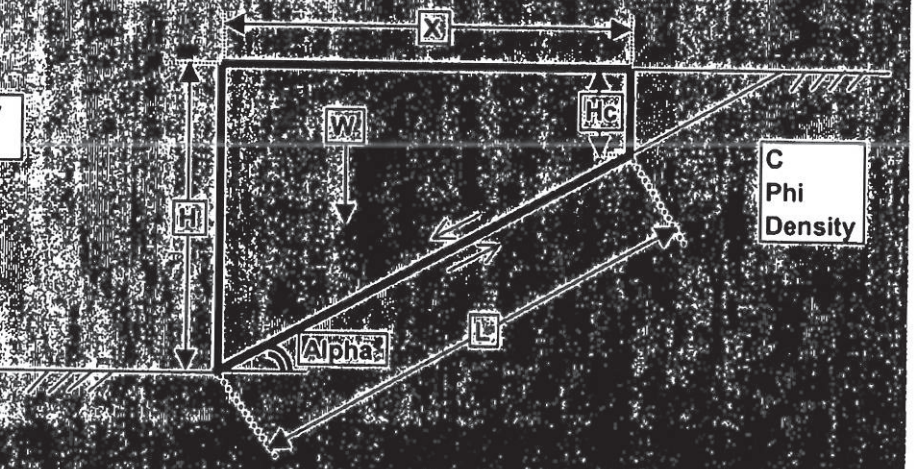
EFP (pcf)	45
EFP w/water	46

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006640601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	10	0.174533
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	2.636558
W (lbs)	431743.5
X (ft)	213.4475
L (ft)	216.7403

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-70345.84
b	502089.4

a and b are two components of W that are calculated from the free body diagram

Pa (lbs)	-98066.77

Pa=Resultant force calculated from the free-body diagram

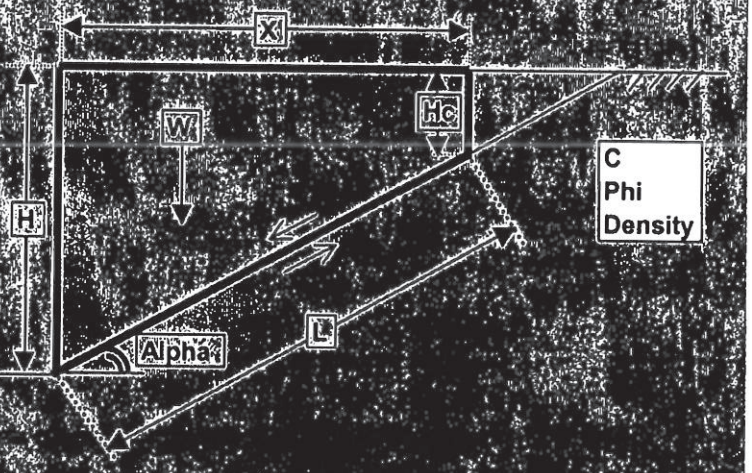
EFP (pcf)	160
EFP w/water	160

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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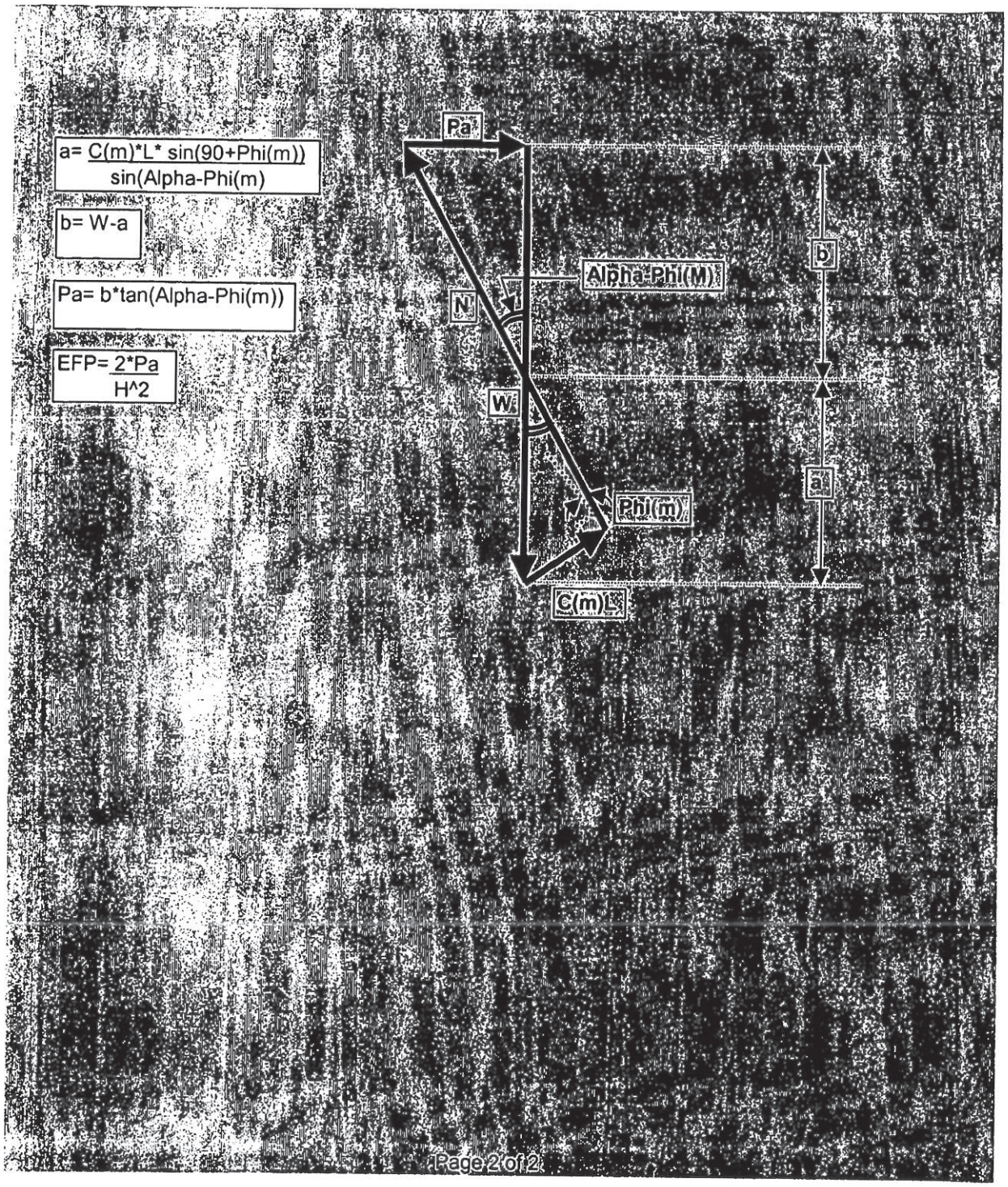

a= C(m)*L* sin(90+Phi(m))
sin(Alpha-Phi(m)
b= W-a
Pa= b*tan(Alpha-Phi(m))
EFP= 2*Pa
H^2
Pa
Alpha-Phi(M)
N
W
Phi(m)
C(m)L
b
a
Page 2 of 2

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	15	0.261799
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	4.887731
W (lbs)	280162.7
X (ft)	148.863
L (ft)	154.1144

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-90950.31
b	371113

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-39344.31

Pa=Resultant force calculated from the free-body diagram

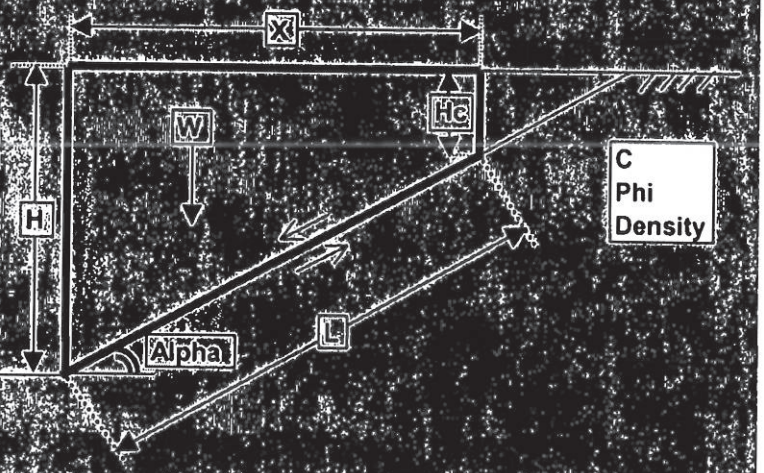
EFP (pcf)	64
EFP w/water	63

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006406 91

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	20	0.349066
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	28.85752
W (lbs)	67355.02
X (ft)	175.4471
L (ft)	186.7069

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	-632871
b	700226

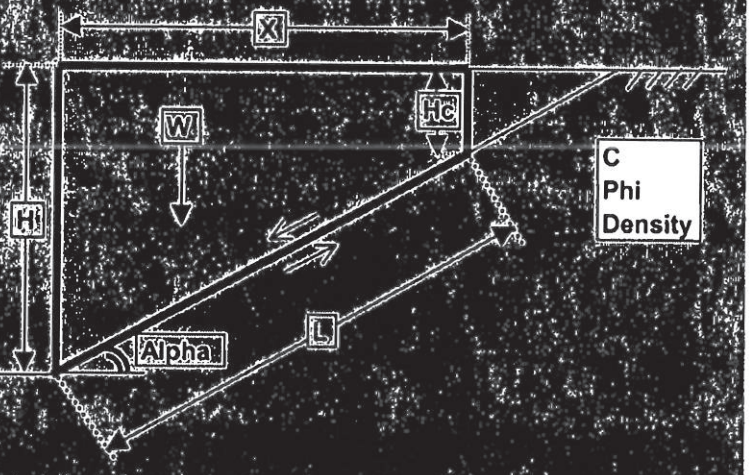
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	-12854.83

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	-21
EFP w/water	21

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006646601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	25	0.436332
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	7.975961
W (lbs)	155662.3
X (ft)	57.95324
L (ft)	63.94432

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	57779.09
b	97883.16

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	6755.866

Pa=Resultant force calculated from the free-body diagram

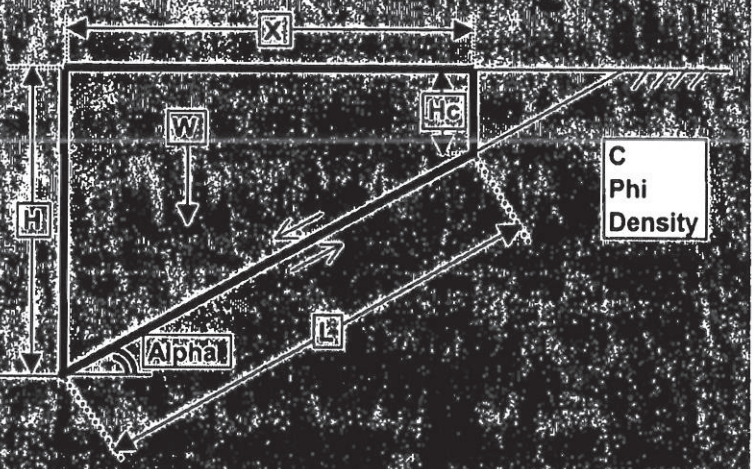
EFP (pcf)	11
EFP w/water	14

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006460681

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	30	0.523599
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	3.695042
W (lbs)	131132.1
X (ft)	54.22178
L (ft)	62.60992

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	25043.97
b	106088.2

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	16704.55

Pa=Resultant force calculated from the free-body diagram

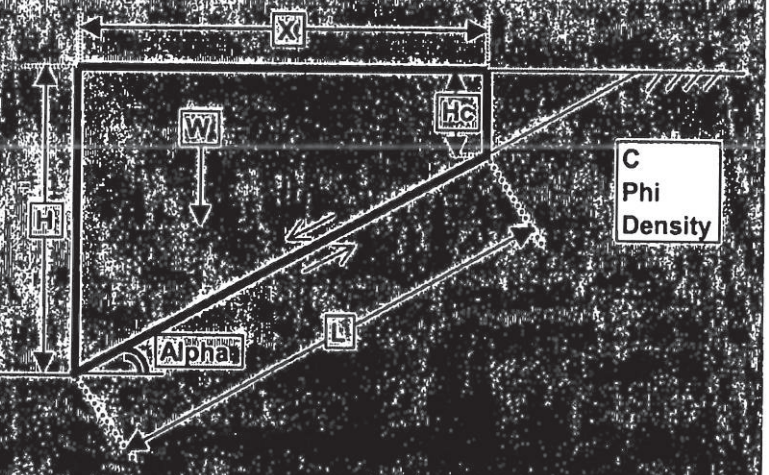
EFP (pcf)	27
EFP w/water	28

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\text{^2})(\text{Alpha})*\tan(\text{Phi})}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	35	0.610865
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	12.520784
W (lbs)	108775.4
X (ft)	46.38513
L (ft)	56.62579

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	14615.86
b	94159.54

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	23386.34

Pa=Resultant force calculated from the free-body diagram

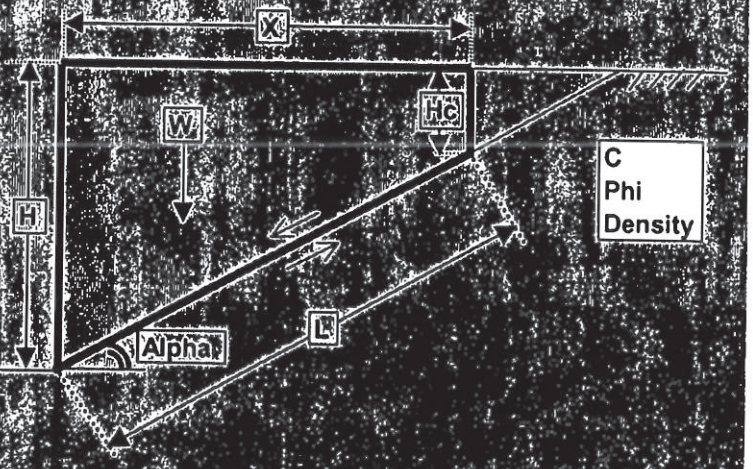
EFP (pcf)	38
EFP w/water	39

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

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LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	
C(m)	66.66667	
Phi(m)	21.05172	0.367422
H (ft)	35	
Alpha (degrees)	40	0.698132
F.S.	1.5	
Hc (ft)	2.000987	
W (lbs)	90945.4	
X (ft)	39.32669	
L (ft)	51.33735	
a	9836.523	
b	81108.88	
Pa (lbs)	27846.15	
EFP (pcf)	45	
EFP w/water	46	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a and b are two components of W that are calculated from the free-body diagram

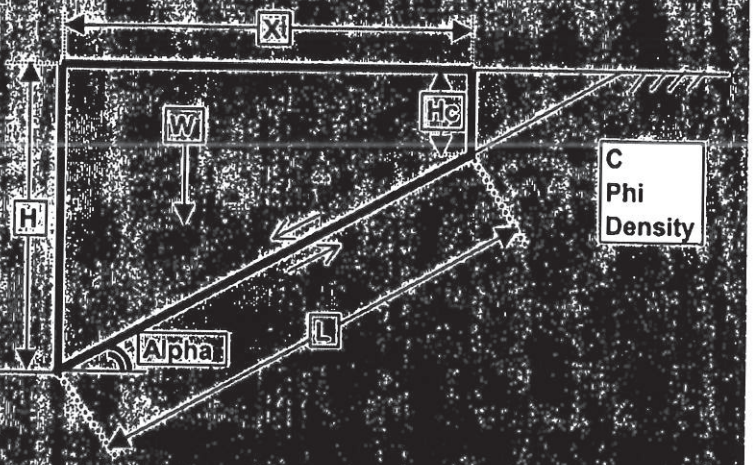
Pa=Resultant force calculated from the free-body diagram

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

X= (H-Hc)/tan(Alpha)

L= (H-Hc)/sin(Alpha)



$$Hc = \frac{C}{F.S.*Density*sin(Alpha)*cos(Alpha)-Density*cos(^2)(Alpha)*tan(Phi)}$$

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	45	0.785398
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.734136
W (lbs)	76374.55
X (ft)	33.26586
L (ft)	47.04504

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	7210.941
b	69163.61

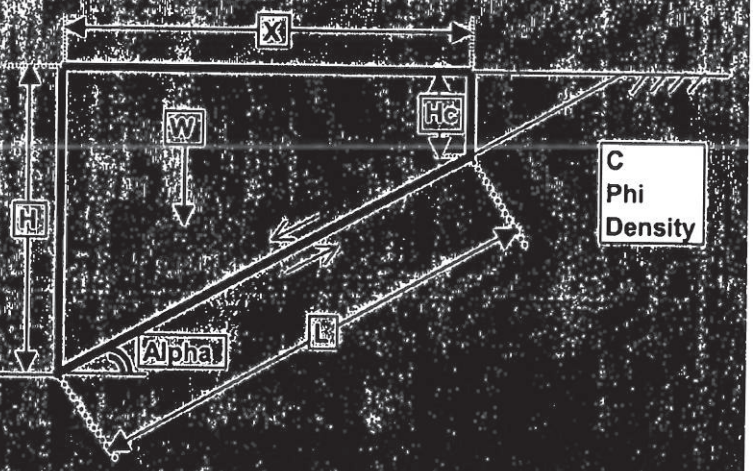
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	30718.84

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	50
EFP w/water	50

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006406O1

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:
W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	50	0.872665
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.599813
W (lbs)	64109.34
X (ft)	28.02608
L (ft)	43.60085

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	5604.56
b	58504.78

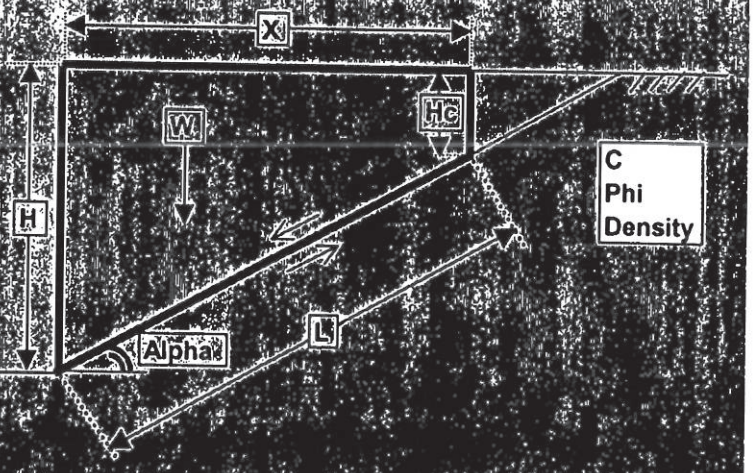
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32360.72

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	53
EFP w/water	53

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

a

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006406601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	55	0.959931
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.55392
W (lbs)	53503.97
X (ft)	23.4192
L (ft)	40.83012

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	4548.945
b	48955.02

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32956.32

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	54
EFP w/water	54

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$



$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

10211142006040601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	60	1.047198
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.583589
W (lbs)	44112.89
X (ft)	19.29297
L (ft)	38.58595

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3819.018
b	40293.87

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32569.15

Pa=Resultant force calculated from the free-body diagram

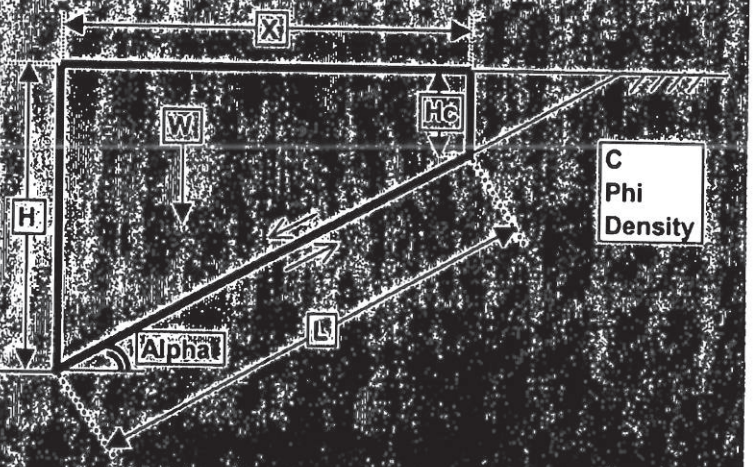
EFP (pcf)	53
EFP w/water	53

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142000406601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	51	0.890118
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.584301
W (lbs)	61872.05
X (ft)	27.0595
L (ft)	42.99797

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	5358.8
b	56513.26

a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32559.95

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	53
EFP w/water	53

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack

$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$



$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006406 01

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	53	0.925025
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.562986
W (lbs)	57578.93
X (ft)	25.1966
L (ft)	41.86768

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	4922.741
b	52656.19

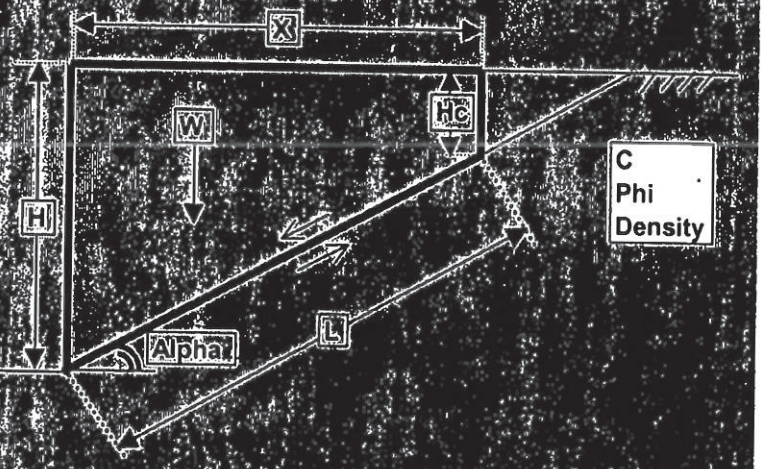
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32837.18

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	54
EFP w/water	54

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006486O1

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No. E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	57	0.994838
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.556727
W (lbs)	49621.91
X (ft)	21.71832
L (ft)	39.87653

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	4226.186
b	45395.72

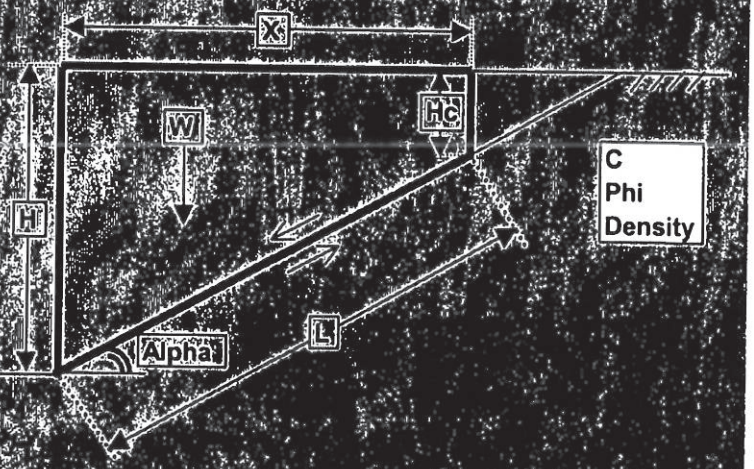
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32919.35

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	54
EFP w/water	54

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * Density$$

$$X = (H-Hc)/\tan(Alpha)$$

$$L = (H-Hc)/\sin(Alpha)$$

$$Hc = \frac{C}{F.S.*Density*\sin(Alpha)*\cos(Alpha)-Density*\cos(\hat{}2)(Alpha)*\tan(Phi)}$$

10211142006640601

LATERAL EARTH PRESSURE BY VECTOR ANALYSIS

Project: Police Headquarters
File:

W.O. No.: E170910B

		Radians
C (psf)	100	
Phi (degrees)	30	0.523599
Density (pcf)	125	

C=Cohesion based on residual direct shear test
Phi=Internal friction angle from direct shear test
Density=In-place density

C(m)	66.66667	
Phi(m)	21.05172	0.367422

C(m)=C divided by a Factor of Safety (C4/C13)
Phi(m)=Phi divided by a Factor of Safety (C5/C13)

H (ft)	35	
Alpha (degrees)	59	1.029744
F.S.	1.5	

H=Retained height of wall
Alpha=Angle from horizontal of block failure
F.S.=Factor of Safety

Hc (ft)	1.571523
W (lbs)	45910.65
X (ft)	20.08586
L (ft)	38.99878

Hc=Height of tension crack
W=Weight of sliding block defined by H, Alpha, and Hc
X=Horizontal projection of inclined failure surface at base
L=Length of inclined failure surface at base of sliding block

a	3945.673
b	41964.97

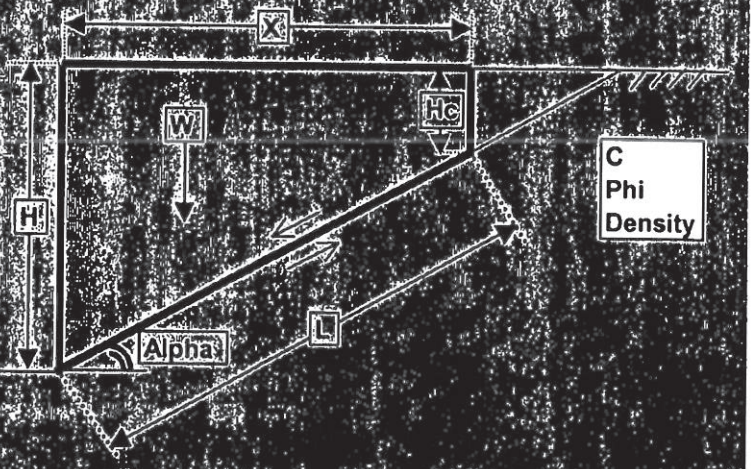
a and b are two components of W that are calculated from the free-body diagram

Pa (lbs)	32725.66

Pa=Resultant force calculated from the free-body diagram

EFP (pcf)	53
EFP w/water	54

EFP=Equivalent fluid pressure based on Pa and H
EFP w/water=EFP with water in tension crack



$$W = \frac{H+Hc}{2} * X * \text{Density}$$

$$X = (H-Hc)/\tan(\text{Alpha})$$

$$L = (H-Hc)/\sin(\text{Alpha})$$

$$Hc = \frac{C}{F.S.*\text{Density}*\sin(\text{Alpha})*\cos(\text{Alpha})-\text{Density}*\cos(\hat{}2)(\text{Alpha})*\tan(\text{Phi})}$$

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Appendix D
Kleinfelder Supplemental Letter with Revised Boring Logs

10211142066640601

KLEINFELDER
An employee owned company

July 13, 2005
Project No. 52307-1

Mr. Christopher F. Johnson
City of Los Angeles
Department of Public Works
Geotechnical Engineering Division
650 South Spring Street, Suite 600
Los Angeles, California 90014-1913

Subject: **Revised Borings Logs**
Proposed New Police Headquarters Facility
Work Order E170910B - GED File 04-120
Contract No. C-98923
Los Angeles, California

Dear Mr. Johnson:

As requested by Mr. Patrick Schmidt of the GED, we are presenting this letter and revised boring logs as attached indicating the approximate observable bedrock bedding dip angles for the subject site.

We understand that City of Los Angeles grading reviewer has requested for this information to be presented on the boring logs. Our information is based on review of the remaining available disturbed and relatively undisturbed samples collected during our original geotechnical investigation for the site. Our original scope did not include downhole logging of the borings. The results presented on the revised boring logs indicate the observed dip angles only based on the available samples reviewed. Trend directions were not obtainable as the borings and samples were not directionally drilled.

The bedrock underlying the site appears to be generally massive with indistinctive bedding. The bedding dip angles observed on the available samples reviewed that showed evidence of bedding range between 30 to 60 degrees from the horizontal. As mentioned above, trend direction was not obtainable.

The findings and results presented in this report were prepared in accordance with generally accepted geotechnical engineering practice. No other warranty, expressed or implied, is made.

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KLEINFELDER 1370 Valley Vista Drive, Suite 150, Diamond Bar, CA 91765-3910 (909) 396-0335 (909) 396-1324 fax

10211142006040601

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EXECUTIVE OFFICER

GEOLOGY AND SOIL REPORT APPROVAL LETTER

August 9, 2005

Log # 47253-02
SOILS/GEOLOGY FILE - 2
LIQ

City of Los Angeles
221 N. Figueroa Street, #1600
Los Angeles, CA 90012

TRACT:	LACA Map No.94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	- - - - - - -	//	1
LOTS:	PCL 15	//	FR 4
LOCATION:	120 & 141 S. Spring St	//	106-114 W. 1st St.

TRACT:	LACA Map No. 94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	- - - - - - -	//	1
LOTS:	PCL 14	//	FR 8
LOCATION:	- - - - - - -	//	100-110 S. Spring St. & 120-132 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soil Report	04-120	08/09/2005	Geotech. Eng. Div.
Soil Report	04-120	07/28/2005	Geotech. Eng. Div.
Field & Laboratory Testing (rev.)	52307-1	07/13/2005	Kleinfelder

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Correction Letter	47253-01	06/21/2005	LADBS
Soil Report	04-120	05/24/2005	Geotech. Eng. Div.
Dept. Correction Letter	47253	04/07/2005	LADBS
Soil Report	04-120	02/15/2005	Geotech. Eng. Div.
Field & Laboratory Testing	52307-1	01/26/2005	Kleinfelder

The referenced reports by the Geotechnical Engineering Division (GED) and Kleinfelder, Inc. concerning the proposed construction on the subject lots of the New Police Headquarters Facility have been reviewed by the Grading Division of the Department of Building and Safety. According to report dated 02/15/2005, the project will consist of an eleven story office tower in the central portion of the site, an auditorium, cafe and utility structures along the east side of the site and two to three levels of subterranean garages.

As stated previously in the referenced reports and Department Letters, sedimentary bedrock is present below the naturally-occurring alluvium at the locations explored. The bedrock orientation cited from the published regional maps and the approximate observations from the exploration conducted indicate south to slightly east-of-south dips. Temporary excavations facing the dip direction will expose unsupported bedding planes and temporary shoring will be required to support the excavation and to maintain support for the adjoining public streets. It will also be required that portions of the future basement building walls be designed to retain the bedding planes.

The thickness of the exposed bedrock during excavation for building construction is now anticipated to be approximately 10 feet pursuant to revision of the project scope (subterranean parking) as indicated on page 1 of the 07/28/2005 report. The 07/28/2005 report by GED and the 07/13/2005 report by Kleinfelder, Inc. were signed by the geologist. It is recommended on page 10 of the 02/15/2005 GED report that all new structures be founded using conventional and/or cast-in-drilled-hole (CIDH) pile foundations that bear entirely in bedrock. Recommendations for the design of dewatering systems both for temporary and permanent conditions were discussed in section 8.2.2 (pages 11 and 12) of the 02/15/2005 report.

It is indicated in the reports that the proposed structures will be supported in bedrock and that the potential for liquefaction is considered low. This satisfies the requirement of the State of California Public Resources Code, Section 2690 et seq. (Seismic Hazard Mapping Act).

Engineering analyses provided by GED is based on field and laboratory testing performed by Kleinfelder, Inc. GED has assumed responsibility for use of the data in accordance with Code section 91.7008.5 of LABC.

The referenced reports are acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2002 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. Prior to issuance of any permits, a supplemental report with a map based on the final plans shall be submitted to the Grading Division. The purpose of the report will be to provide any necessary design recommendation updates based on: (a) the final plans, (b) the thickness of the exposed bedrock/excavation height anticipated from the final plans, and (c) to provide any other revised design recommendations that may be required.

2. Prior to issuance of any permits, written clearance for dewatering shall be procured from the California Regional Water Quality Control Board.

3. Prior to issuance of a grading permit, a supplemental report addressing the effect of dewatering on any adjacent structures (see page 12 of the 02/12/2005 GED report) shall be submitted to the Department for review and approval.

4. Prior to the issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of the excavation, the owner of the subject site shall provide the Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation. (3301.2.1)

5. A grading permit shall be obtained. (106.1.2)

6. All recommendations of the reports which are in addition to or more restrictive than the conditions contained herein shall be incorporated into the plans.

7. A copy of the subject and appropriate referenced reports and this approval letter shall be attached to the District Office and field set of plans. Submit one copy of the above reports to the Building Department Plan Checker prior to issuance of the permit. (7006.1)

8. The geologist and soils engineer shall review and approve the detailed plans prior to issuance of any permits. This approval shall be by signature on the plans which clearly indicates that the geologist and soils engineer have reviewed the plans prepared by the design engineer and that the plans

include the recommendations contained in their reports.

9. The applicant is advised that the approval of this report does not waive the requirements for excavations contained in the State Construction Safety Orders enforced by the State Division of Industrial Safety. (3301.1)

10. Prior to excavation, an initial inspection shall be called at which time sequence of shoring, protection fences and dust and traffic control will be scheduled.

11. The geologist and soils engineer shall inspect all excavations to determine that conditions anticipated in the report have been encountered and to provide recommendations for the correction of hazards found during grading. (7008.2)

12. Temporary excavations shall be shored and/or sloped back as recommended.

13. Basement excavations shall be performed under the continuous inspection and approval of the soils engineer.

14. A structure shall be considered surcharging an excavation if the structure is located within a horizontal distance from the top of the excavation equal to the depth of the excavation. (3301.2.3.2)

15. Temporary shoring shall be deigned for active pressure of 24H as recommended on page 2 of the report dated 08/09/2005

16. Installation of shoring shall be performed under the continuous inspection and approval of the soils engineer. A registered grading deputy inspector approved by and responsible to the geotechnical engineer shall be required to provide continuous inspection for the proposed shoring. (1701.5.13)

17. A shoring monitoring program shall be implemented to the satisfaction of the soils engineer.

18. Existing uncertified fill shall not be used for support of footings, concrete slabs or new fill. (7011.3 & 1806.1)

19. All proposed structures shall be founded using conventional and/or cast-in-drilled-hole (CIDH) pile foundations that bear entirely in bedrock, as recommended.

20. Pile caisson and/or isolated foundation ties are required by Code Section 91.1807.2. Exceptions and modification to this requirement are provided in Information Bulletin P/BC2001-30.

21. All friction pile or caisson drilling and installation shall be performed under the continuous inspection and approval of the soils engineer. (1807.1)

22. Existing uncertified fill shall not be used for lateral support of deep foundation. (7011.3)

23. Slabs placed on approved compacted fill shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced maximum of 16 inches on center each way. Concrete floor slabs placed on expansive soil shall be placed on a 4-inch fill of coarse aggregate or on a moisture barrier membrane. The slabs shall be at least 3½ inches thick and shall be reinforced with ½-inch diameter (#4) reinforcing bars spaced maximum of 16 inches on center each way.

24. Slabs shall be designed for uplift or a drainage system beneath the slab shall be constructed, as recommend.

25. Basement building retaining walls, fixed against rotation, up to a maximum height of 35 feet with

a level backslope shall be designed for a minimum equivalent fluid pressure of 56 pcf, or for uniform rectangular active pressure of a minimum of 28H, as recommended, on page 2 of the report dated 08/9/2005

26. All retaining walls shall be provided with a subdrain system to prevent possible hydrostatic pressure behind the wall. Prior to issuance of any permit, the retaining wall subdrain system recommended in the soil report shall be incorporated into the foundation plan which shall be reviewed and approved by the soils engineer of record. (7015.5 & 108.9)

27. Installation of the subdrain system shall be inspected and approved by the soils engineer of record and the City grading/building inspector. (7015.5 & 108.9)

28. All retaining walls shall be provided with a standard surface backdrain system and all drainage shall be conducted to the street in an acceptable manner and in a non-erosive device. (7013.11)

29. Basement walls and slab shall be waterproofed with an L.A. City-approved "Below-grade waterproofing" material with a research report number.

30. Prefabricated drainage composites (Miradrain) (Geotextiles) may be only used in addition to traditionally accepted methods of draining retained earth.

31. All roof and pad drainage shall be conducted to the street in an acceptable manner. (7013.10)

32. All man-made fill shall be compacted to a minimum 90 percent of the maximum dry density of the fill material per the latest version of ASTM D 1557. Where cohesionless soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction based on maximum dry density (D1556). Placement of gravel in lieu of compacted fill is allowed only if complying with Section 91.7011.3 of the Code.(7011.3)

33. Prior to the placing of compacted fill, a representative of the consulting soils engineer shall inspect and approve the bottom excavations. He shall post a notice on the job site for the LADBS Grading Inspector and the Contractor stating that the soil inspected meets the conditions of the report, but that no fill shall be placed until the LADBS Grading Inspector has also inspected and approved the bottom excavations. A written certification to this effect shall be filed in the final compaction report filed with the Grading Division of the Department. All fill shall be placed under the inspection and approval of the soils engineer. A compaction report together with the approved soil report and Department approval letter shall be submitted to the Grading Division of the Department upon completion of the compaction. The engineer's certificate of compliance shall include the grading permit number and the legal description as described in the permit (7011.3).

34. If compacted fill is to support the slab-on-grade, no slab shall be poured until the compaction report is submitted and approved by the Grading Division of the Department.

35. Prior to the pouring of concrete, a representative of the consulting soils engineer shall inspect and approve the footing excavations. He shall post a notice on the job site for the LADBS Building Inspector and the Contractor stating that the work so inspected meets the conditions of the report, but that no concrete shall be poured until the LADBS Building Inspector has also inspected and approved the footing excavations. A written certification to this effect shall be filed with the Department upon completion of the work. (108.9 & 7008.2)

36. The LABC Soil Type underlying the site is S_C. (1636A)

STEPHEN DAWSON
Engineering Geologist I

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

SD/ATS:sd/ats
47253-02

cc: G E D
LA District Office

LADBS B-17 (R 2/01)

City of Los Angeles
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District ~~VAN~~ LA | Log No. 47253-02
ADDRESS APPROVED | Signature/Date

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Division, Department of Building and Safety, 201 N. Figueroa St., 3rd Fl., Los Angeles, California 90012-4869. Phone (Area Code 213) 977-6329.
B. Obtain address approval from the Department of Public Works prior to submittal.
C. Submit 2 copies (4 for fault study zone) of reports and 3 copies of application with items (1) through (10) completed.
D. Check should be made to the Department of Building and Safety.

Note: Please Print

(1) LEGAL DESCRIPTION
Tract ORDS SURVEY TRACT
Blk 1 Lots 498

(2) PROJECT ADDRESS 100 W. FIRST ST

(3) OWNER CITY OF LOS ANGELES
Address 221 N. FIGUEROA ST, 16th FLR
City LOS ANGELES Zip 90012
Phone (Daytime) 213-482-7355

(4) APPLICANT CLA/DPW/BOE/GED
Address 650 S. SPRING ST #600
City LOS ANGELES
Phone (Daytime) 213 847-4046 Zip 90014
Fax 213-847-4048

(5) Report(s) Prepared by CITY OF LA/DPW/BOE/GED

(6) Report Date(s) JULY 28, 2005

(7) Status of project: ☒ Proposed ☐ Under Construction ☐ Storm Damage

(8) Previous site reports? YES If yes, give date(s) of report(s) and name of company(s) who prepared report(s).
GEOTECHNICAL DIVISION 2/15/05, 5/24/05

(9) Previous Department actions? YES If yes, please give dates and attach a copy to expedite processing.
Dates 4/7/05 LOG # 47253, 6/21/05 LOG # 47253

(10) Signature of applicant Patrick J. Kennedy Position GEI

(DEPARTMENT USE ONLY)

REVIEW REQUESTED & PROCESSING	FEES	REVIEW REQUESTED & PROCESSING	FEES
☐ Foundation Investigation		☐ Seismology report per 91.2305(d)	
☐ Soils Engineering (EXPEDITE)	307.50	☐ Environmental Assessment	
☐ Geology		☐ Import-Export Route	
☒ Combined Soils Engr. & Geol.	~~410.00~~	☐ Division of land	
☐ Supplemental		Sub-total	307.50
☐ Combined Supplement		One-Stop Surcharge	

THE REPORT IS ☐ **APPROVED WITH CONDITIONS** ☐ **NOT APPROVED** **TOTAL FEE** 355.55

DEPARTMENT ACTION BY: _____ _____ _____ _____
For Geology Date For Soils & Foundation Date

☐ Conditions of Approval ☐ Reasons for Non-Approval ☐ See Attached letter ☐ Supplemental Sheet Attached

LA Department of Building and Safety
LA 05 08 149786 07/29/05 10:43AM

GRADING REPORT	$205.00
PLAN APPROVAL FEE	~~$102.50~~
ONE STOP SURCH	$6.15
SYSTEMS DEVT FEE	~~$18.45~~
CITY PLANNING SURCH	$18.45
MISCELLANEOUS	$5.00
Total Due:	$355.55
No Fee:	$355.55

NO FEE NO FEE NO FEE
(Cashier Use Only)
Name: DEPT OF PUBLIC WORKS
Addr: 100 FIRST STREET LA
Auth: JOO#5-W298025
Dept: DEPT OF PUBLIC WORKS

(Continued Over)

DEPARTMENT USE ONLY
Fee Due $355.55
Fee Verified CA
Date 07/29/2005

DISTRIBUTION
☐ Owner ☐ Applicant ☐ _____
☐ Soil Engineer ☐ Geologist ☐ Board files ☐ Tract file

	Plan Check	Inspection
☐ LADBS	☐ VN	☐ VN ☐ BMI
☐ WLA		☐ WLA ☐ BI
☐ SP/WLA		☐ SP/WLA

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: November 21, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL GEOTECHNICAL ENGINEERING REPORT-NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES, WO E170910B, GED FILE 04-120**

This report was prepared to comply with Conditions of Approval Items 1 through 4 of the City of Los Angeles Department of Building & Safety (LADBS), Grading Division "Geology and Soil Report Approval Letter" (Log # 47253-02) dated August 9, 2005. The approval letter included four conditions that GED was to address prior to the issuance of any permits for the project. For ease of reference, each of the conditions is repeated with our response.

BACKGROUND

The Geotechnical Engineering Division's (GED) Geotechnical Engineering Report for the New Police Headquarters Facility is dated February 15, 2005. The geotechnical report was submitted to the LADBS on March 4, 2005 under Log No 47253. A "Soil Report Correction Letter", dated April 7, 2005, was received from LADBS. GED responded to the LADBS "Soil Report Correction Letter" in a letter dated May 24, 2005. A second "Soil Report Correction Letter", dated June 21, 2005, was received from LADBS on June 28, 2005. GED responded to the second LADBS "Soil Report Correction Letter" in a letter report dated July 28, 2005. In addition, GED prepared a third letter report dated August 9, 2005 to respond to a telephone request received from Mr. Andrzej Szpikowski with the LADBS Grading Division on August 8, 2005. The LABDS then issued a Geology and Soil Report Approval Letter on August 9, 2005.

10103092007 45798

Condition No. 1

"Prior to issuance of any permits, a supplemental report with a map based on the final plans shall be submitted to the Grading Division. The purpose of the report will be to provide any necessary design recommendation updates based on: (a) the final plans, (b) the thickness of the exposed bedrock/excavation height anticipated from the final plans, and (c) to provide any other revised design recommendations that may be required."

Response:

GED has reviewed the "Plan Check" set of project plans dated September 29, 2005. Sheet C0-101, Site Survey, indicates existing ground surface elevations of approximately 287-1/2 feet, 282 feet, 283 feet and 280 feet at the northwest, northeast, southwest and southeast corners of the site, respectively. Elevations presented on Sheets A2-2P1 and A2-2P2 indicate that the lowest subterranean parking levels will have finish floor elevations of approximately 267 feet, 251-1/2 feet, 269 feet and 266-1/2 feet in the northwest, northeast, southwest and southeast corners of the site, respectively. In addition, the structural plans indicate that the parking structure perimeter wall footings, adjacent to the site property lines, will typically be founded at depths of 4-1/2 feet to five feet below the top of the floor slabs. Thus, excavation depths on the order of 18 feet to 25 feet below the ground surface will be needed adjacent to the property lines with the exception of the northeast corner where excavation depths of about 36 feet will be required. Updated cross sections are attached.

Borings B-1A, B-3, B-12 and B-13A were located in close proximity to the northwest, northeast, southwest and southeast corners of the site respectively. These boring logs indicate top of bedrock elevations of approximately 266-1/2 feet, 263 feet, 260 feet and 257 feet for borings B-1A, B-3, B-12 and B-13A respectively. Thus, we anticipate that excavations into the bedrock for the subterranean parking levels will be on the order of five feet or less adjacent to Spring Street, five to 17 feet adjacent to First Street, and zero to 17 feet adjacent to Main Street. Excavations are not expected to extend into bedrock adjacent to Second Street.

Previously analyses were performed for excavation depths up to 35 feet into the bedrock. Excavations are now expected to be a maximum of approximately 17 feet into the bedrock. No additional design recommendations are deemed necessary for the planned excavations, temporary shoring and subterranean walls.

Condition No. 2

"Prior to issuance of any permits, written clearance for dewatering shall be procured from the California Regional Water Quality Control Board".

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Response:

In accordance with the Bureau of Engineering policy, the dewatering system will discharge into the sanitary sewer. An industrial waste permit will be obtained from the Bureau of Sanitation. Therefore, clearance from the California Regional Water Quality Control Board is not applicable.

Condition No. 3

"Prior to issuance of a grading permit, a supplemental report addressing the effect of dewatering on any adjacent structures (see page 12 of the 02/15/2005 GED report) shall be submitted to the Department for review and approval."

Response:

The project will occupy the entire city block bounded by First Street on the north, Main Street on the east, Second Street on the south and Spring Street on the west. Thus, there are no adjacent properties with buildings. The right of way widths of the surrounding streets are 100 feet, 80 feet, 60 feet and 80 feet for First Street, Main Street, Second Street and Spring Street, respectively.

Some of the borings drilled as part of the geotechnical investigation encountered perched groundwater in the alluvial soils immediately above the bedrock contact. As stated in the referenced February 15, 2005 geotechnical report, we anticipate that groundwater flow can be controlled during construction with sump pumps located along the edge of the excavation. Thus, we are anticipating one or more sumps removing water as it enters the excavation. Such a system is not expected to significantly impact the groundwater levels outside the construction areas.

In addition, the boring logs indicate that the native alluvial soils consist of dense to very dense granular soils and stiff to hard fine grained soils. These materials have most likely experienced several occurrences of groundwater level fluctuations and should not be significantly impacted by a small amount of drawdown.

Considering the distance between the project site and the closest building, the subsurface conditions and anticipated dewatering methods during construction, it is our opinion that there is a very low potential for the proposed construction impacting any existing building is the vicinity of the site.

Condition No. 4

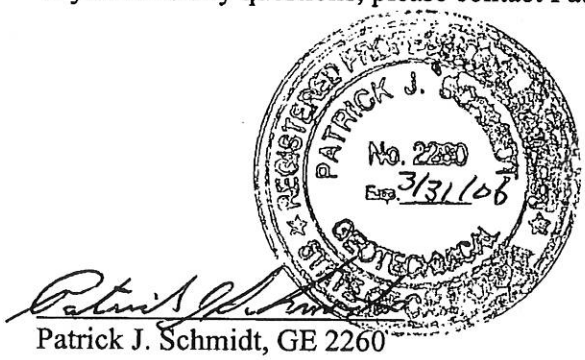
"Prior to issuance of any permit which authorizes an excavation where the excavation is to be of a greater depth than are the walls or foundation of any adjoining building or structure and located closer to the property line than the depth of excavation, the owner of

the subject site shall provide Department with evidence that the adjacent property owner has been given a 30-day written notice of such intent to make an excavation."

Response:

As stated previously, the project will occupy the entire city block bounded by First Street on the north, Main Street on the east, Second Street on the south and Spring Street on the west. Thus, there are no adjacent properties with buildings or adjacent property owners to contact.

If you have any questions, please contact Patrick Schmidt at (213) 847-4046.



Patrick J. Schmidt, GE 2260
Geotechnical Engineer I

Fred Burnett, CEG 2052
Engineering Geologist I

Attachments: Plates 1 and 2 (In Pocket)

Q:\04\04-120 New Police Headquarters Facility\B&S Response Letter4.doc

10103092007 45798

GRADING
OVERSIZE DOCUMENT

To view the Grading
oversize document for:

Tract: AM 1-74 // MR 53-66/73
Block: ~~1~~ // 1 Lot: PCL 15/PCL 14 // Fr. 4/Fr. 8
Job Address: 120 & 141 S. Spring St // 106-114 W. 1st St. / 100-110 S. Spring St. & 120-132 W. 1st St
X-Ref: 2x Date: 11/21/05

Look for the document type called "Grading Oversize Document" dated 11/21/05 from the Document Type list in DAFS Retrieval; copy the corresponding Reel/Batch/Doc numbers (document location on microfilm); and request assistance from the Automated Records Counter staff to view the film and/or print a copy of the images. Prints require special permission which will be explained to you by Department staff.

(G:\DRM\DAFS\DAFSFORM\GROSDOC.FRM) 8.7.21.98

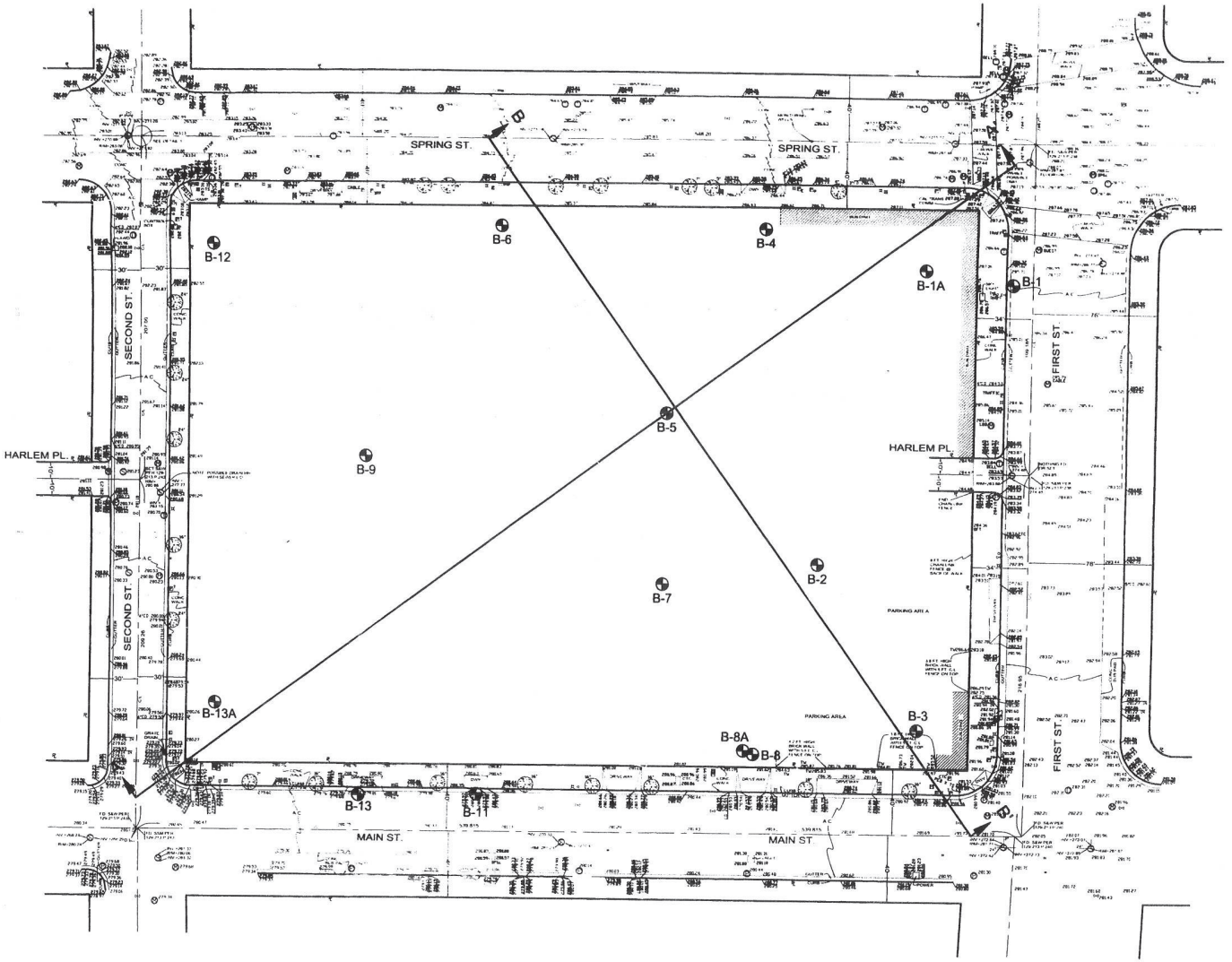
10103092007 45798

2x 11/21/05

Tract AM 1-74 // MR 53 66/73

Lot PCL 15/PCL 14 // Fr 4/Fr 8, Block 1

Address 120 & 141 S Spring St // 106 114 W 1st St / 100-110 S Spring St 120 132 W 1st St



1 INCH = 30 FEET

LEGEND:

B-2 BORING LOCATION

A A' GEOLOGIC CROSS SECTION

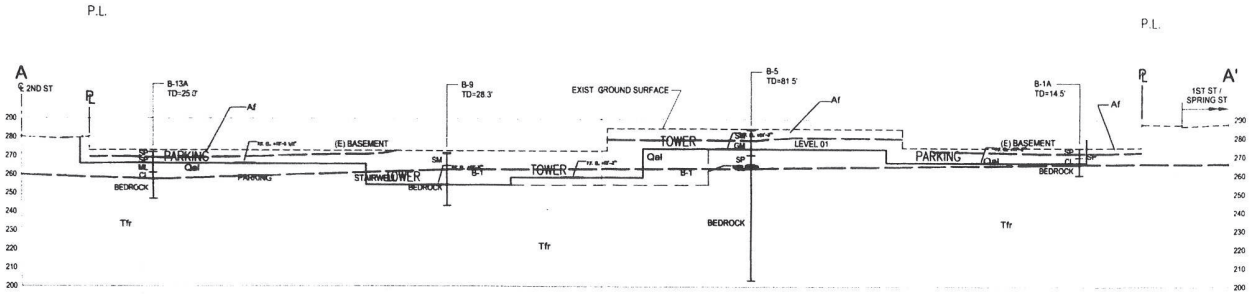
NEW POLICE HEADQUARTERS FACILITY
BORING PLAN
W. O. # E170910B

PLATE 1

BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION

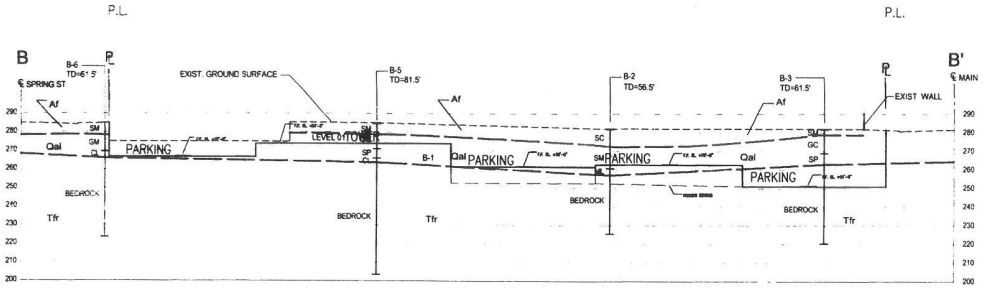
File No. 04-120 Date 11/16/05

CADD by MTR Checked by FB Supervised by CJ



SECTION A-A'

SCALE : 1" = 30'-0"



SECTION B-B'

SCALE : 1" = 30'-0"

LEGEND:

SP, SM, ML, CL, GM	UNIFIED SOIL CLASSIFICATION SYSTEM SOIL GROUP SYMBOLS
Af	ARTIFICIAL FILL
Qal	ALLUVIUM
Tfr	FERNANDO FORMATION (BEDROCK)

NEW POLICE HEADQUARTERS FACILITY
GEOLOGIC CROSS SECTIONS
W. O. # E170910B

PLATE 2

BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION

File No. 04-120 Date 11/16/05

CADD by MTR Checked by FB Supervised by CJ

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: November 21, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL FOUNDATION RECOMMENDATIONS FOR SPREAD FOOTINGS ON ALLUVIAL SOIL - NEW POLICE HEADQUARTERS FACILITY, WO E170910B, GED FILE 04-120**

The Geotechnical Engineering Division (GED) has prepared this letter to present supplemental recommendations for the subject project. Supplemental recommendations are presented herein for support of the parking structure spread footing foundations on alluvial soils. Recommendations presented herein are intended to supplement the recommendations presented in GED's geotechnical engineering report for the project dated February 15, 2005. All foundations of the office tower shall be founded on undisturbed Siltstone/Claystone bedrock in accordance with the recommendations of the referenced February 15, 2005 report.

BACKGROUND

At the time the referenced geotechnical report was prepared the project was planned to consist of an office tower surrounded by subterranean parking levels. The lowest parking level was planned to have a finish floor elevations on the order of 249 feet, 245 feet, 258 feet and 261 feet in the northwest, northeast, southeast and southwest corners of the site, respectively. The referenced Geotechnical Engineering Report recommended that all office tower and parking structure foundations be supported in undisturbed bedrock with allowable bearing capacities of 5,000 to 10,000 pounds per square foot (psf).

Since the issuance of the referenced geotechnical report the number of subterranean parking levels has been decreased. Our understanding of the finish floor elevations of the lowest parking levels are based on the information presented in the "Plan Set" set of project plans dated September 29, 2005. Our understanding of these elevations are summarized in the following table.

10103092007 45798

BOUNDING GRID LINES	LOWEST PARKING LEVEL FINISH FLOOR ELEVATION
Lines A, B, 14.4 and 17	Approximately 251-1/2 feet
A, B, 14.4 and 8	Sloping, approximately 251-1/2 feet at Grid Line 14.2 to approximately 252-1/2 feet at Grid Line 8
B, J.8, 8, 11.2	Sloping, approximately 252-1/2 feet at Grid Line B to approximately 262 feet at Grid Line J.8
J.8, L, 8 and 14	Approximately 262 feet
B, H, 11.2 and 14	Sloping upward to Level P1
B, S, 14.4, 17	Sloping, approximately 251-1/2 feet at Grid Line B to approximately 266-1/2 feet at Grid Line S
S, Y, 14.4, 17	Approximately 266-1/2 feet
S, Y, 4, 14.4	Sloping, approximately 266-1/2 feet at Grid Line 14.4 to approximately 269 feet at Grid Line 4
S, Y, 1, 4	Approximately 269 feet
B, S, 1, 4	Sloping, approximately 269 feet at Grid Line S to approximately 267 feet at Grid Line B
A, B, 1, 4	Approximately 267 feet
A, B, 4, 8	Transitioning down from approximately 267 feet at Grid Line 4 to 266-1/2 feet at Grid Line 8

The following structural loading information for the parking structure foundations were provided to GED;

FOOTING LOCATION	DESIGN DEAD LOAD	DESIGN LIVE LOAD
West Portion of North Perimeter Wall (klf)*	13.2	2.8
East Portion of North Perimeter Wall (klf)	20.2	5.1
South Portion of East Perimeter Wall (klf)	18	2.9
West Perimeter Wall (klf)	17	2.9
South Perimeter Wall (klf)	11	2.4
H-3, K-3, M-3 (kips)	1,300	250
V-6 to 9	2,000	1,200
Other Individual Column Footings	$\leq$ 1,000	200-250

* Kips per Linear Foot

In addition, we understand that the structural design of the parking structure footings will have the footings bearing at depths of at least 4-1/2 feet to five feet below the finish floor elevations of the slabs-on-grade of the parking levels. If the information presented in the above table or the depth of the footings below the lowest parking level slabs-on-grade are incorrect, GED will need to re-evaluate and possibly revise the recommendations and conclusions presented herein.

10103092007 45798

DISCUSSION

GED compared the proposed depths of the bottom of the footings with the corresponding expected depth of the bedrock at the site. Based on the borings drilled for the project we estimate that suitable bedrock for support of foundations will generally be encountered between elevations of 252 and 269 feet above Mean Sea Level (MSL). In general, the depth of the bedrock increases from northwest to southeast. Based on our review of the referenced plan set, we expect that the parking structure footings will bear on suitable bedrock with the exception of footings in the southern portion of the site. For footings founded 4-1/2 feet to five feet below the slabs-on-grade, we estimate that footings in the southwest portion of the parking structure will be underlain with five feet or less of alluvium. Similarly, for these conditions we estimate that footings in the southeast portion of the parking structure will be underlain with approximately five to eight feet or less of alluvium.

For the loading conditions and footing elevations described herein, GED performed analysis to calculate allowable bearing capacity of the alluvial soil corresponding to a maximum differential settlement of ½-inch. The results of the analysis and our conclusions and recommendations are summarized herein.

CONCLUSIONS AND RECOMMENDATIONS

Based on the slab-on-grade elevations of the lowest parking levels as presented herein, and the structural loading information and minimum footing depths (4-1/2 to 5 feet below finish floor slab) provided by the structural engineer, footings for the parking structure may be founded in the alluvial soils. Continuous and isolated column footings of the parking structure bearing on alluvial soils with minimum widths of 24 inches and 36 inches, respectively, may be designed for an allowable bearing capacity of 3,500 psf. This allowable bearing pressure may be increased by 250 psf for each additional foot of footing width or depth to a maximum of 5,000 psf. This bearing capacity is based on a maximum differential settlement of ½-inch between foundations bearing alluvial soils and between foundations bearing on bedrock and alluvial soils. The project designers shall consider these magnitudes of differential settlement in their designs, including locations where footings transition between different supporting materials. In addition, all foundations of the parking structure shall be founded at or below the bearing elevations of the former Caltrans buildings. Disturbance of the subgrade in these and other areas from demolition and/or construction activities may require further deepening of the footings. All foundations of the office tower shall be founded on undisturbed Siltstone/Claystone bedrock in accordance with the recommendations of the referenced February 15, 2005 report.

10103092007 45798

New Police Headquarters Facility
W.O. # E170910B

GED File 04-120

November 21, 2005

If you have any questions, please contact Mariam Schahmoradi at (213) 847-4024 or Patrick Schmidt at (213) 847-4046.



Patrick J. Schmidt, GE 2260
Geotechnical Engineer II

M. Schahmoradi

Mariam Schahmoradi, PE C58214
Civil Engineer Associate III

Q:\04\04-120 New Police Headquarters (Caltrans)\Supplemental Bearing Capacity for Alluvial soil.doc

10103092007 45798

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: October 5, 2005

To: Sam S. Tanaka
Prop Q Program Manager

Attention: Robert Lomelin, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: **SUPPLEMENTAL GEOTECHNICAL RECOMMNEDATIONS- NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES, WO E170910B, GED FILE 04-120**

The Geotechnical Engineering Division (GED) has prepared this letter to present supplemental recommendations for the subject project. Supplemental recommendations are presented herein for design and construction of the drainage blanket that will be installed beneath the floor slabs of the lowest subterranean parking levels. Recommendations presented herein are intended to supplement the recommendations presented in GED's geotechnical engineering report for the project dated February 15, 2005.

The drainage blanket shall be a minimum of 12 inches in thickness and underlain with a geotextile filter fabric. The drainage system material shall consist of crushed rock, Caltrans Class II permeable base material, or drain rock. The drainage blanket shall be protected during construction by covering with a filter fabric and a minimum of 6 inches of gravel or a mud slab.

The drainage blanket shall be underlain with 6-inch diameter perforated sub-drains constructed on centers of 30 feet or less. The sub-drains shall be installed in 12-inch wide trenches that extend a minimum of 12 inches below the bottom of the drainage blanket. The walls and bottom of the trenches shall be covered with a filter fabric prior to the placement of the sub-drain pipe and gravel. Pipes shall be placed with the perforations down and shall connect to the sumps. As a minimum, the system shall include two 75 gallon per minute sump pumps. The sump pump vaults shall be constructed of sufficient size to accommodate pumps having capacities of 125 gallon per minute.

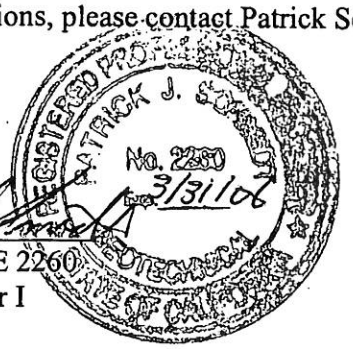
10103092007 45798

New Police Headquarters Facility
W.O. # E170910B GED File 04-120

October 5, 2005

In accordance with the Bureau of Engineering policy, the system should discharge into the sanitary sewer. An industrial waste permit will need to be obtained from the Bureau of Sanitation. Final design of the drainage system should be reviewed by GED.

If you have any questions, please contact Patrick Schmidt at (213) 847-4046.



Patrick J. Schmidt, GE 2260
Geotechnical Engineer I

Fred Burnett, CEG 2052
Engineering Geologist I

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10103092007 45798

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BUILDING AND SAFETY
COMMISSIONERS

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CALIFORNIA

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DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN, P.E.
GENERAL MANAGER
RAYMOND CHAN
EXECUTIVE OFFICER

GEOLOGY AND SOILS REPORT APPROVAL LETTER

January 11, 2006

Log # 51193
SOILS/GEOLOGY FILE - 2
LIQ

City of Los Angeles
221 N. Figueroa Street, #1600
Los Angeles, CA 90012

TRACT:	LACA Map No.94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66/73)
BLOCK:	-------	//	1
LOTS:	PCL 15	//	FR 4
LOCATION:	120 & 141 S. Spring St	//	106-114 W. 1st St.

TRACT:	LACA Map No. 94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66/73)
BLOCK:	-------	//	1
LOTS:	PCL 14	//	FR 8
LOCATION:	-------	//	100-110 S. Spring St. & 120-132 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Rpt. Supplement	04-120	11/21/2005	Geotech. Eng. Div.
Oversized Documents	"	"	"
Soil Rpt. (revised ftg. rec's)	"	11/21/2005	"
Rpt. Supplement (drainage sumps)	"	10/05/2005	"

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Approval Letter	47253-02	08/09/2005	LADBS
Soil Report	04-120	08/09/2005	Geotech. Eng. Div.
Soil Report	04-120	07/28/2005	Geotech. Eng. Div.
Field & Laboratory Testing (rev.)	52307-1	07/13/2005	Kleinfelder
Dept. Correction Letter	47253-01	06/21/2005	LADBS
Soil Report	04-120	05/24/2005	Geotech. Eng. Div.
Dept. Correction Letter	47253	04/07/2005	LADBS
Soil Report	04-120	02/15/2005	Geotech. Eng. Div.
Field & Laboratory Testing	52307-1	01/26/2005	Kleinfelder

The referenced current reports concerning the proposed construction on the subject lots of the New Police Headquarters Facility have been reviewed by the Grading Division of the Department of Building and Safety.

The Department previously approved with conditions in the referenced 08/09/2005 letter (Log # 47253-02) the proposed building project as presented in the referenced previous reports. The project will consist of an eleven story office tower in the central portion of the site, an auditorium, cafe and utility structures along the east side of the site and two to three levels of subterranean garages.

Currently, recommendations for design of a drainage blanket are provided in the 10/05/2005 report to be constructed/installed beneath the floor slabs of the lowest parking level.

In the 11/21/2005 report with revised footing recommendations, it is concluded based on the current plan that the main office tower and most of the surrounding parking structure footings will bear in competent bedrock with the exception of footings in the southern portion of the site which will bear in alluvium about 5 to 8 feet in thickness.

It is indicated based on the subsurface conditions, distance to the buildings surrounding the project and the anticipated de-watering methods to be employed during construction that the potential for the proposed construction to impact any existing buildings in the vicinity of the project is very low.

Responses with explanations to previous conditions 1, 2, 3 and 4 in the Department's letter of approval were provided in the 11/21/2005 report with respect to final excavation heights/design recommendations, obtaining permits for construction-related de-watering, effect of de-watering on adjacent buildings and written notices to adjacent property owners.

The referenced current reports and the recommendations provided therein are acceptable, provided the following conditions are complied with during site development:

1. A permanent drainage blanket shall be installed beneath the floor slabs of the lowest sub-terranean level as recommended in the referenced 10/05/2005 report. The final plans shall be verified in order that all details and specifications for the drainage blanket installation are clearly shown on the plans. This shall include but not be limited to overall sub-drain trench/pipe locations, elevations, recommended grade for gravity flow, specifications for pipe diameter/filter fabric/gravel etc., the perimeter sump locations with access and the recommended pump capacities.

2. The proposed office tower shall be founded using conventional and/or cast-in-drilled-hole (CIDH) pile foundations that bear entirely in bedrock, as recommended.

3. Footings for a portion of the parking structures in the southern portion of the project where the depth to bedrock is the greatest may be supported either in bedrock or firm undisturbed naturally-occurring alluvium, as recommended.

4. The building design shall incorporate provisions for anticipated differential settlements in excess of one-fourth inch. (1806.2)

4. All conditions contained in the previous Department Letter dated 08/09/2005, Log # 47253-02, with the exception of conditions 1, 2, 3, 4 and condition number 19 modified herein, shall continue to remain applicable to the proposed project and shall be complied with.

STEPHEN DAWSON
Engineering Geologist I

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

SD/ATS:sd/ats
51193

cc: G E D
LA District Office

10103092007457 98

LADBS B-17 (R 2/01)

City of Los Angeles
DEPARTMENT OF BUILDING AND SAFETY
Grading Division

District LA | Log No. 51193
ADDRESS APPROVED | Signature/Date

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Division, Department of Building and Safety, 201 N. Figueroa St., 3rd Fl., Los Angeles California 90012-4869. Phone (Area Code 213) 977-6329.
B. Obtain address approval from the Department of Public Works prior to submittal.
C. Submit 2 copies (4 for fault study zone) of reports and 3 copies of application with items (1) through (10) completed.
D. Check should be made to the Department of Building and Safety.

Note: Please Print

(1) LEGAL DESCRIPTION
Tract OROS SURVEY TRACT
Blk 1 Lots 498

(2) PROJECT ADDRESS 100 WEST FIRST ST

(3) OWNER CITY OF LOS ANGELES
Address 221 N. FIGUEROA ST, 16th FLR
City LOS ANGELES Zip 90012
Phone (Daytime) 213-482-7355

(4) APPLICANT CLA/DPW/BOE/GED
Address 650 S. SPRING ST
City LOS ANGELES, CA
Phone (Daytime) 213 847-4046 Zip 90014
Fax 213-847-4048

(5) Report(s) Prepared by CITY OF LA/DPW/BOE/GEO

(6) Report Date(s) 10-5-05

(7) Status of project: ☒ Proposed ☐ Under Construction ☐ Storm Damage 11/21/05

(8) Previous site reports? YES If yes, give date(s) of report(s) and name of company(s) who prepared report(s).
2/15/05, 5/24/05, 7/28/05; 8/9/05,

(9) Previous Department actions? YES If yes, please give dates and attach a copy to expedite processing.
Dates LOG # 47253-02 DATED 8-9-05

(10) Signature of applicant _____ Position _____

(DEPARTMENT USE ONLY)

REVIEW REQUESTED & PROCESSING	FEES	REVIEW REQUESTED & PROCESSING	FEES
☐ Foundation Investigation		☐ Seismology report per 91.2305(d)	
☐ Soils Engineering		☐ Environmental Assessment	
☐ Geology		☐ Import-Export Route	
☐ Combined Soils Engr. & Geol.		☐ Division of land	
☒ Supplemental		Sub-total	205
☒ Combined Supplement	205	One-Stop Surcharge	

THE REPORT IS ☐ **APPROVED WITH CONDITIONS** ☐ **NOT APPROVED** **TOTAL FEE** 238.70

DEPARTMENT ACTION BY: _____ _____ _____ _____
For Geology Date For Soils & Foundation Date

☐ Conditions of Approval ☐ Reasons for Non-Approval ☐ See Attached letter ☐ Supplemental Sheet _____ Attached

LA Department of Building and Safety
LA 01 24 149270 11/21/05 02:56PM

GRADING REPORT	$205.00
ONE STOP SURCH	$4.10
SYSTEMS DEVT FEE	$12.30
CITY PLANNING SURCH	$12.30
MISCELLANEOUS	$5.00
Total Due:	$238.70
No Fee:	$238.70

(Continued Over) FEE NO FEE (Cashier Use Only) FEE

DEPARTMENT USE ONLY
Fee Due 238.20
Fee Verified JHS
Date 11/21/05

DISTRIBUTION
☐ Owner ☐ Applicant ☐ _____
☐ Soil Engineer ☐ Geologist ☐ Board files ☐ Tract file

10103092087-57-00

Name CITY OF LA
Addr 100 W FIRST STREET
Auth ☐ IVN# 5W298025
Dept

☐ LA Plan Check ☐ WLA ☐ SP/WLA
☐ LA Inspection ☐ VN ☐ BMI ☐ WLA ☐ BI ☐ SP/WLA

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING
GEOTECHNICAL ENGINEERING DIVISION

March 8, 2006
File No. 04-120
Supplemental Geotechncial Report

SUPPLEMENTAL GEOTECHNICAL REPORT – TEMPORARY DEMOLITION EXCAVATION SLOPE ALONG EAST SIDE OF SITE – POLICE HEADQUARTERS FACILITY (CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES)
W.O. E170910B
GED FILE NO. 04-120

INTRODUCTION

The Geotechnical Engineering Division (GED) is providing this report to offer supplemental recommendations for the subject project. The recommendations presented herein are supplemental to the recommendations of the previous report dated February 15, 2005 and all supplemental reports. All previous recommendations shall apply except as specifically modified herein.

BACKGROUND

The site for the new police headquarters facility is currently occupied by a partially demolished structure. Foundations of this structure will be removed as part of the on-going demolition activities. The existing foundations along the east property line of the site are approximately 18 feet below the ground surface. Per Section 8.2.3 of the original geotechnical report, excavations to this depth should be sloped at an angle of 1½:1 or shored.

The demolition contractor has proposed the use of a temporary slope configuration as shown on the attached Figure 1 to facilitate the removal of the existing foundations along the eastern side of the site. As shown on the attached figure, the proposed method consists of a temporary 1:1 (horizontal to vertical) slope descending downward from four feet west of the Main Street curb to the site property line (exterior side of the existing foundation stem wall). This temporary slope will have an initial height of approximately 12 feet. Following excavation of this slope, the basement wall, slab-on-grade and the portion of the stem wall above the elevation of the toe of this slope will be removed. A four-foot wide bench will then be constructed into the site and a temporary 1 to 1 slope will be excavated down to the proposed subgrade elevation which corresponds to the elevation of the bottom of the existing footings to be removed.

Slot cuts with maximum widths of eight feet and heights of eight feet or less will then be cut into the lower 1 to 1 slope. The portion of the stem wall and footing exposed at the back of the slots will be removed and the slots backfilled to the face of the lower 1 to 1 slope and up to the elevation of the four-foot wide bench. This sequence will be repeated for the other slots. Following removal of the foundations, the area outside of the property line will be backfilled to the side walk elevation and a 1-1/2 to 1 (horizontal to vertical) or flatter temporary slope will be constructed to descend down to the subgrade elevation in the site.

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CONCLUSIONS AND RECOMMENDATIONS

The proposed excavation procedure described in the previous paragraphs is acceptable to GED with the following conditions.

- Slots shall be constructed in an A, B, C sequence with neither adjacent slot excavated until the slot is completely backfilled to the grade of the initial 1:1 slope (horizontal to vertical).
- Maximum width of slots shall not exceed 8 feet and maximum height of slots shall not exceed 8 feet.
- After the foundation is removed and prior to placing of any fill in any slots, the bottom of the slot, shall be scarified to a minimum depth of 6-inches, moisture-conditioned and mechanically compacted in accordance with the requirements of Section 8.2.5 of the Feburary 15, 2005 geotechnical report.
- All excavation of the slots shall be performed under the continuous observation of the geotechnical engineer of record or a GED representative working under direct supervision of the geotechnical engineer of record.
- The GED representative working under the supervision of the geotechnical engineer of record shall be able to act as a Building and Safety Deputy-Grading inspector for the purposes of slot-cut observation.
- Following completion of the slot cutting, fill shall be placed against the initial 1:1 slopes to construct a 1-1/2 to 1 (horizontal to vertical) or flatter temporary slope with the crest of the slope at or slightly inside the site property line. Fill shall be benched into the 1 to 1 slope face in accordance with the 1999 LABC requirements.
- Backfill placed in the slots and fill placed to the sidewalk elevation outside the property line and to construct the 1-1/2 to 1 temporary slope shall be tested for compaction as it is placed.
- All fill and backfill shall be placed in lifts not exceeding 8-inches in thickness shall be moisture conditioned and compacted in accordance with the requirements of Section 8.2.7 of the February 15, 2005 geotechnical report. Also, each lift shall be moisture-conditioned between optimum-moisture content and a few percent above the optimum and mechanically compacted.

If excessive sloughing and caving occurs, slot cuts shall be backfilled immediately and shoring shall be installed.

CLOSURE

If you have any questions about this report, please contact Patrick Schmidt at (213) 847-4046 or Ben Moore at (213) 485-8362.

REGISTERED PROFESSIONAL ENGINEER BENJAMIN D. MOORE No. C 67004 EXP 9/30/06 CIVIL STATE OF CALIFORNIA

Benjamin Moore, PE C67004
Civil Engineering Associate III

REGISTERED PROFESSIONAL ENGINEER PATRICK J. [illegible] No. 2260 Exp. 3/31/08 GEOTECHNICAL STATE OF CALIFORNIA

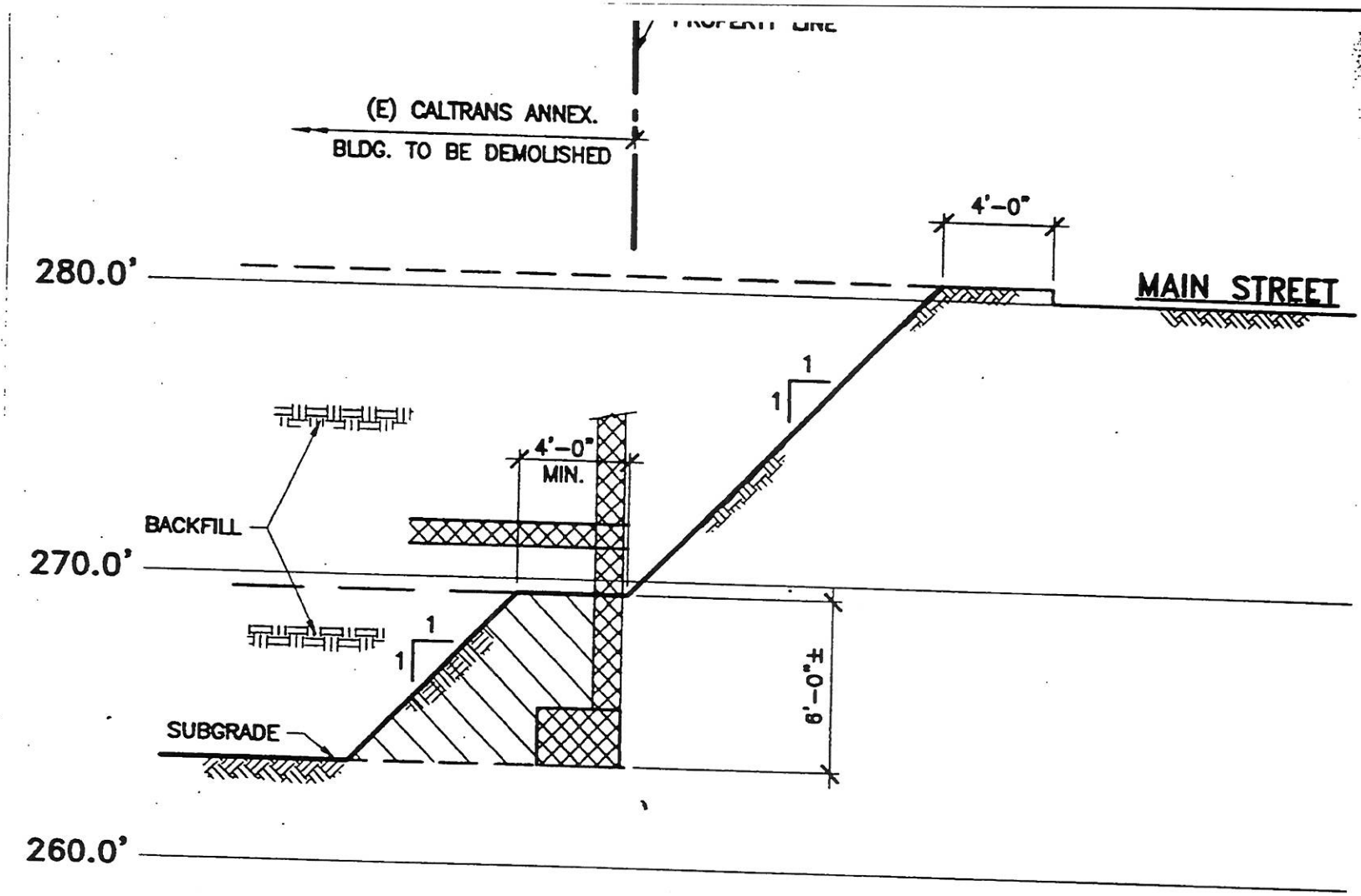
Patrick J. Schmidt, GE 2260
Geotechnical Engineer II

PJS/bdm

Q:\04\04-120 New Police Headquarters (Caltrans)\04-120 Supplemental Report - Temporary Demolition Slope.doc

10103272007 46420





10103272007464420

SLOT-CUT PROCEDURE

1. EXCAVATE @ 1:1 SLOPE 4 FEET FROM FACE OF CURB TO FACE OF EXIST'G BASEMENT WALL.
2. MAXIMUM SLOT WIDTH SHALL NOT EXCEED 8 FEET.
3. CREATE A 4 FEET WIDE FLAT BENCH, THEN SLOPE-CUT @ 1:1 TO SUBGRADE. (BOTTOM OF EXISTING FTG'S)
4. SLOT-CUT SECTIONS "A" AND EXCAVATE TO PROPOSED SUBGRADE.
5. BACK FILL SECTIONS "A" TO ORIGINAL FLAT BENCH ELEVATION.
6. REPEAT PROCEDURES FOR SECTIONS "B".
7. BACKFILL UP TO EXIST'G SIDEWALK ELEVATION.

FIGURE 1

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

EFREN ABRATIQUE, P.E.
PRESIDENT
JAVIER NUÑEZ
VICE-PRESIDENT
PEDRO BIRBA
MARSHA L. BROWN
WILLIAM J. ROUSE

CITY OF LOS ANGELES
CALIFORNIA

ANTONIO R. VILLARAIGOSA
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN, P.E.
GENERAL MANAGER
RAYMOND CHAN
EXECUTIVE OFFICER

SOIL REPORT APPROVAL LETTER

April 19, 2006

Log # 52712
SOILS/GEOLOGY FILE - 2

LA City Police Bond
221 N. Figueroa Street, #1600
Los Angeles, CA 90012

TRACT:	LACA Map No.94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	- - - - - - -	//	1
LOTS:	PCL 15	//	FR 4
LOCATION:	120 & 141 S. Spring St	//	106-114 W. 1st St.

TRACT:	LACA Map No. 94 (AM 1-74)	//	Ord's Survey Tract (MR 53-66-73)
BLOCK:	- - - - - - -	//	1
LOTS:	PCL 14	//	FR 8
LOCATION:	- - - - - - -	//	100-110 S. Spring St. & 120-132 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soil Report	04-120	03/08/2006	Geotech. Eng. Div.

PREVIOUS REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Dept. Approval Letter	47253-02	08/09/2005	LADBS

The referenced report providing supplemental recommendations for the proposed New police Headquarters Facility has been reviewed by the Grading Division of the Department of Building and Safety.

The Department approved construction of an eleven story office tower in the central portion of the site, an auditorium, cafe and utility structures along the east side of the site and two to three levels of subterranean garages on 08/09/2005.

The current report recommends utilizing slot-cutting for the temporary excavation along the east property line in lieu of slopping the excavation at a gradient not to exceed 1 ½ :1 (horizontal to vertical) or shoring previously recommended by the consultants and approved by the Department

The referenced report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2002 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

10103272007 46420

1. All conditions of the Department Letter dated 08/09/2005, Log # 472534-02, shall apply with the exception of condition #12, revised below.

2. Sequence of the excavation shall comply to the procedure given on page 2 and Fig. 1 of the current report.

3. Surcharged A-B-C slot-cut method may be used for temporary excavations with each slot cut not exceeding 8 feet in height and not exceeding 8 feet in width, as recommended. The surcharge load shall not exceed value given in the report. The soils engineer shall determine the clearance between the excavation and the existing foundation. Each slot shall be inspected by the soils engineer and approved in writing prior to any worker access.

4. Slot cutting excavations shall be performed under the continuous inspection and approval of the soils engineer and deputy grading inspector approved by and responsible to the geotechnical engineer. (1701.5.13)

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

ATS:ats
52712

cc: G E D
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Section

District	Log No.
LA	52712

DM 130-5A213 David Chu 3/9/06

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Section, LADBS, 201 N. Figueroa St., 3rd Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit 3 copies (4 for fault study zone) of reports and 3 copies of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles. APN 5149-001-(913/901/914/902)

1. LEGAL DESCRIPTION
Tract ① ORDS Survey Tract (MR 53-66-73) ② LACA MAP NO. 94
Block ① 1 ② — Lots ① FR4+FR8 ② PCL 14+15

2. PROJECT ADDRESS: 100 West 1st Street NEW ADDRESS / DAVID BOE.

3. OWNER LA City Police Bond
Address 221 N Figueroa, #1600
City Los Angeles Zip 90012
Phone (Daytime) (213) 482-7355

4. APPLICANT LA City GED
Address 650 S Spring Street, 6th Floor, MS 495
City Los Angeles Zip 90014
Phone (Daytime) (213) ~~485-8362~~ 847-0474 Fax (213) 847-~~4046~~ 0541

5. Report(s) Prepared by: GED

6. Report Date(s): March 8, 2006

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage
8. Previous site reports? Y if yes, give date(s) of report(s) and name of company who prepared report(s)
2/15/04, 5/24/05, 7/28/05, 8/9/05, 10/5/05, 11/21/05, 11/21/05
9. Previous Department actions? Y if yes, provide dates and attach a copy to expedite processing.
Dates 8/9/05, 1/11/06
10. Applicant Signature: [signature] Position: CEA I

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☒ Soils Engineering MINOR		☐ Import-Export Route	
☐ Geology SUTP + EXP	90.00	☐ Division of Land	
☐ Combined Soils Engr. & Geol.		☐ Other	
☐ Supplemental		Sub-total	
☐ Combined Supplement		One-Stop Surcharge	

Fee Due $107.60;
Fee Verified By: [signature] Date: 3/09/06
(Cashier Use Only)

ACTION BY: **TOTAL FEE** 107.60

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS SEE: ☐ BELOW ☐ ATTACHED

For Geology *Date*

For Soils *Date*

LA Department of Building and Safety
LA 03 35 [illegible]

GRADING REPORT	[illegible]
PLAN APPROVAL FEE	[illegible]
ONE STOP SURCH	[illegible]
SYSTEMS DEVT FEE	[illegible]
CITY PLANNING SURCH	[illegible]
MISCELLANEOUS	[illegible]
Total Fee:	[illegible]
No Fee:	[illegible]

NO FEE NO FEE NO FEE
Name: LA CITY POLICE BOND
Addr: 100 WEST 1ST STREET
Auth: [illegible]
Dept: PUBLIC WORKS

DISTRIBUTION: ☐ Owner ☐ Applicant ☐ _____ ☐ Soil Engr ☐ Geologist ☐ Board Files ☐ Tract File

Inspection: ☐ LA ☐ VN ☐ WLA ☐ SP/WLA ☐ BI ☐ BMI

10103272007 46420

Police HQ

CITY
DEPARTMEN

LA Department of Building and Safety
LA 03 35 161829 03/15/06 10:18AM

GRADING REPORT	$60.00
PLAN APPROVAL FEE	$30.00
ONE STOP SURCH	$1.80
SYSTEMS DEVT FEE	$5.40
CITY PLANNING SURCH	$5.40
MISCELLANEOUS	$5.00
Total Due:	$107.60
No Fee:	$107.60

NO FEE NO FEE NO FEE
Name: LA CITY POLICE BOND
Addr: 100 WEST 1ST STREET
Auth: IDO# ID6Y298025
Dept: PUBLIC WORKD

Log No.

10-5A213 David Chow 3/9/06

APPLICATION F

D IMPORT-EXPORT ROUTES

A. Address all communicati
Telephone No. (213)482
B. Submit 3 copies (4 for fa
C. Check should be made

t., 3rd Fl., Los Angeles, CA 90012

ith items "1" through "10" completed.
001 - (913/901/914/902)

1. LEGAL DESCRIPTION
Tract ORDS Survey T
Block 1 (2) — Lo

DRESS:
t Street NEW ADDRESS / DAVID BOC

3. OWNER LA City Polic
Address 221 N Figuero
City Los Angeles
Phone (Daytime) (213) 482-7355

LA City GED
S Spring Street, 6th Floor, MS 495
eles Zip 90014
Phone
(Daytime) (213) 485-8362 Fax (213) 847-4046

5. Report(s) Prepared by: GED
6. Report Date(s): March 8, 2006

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage
8. Previous site reports? Y if yes, give date(s) of report(s) and name of company who prepared report(s)
2/15/04, 5/24/05, 7/28/05, 8/9/05, 10/5/05, 11/21/05, 11/21/05
9. Previous Department actions? Y if yes, provide dates and attach a copy to expedite processing.
Dates 8/9/05, 1/11/06
10. Applicant Signature: [signature] Position: CEA I

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☒ Soils Engineering MINOR		☐ Import-Export Route	
☐ Geology SUTP & EXP	90 00	☐ Division of Land	
☐ Combined Soils Engr. & Geol.		☐ Other	
☐ Supplemental		Sub-total	
☐ Combined Supplement		One-Stop Surcharge	

Fee Due $107 60
Fee Verified By: [signature] Date: 3/09/06
(Cashier Use Only)

ACTION BY:
TOTAL FEE 107 60

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS SEE: ☐ BELOW ☐ ATTACHED

For Geology *Date*

For Soils *Date*

DISTRIBUTION: ☐ Owner ☐ Applicant ☐ _____ ☐ Soil Engr ☐ Geologist ☐ Board Files ☐ Tract File
Inspection: ☐ LA ☐ VN ☐ WLA ☐ SP/WLA ☐ BI ☐ BMI

LA Department of Building and Safety
LA 03 35 161829 03/15/06 10:18AM

GRADING REPORT	$60.00
PLAN APPROVAL FEE	$30.00
ONE STOP SURCH	$1.80
SYSTEMS DEVT FEE	$5.40
CITY PLANNING SURCH	$5.40
MISCELLANEOUS	$5.00
Total Due:	$107.60
No Fee:	$107.60

NO FEE NO FEE NO FEE
Name: LA CITY POLICE BOND
Addr: 100 WEST 1ST STREET
Auth: IDO# ID6Y298025
Dept: PUBLIC WORKD

10103272007464 20

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

October 17, 2006
File No. 04-120
Supplemental Geotechncial Report

SUPPLEMENTAL GEOTECHNICAL REPORT- NEW POLICE HEADQUARTERS FACILITY, 100 WEST 1ST STREET, LOS ANGELES, CA 90012
GED FILE NO. 04-120 **WO NO. E170910B**

INTRODUCTION

The Geotechnical Engineering Division (GED) is providing this report to offer supplemental recommendations in response to a request from Los Angeles Department of Building and Safety. The recommendations presented herein are supplemental to the recommendations presented in GED's geotechnical engineering report for the project dated February 15, 2005. All previous recommendations shall apply except as specifically modified herein.

BACKGROUND

GED received an email from the project manager requesting additional recommendations for the project site. The item of concern is stated below:

- Provide approval of proposed "rock pocket" design and recommendations for subdrainage.

In the geotechnical engineering report, Section 8.5, Retaining Walls, GED recommended that to provide adequate drainage, the retaining walls can be covered with a geotechnical drainage fabric connected to a 4-inch diameter perforated drain pipe extending along the bottom of the wall. This pipe should be placed with perforations sideways or down and surrounded with Class 2 Caltrans permeable material (Section 68-1.025 of the Caltrans Standard Specifications) wrapped in filter fabric. Drain pipes should flow to a sump with a pump, or by gravity to a suitable outlet.

Due to the site conditions and proposed shoring design and construction methods, an alternate "rock pocket" subdrain design as shown on detail C1 of Sheet A4-271, attached, of the project plans was recommended. This design was determined to be insufficient by Building and Safety. GED has been requested to support the current design or issue additional recommendations.

RECOMMENDATIONS

GED recommends a new waterproofing and drainage panel design as shown in Figure 1.

10107302007 51953

CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: October 16, 2006

To: Sam Tanaka
Proposition Q Bond Program Manager

Attention: Julie Sauter, Project Manager

From: Christopher F. Johnson, Group Manager
Geotechnical Engineering Division (GED)

Subject: SUPPLEMENTAL GEOTECHNICAL REPORT- NEW POLICE HEADQUARTERS FACILITY, CITY BLOCK BOUNDED BY FIRST STREET ON THE NORTH, MAIN STREET ON THE EAST, SECOND STREET ON THE SOUTH, AND SPRING STREET ON THE WEST, DOWNTOWN LOS ANGELES
GED File No. 04-120 **WO No. E170910B**

In response to a request from Proposition Q on October 11, 2006, the Geotechnical Engineering Division (GED) has prepared this letter to provide supplemental recommendations for design and construction of the sub-drain for the walls of the subterranean parking garage. The recommendations presented herein are supplemental to the recommendations presented in GED's geotechnical engineering report for the project dated February 15, 2005 and all previous supplemental reports. All previous recommendations shall apply except as specifically modified herein.

BACKGROUND

Section 8.5 of the referenced February 15, 2005 geotechnical states "All retaining walls not designed to resist hydrostatic pressure should be adequately drained to prevent the buildup of hydrostatic pressures behind the walls due to groundwater, storm water, nuisance surface water, and/or utility line leaks. To provide adequate drainage, the retaining walls can be covered with a geotechnical drainage fabric connected to a 4-inch diameter perforated drain pipe extending along the bottom of the wall. This pipe should be placed with perforations sideways or down, and surrounded with Class 2 Caltrans permeable material (Section 68-1.025 of the Caltrans Standard Specifications) wrapped in filter fabric. Drain pipes should flow to a sump with a pump, or by gravity to a suitable outlet."

Due to the site conditions and proposed shoring design and construction methods, an alternate "rock pocket" subdrain design was developed by the project consultants as shown on Detail C1 of Sheet A4-271 (Attachment) of the project plans. The GED was requested to review and approve the design shown on Detail C1 of Sheet A4-271 of the project plans or issue additional recommendations.

10107302007 51953

RECOMMENDATIONS

GED recommends the sub-drain detail shown on Figure 1 be used along the base of the subterranean walls of the project. The design shown on Figure 1 is recommended for all retaining walls except as specifically noted in the field by GED. The design shown in Detail C1 of Sheet A4-271 of the project plans shall only be used in areas where the Geotechnical Engineer provides written approval during construction.

If you have any questions, please contact Amy Bi at (213) 847-0478 or Patrick Schmidt at (213) 847-0535.

Amy Bi
Civil Engineer Associate I

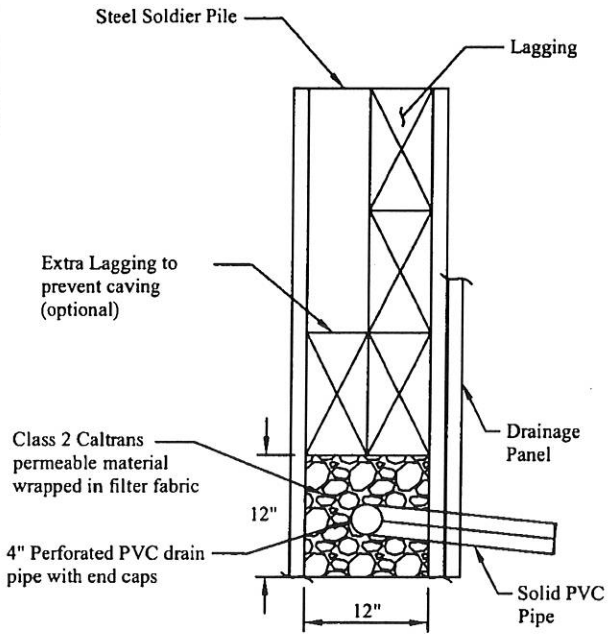
Patrick J. Schmidt, GE 2260
Geotechnical Engineer II

REGISTERED PROFESSIONAL ENGINEER PATRICK J. No. 2260 Exp. 3/31/08 GEOTECHNICAL STATE OF CA

Q:\04\04-120 New Police Headquarters (Caltrans)\Supplement Sub Drainage Report.doc

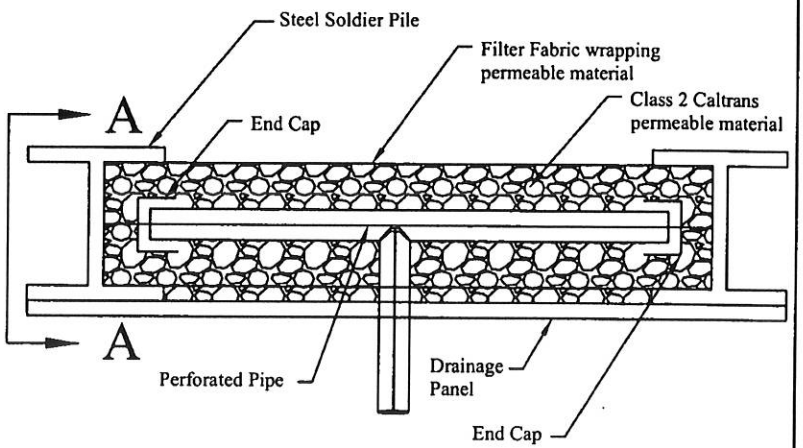
0107302007 51953

ATTACHMENT



Section A-A

Scale: NTS



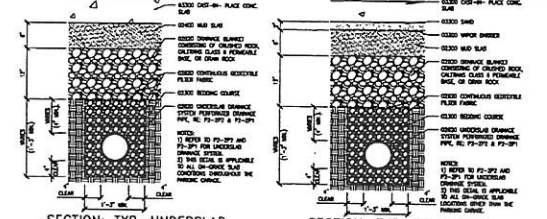
Plan

Scale: NTS

SUBDRAINAGE DESIGN

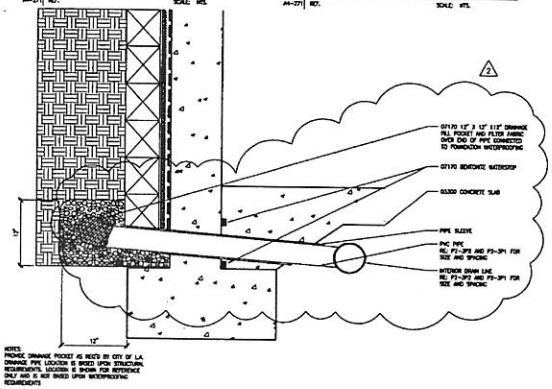
NEW POLICE HEADQUATERS FACILITY	BUREAU OF ENGINEERING GEOTECHNICAL ENGINEERING DIVISION (GED) GED FILE No.: 04-120 DATE: OCTOBER 2006	Figure 1

10107302007 51953

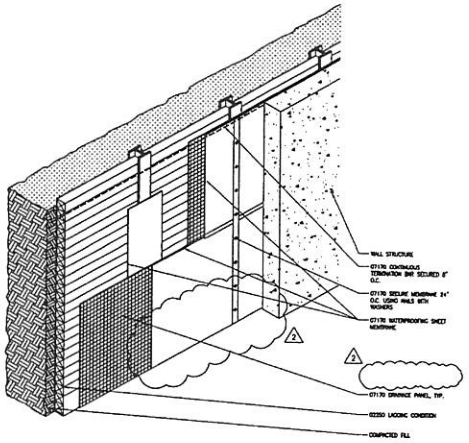


E1 | SECTION: TYP. UNDERSLAB DRAINAGE SYSTEM PIPE, GARAGE

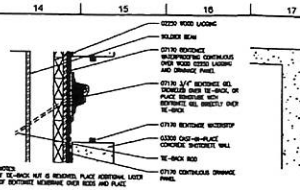
E2 | SECTION: TYP. UNDERSLAB DRAINAGE SYSTEM PIPE



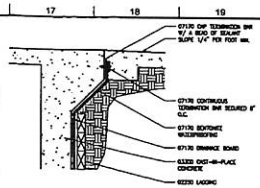
C1 | ISOMETRIC: FOOTING WITH DISCHARGE PIPE



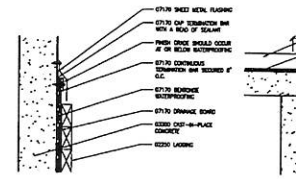
C3 | ISOMETRIC: BG WP OVERALL SECTION



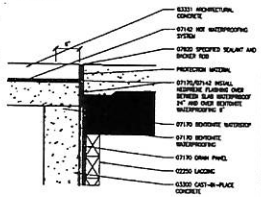
E5 | SECTION: TIE-BACK



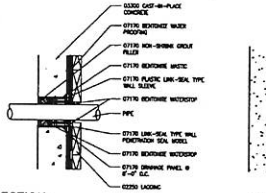
E6 | SECTION: BG WP @ TERMINATION APRON



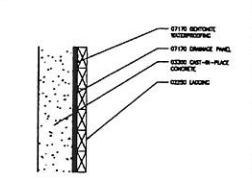
D5 | SECTION: BG WP TERMINATION @ PLANTER



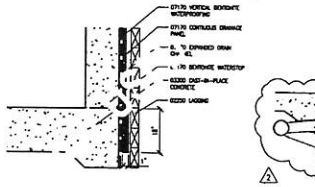
D6 | SECTION: BG WP TERMINATION @ HORIZONTAL TRANSITION



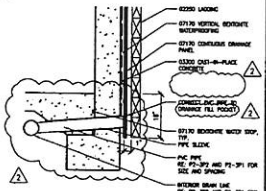
C5 | SECTION: THROUGH WALL PENETRATION



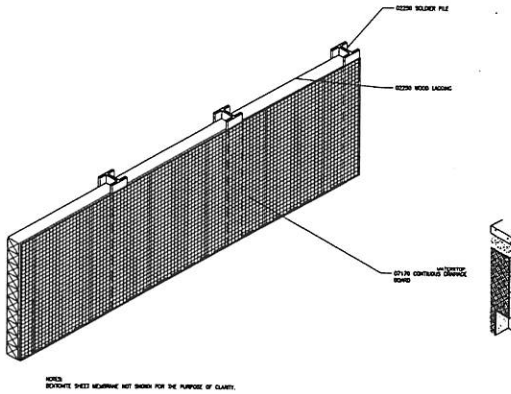
C6 | SECTION: DRAINAGE PANEL @ BG WALL



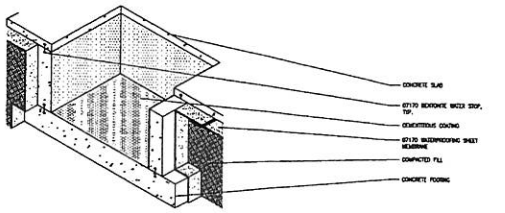
B5 | SECTION: BG WP @ FOOTING-TO-WALL



B6 | SECTION: FOOTING W/ DISCHARGE PIPE



A1 | ISOMETRIC: DRAINGAE BOARD AT 02250 LAGGING



A3 | ISOMETRIC: ELEVATOR SUMP PIT

10107302007519S3

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUREAU OF ENGINEERING

GARY LEE MOORE, P.E.
CITY ENGINEER

BOARD OF PUBLIC WORKS
MEMBERS

CITY ENGINEERING REVISIONS

DRAWN BY:
TRACED BY:
DESIGNED BY:
CHECKED BY:
APPROVED BY:

DRAWING NO. MF 300015

BUILDING NO.

DATE

APPROVED

DEPUTY

ENGINEER IN CHARGE

DRAWING NO.

PHF

A4-271

SHEET OF SHEETS

WORK ORDER NO.

E170910F

DESIGNATED AS

PROJECT: POLICE HEADQUARTERS FACILITY
FOR THE LOS ANGELES POLICE DEPARTMENT

ADDRESS: 100 WEST FIRST STREET
LOS ANGELES, CA 90012

SHEET TITLE: EXTERIOR DETAILS:
FOUNDATION WATERPROOFING

DESIGNED BY: GENSLER

CIVIL: DALE Dooley Rush + Draywood Jobe Pearson
333 S. Flower Street
Suite 3
Los Angeles, CA 90071

STRUCTURAL:

MECHANICAL:

ELECTRICAL:

LANDSCAPE:

ACOUSTICS:

LA LIFE SAFETY ENGINEERING

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Section

District	Log No.
LA	52814-01

PAGE 1 of 2

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Section, LADBS, 201 N. Figueroa St., 3rd Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit 3 copies (4 for fault study zone) of reports and 3 copies of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract LACA Map No. 94 (AM 1-74)/Ords Survey (MR 53-66/73)
Block - / 1 Lots PCL 14 & 15 / Fr. 4 and Fr. 8

2. PROJECT ADDRESS: 100 West 1st Street

3. OWNER La. City Police Bond
Address 221 N. Figueroa #1600
City Los Angeles Zip 90015
Phone (Daytime) 213 847 0497

4. APPLICANT LA City GED
Address 1149 S. Broadway 1st floor
City Los Angeles Zip 90015
Phone (Daytime) 213 847 0497 Fax 213 847 4046

5. Report(s) Prepared by: GED

6. Report Date(s): Oct. 16. 2006

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage

8. Previous site reports? Y if yes, give date(s) of report(s) and name of company who prepared report(s)
2/15/04, 5/24/05, 7/28/05, 8/9/05, 10/5/05, 11/21/05, 11/29/05

9. Previous Department actions? Y if yes, provide dates and attach a copy to expedite processing.
Dates 8/9/05, 1/11/06

10. Applicant Signature: [signature] Position: CEA II

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☐ Soils Engineering		☐ Import-Export Route	
☐ Geology		☐ Division of Land	
☐ Combined Soils Engr. & Geol.		☒ Other Expedite	30.00
☒ Supplemental Response	60.00	Sub-total	90.00
☐ Combined Supplement		One-Stop Surcharge	

Fee Due $ 107.60;
Fee Verified By: DEF Date: 10/17/06
(Cashier Use Only)

ACTION BY: **TOTAL FEE** 107.60

THE REPORT IS: ☒ NOT APPROVED
☐ APPROVED WITH CONDITIONS SEE: ☐ BELOW ☒ ATTACHED

[signature] For Geology Date 11-15-2006
For Soils Date

See page 2 of 2

DISTRIBUTION: ☒ Soil Engr ☐ Board Files ☐ Owner ☐ Geologist ☐ Tract File ☒ Applicant ☐ _____

Inspection: ☐ LA ☐ WLA ☐ BI ☐ VN ☐ SP/WLA ☐ BMI

10107302007519 53

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Section

Log No.

(DEPARTMENT USE ONLY)

☐ CONDITIONS OF APPROVAL ☐ REASONS FOR NON-APPROVAL

ACTION BY: _____ _____ _____ _____

For Geology *Date* *For Soils* *Date*

The review will be continued upon submittal of an addendum to the reports which includes, but need not be limited to, the following:

1. Provide calculations to justify the recommended width of the slot cuts, as previously requested.

2. Provide 3 complete copies of the report dated 10/17/2006. Note, that the originally submitted report was dated 10/16/2006. Since the project address was not shown, the Department requested a replacement first page with the address. The submitted replacement page is dated 10/17/2007, and does not mach the second page, which has been already submitted.

3. Revise recommendations regarding wrapping the end of a drain pipe. The Department requires that the 12" x 12" x 12" gravel pocket be wrapped with burlap bag or wire mesh. Use of geotextile fabric is not acceptable. Wrapping the end of the drain pipe is also not acceptable. Note, that this issue was addressed in the Modification Request dated 10/31/2006, File #14233.

The soil engineer shall prepare a report containing the corrections indicated in this letter. The report shall be in the form of an itemized response. It is recommended that once all correction items have been addressed in a response report, to contact the report review engineer to schedule a verification appointment to demonstrate compliance with all the corrections. Do not schedule an appointment until all corrections have been addressed. Bring three copies of the response report, including one unbound wet-signed original for microfilming in the event that the report is found to be acceptable.

10107302007 51953

CITY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
Bureau of Engineering
GEOTECHNICAL ENGINEERING DIVISION

January 10, 2007
File No. 04-120
Supplemental Geotechncial Report

SUPPLEMENTAL GEOTECHNICAL REPORT – ADDITIONAL RECOMMENDATIONS RELATED TO TEMPORARY SHORING – NEW POLICE HEADQUARTERS FACILITY (100 WEST 1ST STREET AKA 120 SOUTH SPRING STREET, 141 SOUTH MAIN STREET AND 106 THROUGH 132 WEST FIRST STREET – TRACT L A C A MATP NO. 94, LOTS PCL 14 AND PCL 15 AND ORD'S SURVEY TRACT, BLOCK 1, LOTS 4 AND 8)
W.O. E170910B **GED FILE NO. 04-120**

INTRODUCTION

The Geotechnical Engineering Division (GED) is providing this report to offer supplemental recommendations in response to field conditions at the project site. The recommendations presented herein are supplemental to the recommendations of the original geotechnical report dated February 15, 2005, supplemental report dated August 9, 2005, and Los Angeles Department of Building and Safety (LADBS) letter of approval dated August 9, 2005 under Log Number 47253-02. All previous recommendations shall apply except as specifically modified herein.

BACKGROUND

While installing tiebacks for the shoring system at the project site, several utilities were encountered which blocked the installations. The contractor has proposed to excavate against the back side of the shoring and revise the tieback location. The proposed modifications to the shoring system are shown in the attached cross-section SK-1 and SK-2 prepared by Cefali & Associates, Inc., the shoring designers for the project. GED has been requested to review the proposed modifications and provide revised soil pressure recommendations for shoring and tieback design.

The supplemental report dated August 9, 2005 provided a uniform design pressure of 24H psf, where H is the height of the shoring in feet, for braced shoring retaining level backfill.

RECOMMENDATIONS

Contrary to the configurations shown in Figures SK-1 and SK-2, attached, GED recommends that temporary excavation behind the shoring be no steeper than 1.5:1 (horizontal:vertical). This would result in a maximum cut height behind the shoring of 12 feet for both configurations. GED also strongly recommends that the temporary excavation slopes be protected against erosion.

Temporary braced shoring for the SK-1 configuration shall be designed with a uniform soil pressure of 39H psf where H is the height of retention in feet (26 feet in the revised configuration with a 1.5:1 (h:v) slope). This load shall be applied only to the height of retained soil.

Temporary braced shoring for the SK-2 configuration shall be designed with a uniform soil pressure

of 41H psf where H is the height of retention (14 feet in the revised configuration of 1.5:1 (horizontal:vertical) slope). This load shall be applied only to the height of retained soil.

Calculations for the above recommendations are attached.. For the SK-1 configuration, an alpha value of 55 degrees was used in the analysis. For the SK-2 configuration, an alpha value of 57 degrees was used. Based on multiple analysis with similar angles, these values were determined to be the most conservative giving the highest shoring pressure for each configuration. A factor of safety of 1.25 is used in the analysis.

CLOSURE

If you have any questions about this report, please contact Patrick Schmidt at (213) 847-4046 or Ben Moore at (213) 485-8362.

REGISTERED PROFESSIONAL ENGINEER
BENJAMIN D. MOORE
No. C 67004
EXP. 9/30/08
CIVIL
STATE OF CALIFORNIA

Ben Moore, PE C67004
Civil Engineering Associate III

PATRICK J. SCHMIDT
No. 2260
EXP. 3/31/08

Patrick J. Schmidt, GE 2260
Geotechnical Engineer II



ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS
City of Los Angeles

PROJECT TITLE: Police HQ Facility	Sheet No. 1 of		Date
DESCRIPTION: SK-1, SK-2 Shoring Pressures	Prepared	B. Moore	1/29/07
W.O.	Checked		
	Approved		

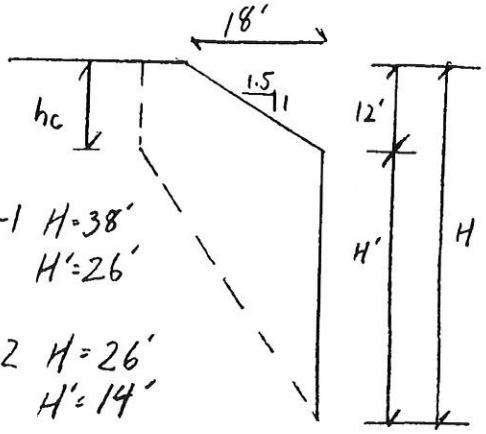
Soil Properties
$c = 50$ psf
$\phi = 30°$
$\gamma = 125$ pcf
Factor of Safety = 1.25 for Shoring
$c' = 40$ psf
$\phi' = 24.8°$

$$h_c = \frac{c'}{\gamma \sin\alpha \cos\alpha - \gamma \cos^2\alpha \tan\phi'}$$

Failure Volume $= V = \frac{H^2 - h_c^2}{2\tan\alpha} - 108\ ft^2$

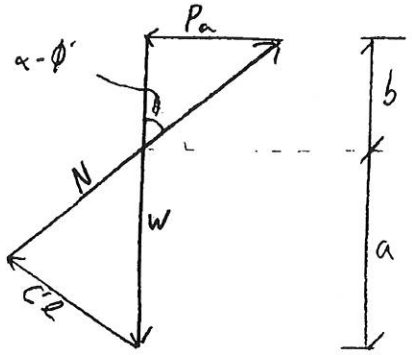
Weight $= W = \gamma V$

$$\ell = \frac{H - h_c}{\sin\alpha}$$



SK-1 H = 38'
H' = 26'

SK-2 H = 26'
H' = 14'



$b = W - a$

$$a = \frac{c'\ell \sin(90 + \phi')}{\sin(\alpha - \phi')}$$

$P_a = b\tan(\alpha - \phi')$

SK-1, use $\alpha = 57°$, $h_c = 1.0$

$V = \frac{38^2 - 1^2}{2\tan(57)} - 108 = 360$

$W = 125(360) = 45{,}000$

$\ell = \frac{38 - 1}{\sin(57)} = 44$

$a = \frac{40(44)\sin(90 + 24.8)}{\sin(57 - 24.8)} = 2{,}998$

$b = 45{,}000 - 2{,}998 = 42{,}002$

$P_a = 26{,}450$

$39H$ psf

SK-2, use $\alpha = 55°$, $h_c = 1.0$

$V = \frac{26^2 - 1^2}{2\tan(55)} - 108 = 128$

$W = 125(128) = 16{,}000$

$\ell = 30$

$a = \frac{40(30)\sin(90 + 24.8)}{\sin(55 - 24.8)} = 2{,}165$

$b = 16{,}000 - 2{,}165 = 13{,}835$

$P_a = 6{,}051$

$41H$ psf

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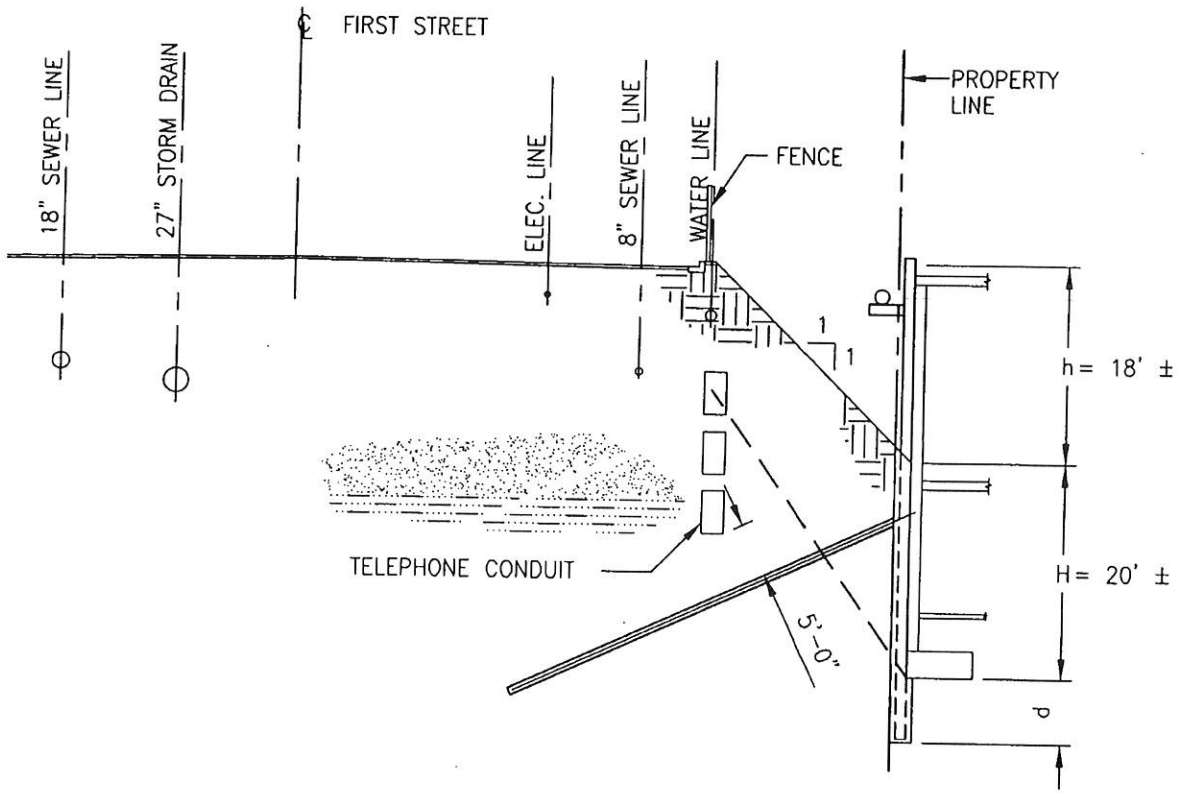
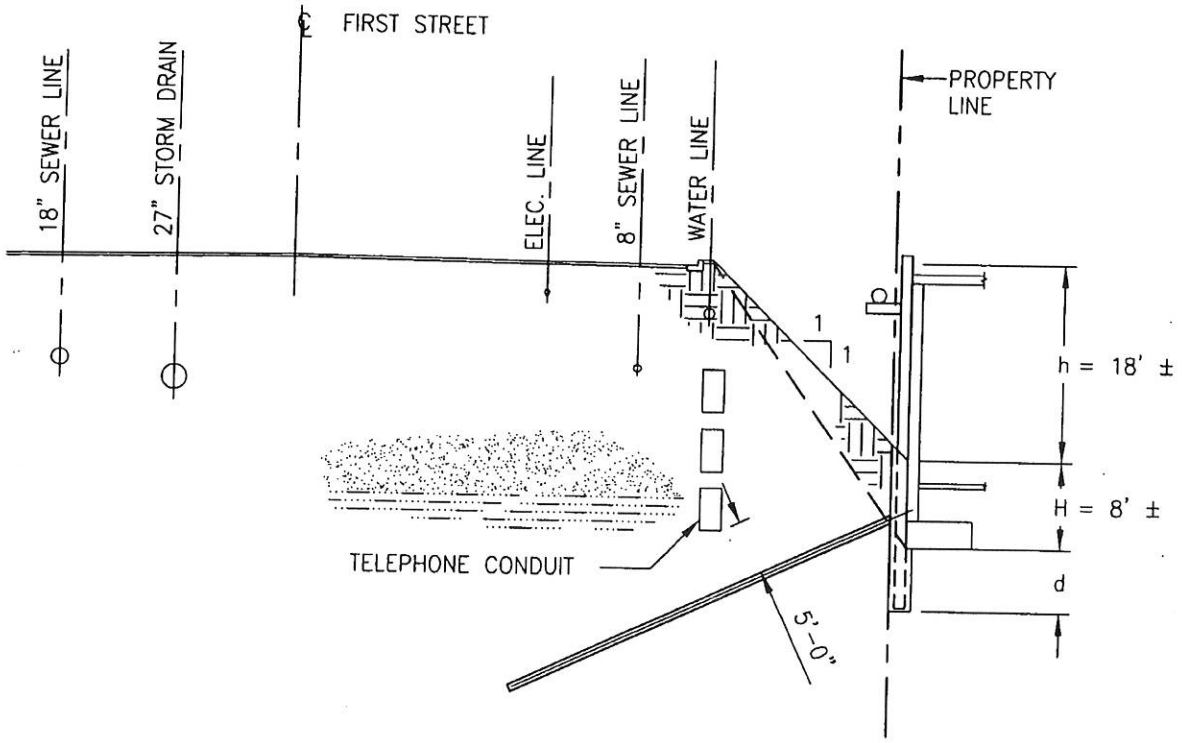


NORTH BULKHEAD SECTION

8

CEFALI & ASSOCIATES, INC.	PROJECT TITLE: LAPD HEADQUARTERS
CONSULTING STRUCTURAL ENGINEERS	SHEET TITLE: NORTH SECTION @ EAST
TEL.(818)752-1812 FAX(818)752-1819	LOS ANGELES, CA — SHEET: SK-1
PROJECT NO. 06-062	
DATE: 1-2-06	
CAD DWG FILE: SS-4.DWG	
DRAWN BY: DC	
CHECKED BY: DC — SCALE: 1"=16'-0"	

10109172007 54452



NORTH BULKHEAD SECTION

9

CEFALI & ASSOCIATES, INC.	PROJECT TITLE: LAPD HEADQUARTERS
CONSULTING STRUCTURAL ENGINEERS	SHEET TITLE: NORTH SECTION @ WEST
TEL.(818)752-1812 FAX(818)752-1819	LOS ANGELES, CA
PROJECT NO. 06-062	SHEET: SK-2
DATE: 1-2-06	
CAD DWG FILE: SS-4.DWG	
DRAWN BY: DC	
CHECKED BY: DC	SCALE: 1"=16'-0"

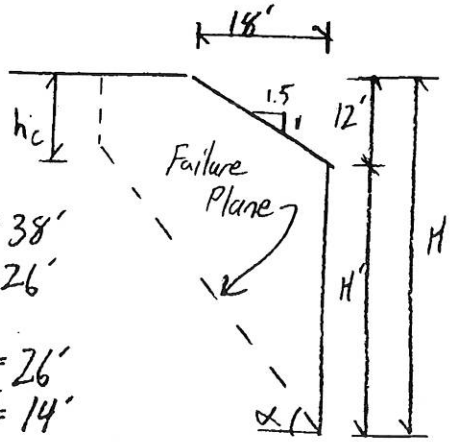
10109172007 54452

ENG. 2.901—(Rev. 12-76)

DEPARTMENT OF PUBLIC WORKS
City of Los Angeles

PROJECT TITLE: Police HQ Facility	Sheet No. 1 of		Date
DESCRIPTION: SK-1, SK-2 Shoring Pressures	Prepared	B. Moore	1/10/07
	Checked		
W.O.	Approved		

Soil Properties
$c = 50$ psf
$\phi = 30°$
$\gamma = 125$ pcf
Factor of Safety = 1.25 for Shoring
$c' = 40$ psf } Factored Values
$\phi' = 24.8°$



SK-1 $H = 38'$
$H' = 26'$

SK-2 $H = 26'$
$H' = 14'$

$$h_c = \frac{c'}{\gamma(\sin\alpha\cos\alpha - \cos^2\alpha\tan\phi')}$$

$$\ell = \frac{H - h_c}{\sin\alpha}$$

Failure Volume = $V = \frac{H^2 - h_c^2}{2\tan\alpha} - 108$ ft^2 (wedge)

Weight = $W = \gamma V$

Driving Force = $W\sin\alpha$

Resistive Force = $W\cos\alpha\tan\phi' + \ell c'$

For SK-1, use $\alpha = 57°$, $h_c = 1.0$

$V = \frac{38^2 - 1^2}{2\tan(57)} - 108 = 360$ sq ft

$W = 125(360) = 45{,}000$ lbs

$DF = 45{,}000\sin(57) = 37{,}740$ lbs

$RF = 45{,}000\cos(57)\tan(24.8) + \frac{38-1}{\sin(57)}(40)$
$= 13{,}089$ lbs

$P_a = 24{,}651$ lbs

$P_a/H^2 = 36H$ psf

For SK-2 use $\alpha = 55°$, $h_c = 1.0$

$V = \frac{26^2 - 1^2}{2\tan(55)} - 108 = 128$ sq ft.

$W = 125(128) = 16{,}000$ lbs

$DF = 16{,}000\sin(55) = 13{,}106$ lbs

$RF = 16{,}000\cos(55)\tan(24.8) + \frac{26-1}{\sin(55)}(40)$
$= 5{,}461$ lbs

$P_a = 7{,}645$ lbs

$P_a/H^2 = 39H$ psf

10109172007544 52

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

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CITY OF LOS ANGELES

CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

RAYMOND CHAN
EXECUTIVE OFFICER

ANTONIO R. VILLARAIGOSA
MAYOR

SOIL REPORT APPROVAL LETTER

January 30, 2006

Log # 56874
SOILS FILE - 2

City of Los Angeles-Police Bond Program
120 S. San Pedro - 6th Floor
Los Angeles, CA 90012

TRACT: Ord's Survey Tract (MR 53-66/73)
BLOCK: 1
LOTS: FR 4
LOCATION: 100 W. 1st St.

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Soil Report	04-120	01/10/2007	Geotech. Eng. Div.
PREVIOUS REFERENCE REPORT/LETTER(S)	**REPORT NO.**	**DATE(S) OF DOCUMENT**	**PREPARED BY**
Dept. Approval Letter	47253-02	08/09/2005	LADBS

The referenced report providing supplemental recommendations for the New Police Headquarters Facility has been reviewed by the Grading Division of the Department of Building and Safety. The Department approved construction of an eleven story office tower in the central portion of the site, an auditorium, cafe and utility structures along the east side of the site and two to three levels of subterranean garages on 08/09/2005, LOG #47253-02.

The current report provides revised earth pressure for the design of shoring system shown on cross-sections SK-1 and SK-2. The presence of utility lines blocking the tie-back installation at the location previously selected resulted in the need for the required modification.

The referenced report is acceptable, provided the following conditions are complied with during site development:

(Note: Numbers in parenthesis ( ) refer to applicable sections of the 2002 City of LA Building Code. P/BC numbers refer the applicable Information Bulletin. Information Bulletins can be accessed on the internet at LADBS.ORG.)

1. All conditions of the Department Approval Letter dated 08/09/2005, LOG #47253-02, with the exception of condition #15, revised below only for the tie backs to be installed where the utility lines

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

are present.

2. The upper 12 feet of the cut shall be trimmed at the gradient not steeper that 1½ :1 (horizontal to vertical), as recommended.

3. Temporary shoring for SK-1 configuration shall be deigned for active pressure of 39H (or thrust of 26,450 lbs), and assuming rectangle earth pressure distribution. Temporary shoring for SK-2 configuration shall be deigned for active pressure of 41H (or thrust of 8,051 lbs) and assuming rectangle earth pressure distribution. Recommended H for the SK-1 and SK-2 configurations shall not exceed 26 and 14 feet, respectively, as recommended.

ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer II

ATS:ats
56874

cc: GED
LA District Office

CITY OF LOS ANGELES
DEPARTMENT OF BUILDING AND SAFETY
Grading Section

District LA | Log No. 56874

APPLICATION FOR REVIEW OF TECHNICAL REPORTS AND IMPORT-EXPORT ROUTES

INSTRUCTIONS

A. Address all communications to the Grading Section, LADBS, 201 N. Figueroa St., 3rd Fl., Los Angeles, CA 90012 Telephone No. (213)482-0480.
B. Submit 3 copies (4 for fault study zone) of reports and 3 copies of application with items "1" through "10" completed.
C. Check should be made to the City of Los Angeles.

1. LEGAL DESCRIPTION
Tract Ord's Survey Tract (MR 53-66/73)
Block 1 Lots FR 4

2. PROJECT ADDRESS:
100 West 1st Street

3. OWNER City of Los Angeles- Police Bond Program
Address 120 S. San Pedro 6th floor
City Los Angeles Zip 90012
Phone (Daytime) 213-473-6293

4. APPLICANT LA City GED
Address 1149 S Broadway, 1st Floor, MS 495
City Los Angeles Zip 90014
Phone
(Daytime) (213) 847-0476 Fax (213) 847-0541

5. Report(s) Prepared by: GED

6. Report Date(s): Jan. 10, 2007

7. Status of project: ☐ Proposed ☑ Under Construction ☐ Storm Damage

8. Previous site reports? yes if yes, give date(s) of report(s) and name of company who prepared report(s)
02/15/05, 05/24/05, 07/28/05, 08/09/05, 11/21/06

9. Previous Department actions? yes if yes, provide dates and attach a copy to expedite processing.
Dates 04/07/05, 06/21/05, 08/09/05

10. Applicant Signature: Carmen Andrade Position: Student Engineer III

(DEPARTMENT USE ONLY)

REVIEW REQUESTED	FEES	REVIEW REQUESTED	FEES
☑ Soils Engineering SUTP	90.00	☐ Import-Export Route	
☐ Geology CLOMS HZP		☐ Division of Land	
☐ Combined Soils Engr. & Geol.		☐ Other	
☐ Supplemental		Sub-total	
☐ Combined Supplement		One-Stop Surcharge	60

ACTION BY:

TOTAL FEE 107

THE REPORT IS: ☐ NOT APPROVED
☐ APPROVED WITH CONDITIONS SEE: ☐ BELOW ☐ ATTACHED

For Geology *Date*

For Soils *Date*

DISTRIBUTION: ☐ Owner ☐ Applicant ☐ ____ ☐ Soil Engr ☐ Geologist ☐ Board Files ☐ Tract File
Inspection: ☐ LA ☐ VN ☐ WLA ☐ SP/WLA ☐ BI ☐ BMI

Fee Due $ 107.60;
Fee Verified By: [signature] Date: 1/11/07
(Cashier Use Only)

LA Department of Buildings and Safety
LA 05 24 190074 01/11/07 09:40AM

GRADING REPORT	$90.00
ONE STOP SURCH	$1.80
SYSTEMS DEVT FEE	$5.40
CITY PLANNING SURCH	$5.40
MISCELLANEOUS	$5.00
Total Due:	$107.60
Deferred Fee:	$107.60

DEFERRED FEE DEFERRED
Name: CARMEN ANDRADE
Addr: 100 WEST 1ST STREET
Auth: 50-06-Y298025
Dept: P/W

1010917200754452

IDD# 50-06-Y298025

APPENDIX C

APPENDIX C

PRIOR MACTEC INVESTIGATION (CD only)

REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED LOS ANGELES FEDERAL COURTHOUSE

BETWEEN BROADWAY AND HILL STREET AND FIRST AND SECOND STREETS
LOS ANGELES, CALIFORNIA

Prepared for:

GENERAL SERVICES ADMINISTRATION

San Francisco, California

Prepared by:

MACTEC Engineering and Consulting

January 15, 2003

Project 4953-03-3881

MACTEC

MACTEC

January 15, 2004

Mr. Bela I. Palfalvi, P.E.
GSA Seismic Program Manager
General Services Administration, 9PCT
450 Golden Gate Avenue, 3rd Floor West
San Francisco, California 94102-3434

Subject: **Report of Geotechnical Investigation**
Proposed Los Angeles Federal Courthouse
Between Broadway and Hill Street and First and Second Streets
Los Angeles, California
MACTEC Project 4953-03-3881

Dear Mr. Palfalvi:

We are pleased to submit the results of our geotechnical investigation for the proposed Los Angeles Federal Courthouse to be constructed in Los Angeles, California. This investigation was conducted in general accordance with our proposal dated December 2, 2003 and the terms and conditions of our existing agreement with General Services Administration for engineering services (GSA Contract No. GS-23F-0054L).

The scope of our services was planned with you. Mr. Kai-Chen Tu of John A. Martin & Associates advised us of the structural features of the proposed building.

We were also furnished with geotechnical reports dated January 17, and 18, 2002, prepared by Ninyo & Moore for the subject project. The explorations performed by Ninyo & Moore for the subject project were performed in the existing parking area, adjacent to the existing buildings.

The results of our investigation and design recommendations are presented in this report. Please note that you or your representative should submit copies of this report to the appropriate governmental agencies for their review and approval prior to obtaining a building permit.

MACTEC Engineering and Consulting
200 Citadel Drive • Los Angeles, CA 90040
323-889-5300 • Fax: 323-721-6700

It has been a pleasure to be of professional service to you. Please call if you have any questions or if we can be of further assistance.

Sincerely,

MACTEC Engineering and Consulting

Jaime A. Albornoz
Staff Engineer

Susan F. Kirkgard
Senior Engineering Geologist

Christopher J. Zadoorian
Principal Engineer
Project Manager

Marshall Lew, Ph.D.
Senior Principal Engineer
Vice President

P:\70131 Geotech\2003-proj\33881 GSA - Federal Courthouse\Deliverables\4953-03-3881r01.doc
(8 copies submitted)

Attachments

cc: (2) John A. Martin & Associates
Attn: Mr. Kai-Chen Tu

REPORT OF GEOTECHNICAL INVESTIGATION
PROPOSED LOS ANGELES FEDERAL COURTHOUSE

BETWEEN BROADWAY AND HILL STREET AND FIRST AND SECOND STREETS
LOS ANGELES, CALIFORNIA

Prepared for:

GENERAL SERVICES ADMINISTRATION

San Francisco, California

MACTEC Engineering and Consulting

Los Angeles, California

January 14, 2004

Project 4953-03-3881

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SUMMARY

We have completed our geotechnical investigation of the site of the proposed Los Angeles Federal Courthouse in Los Angeles, California. Our subsurface explorations, engineering analyses, and foundation design recommendations are summarized below.

The proposed project will consist of constructing a 24-story building with four to five subterranean levels below grade.

To supplement our current geotechnical analyses, we also reviewed results of prior geotechnical investigations on the site that were summarized in reports dated April 9, 1975 and May 2, 1969 (prepared by our predecessor firm, LeRoy Crandall & Associates). The geotechnical recommendations in this report were developed in part using information from our prior investigations.

We explored the soil conditions during our current investigation by drilling four borings to depths ranging from 25 to 75 feet below the existing grade. We previously explored the soil conditions beneath the site by drilling 16 borings to depths ranging from 14 to 68 feet below the existing grade.

Fill soils, up to 18-feet thick, were found in our current borings. The existing fill consists of medium stiff to stiff silty clay with gravel and miscellaneous debris (metal, brick and concrete). The natural soils ranging from 8- to 21-feet thick, consists of stiff to very stiff sandy silts and sandy clays and dense to very dense well graded sands with gravel that are underlain by very stiff siltstone.

Based on the available geologic data, active or potentially active faults with the potential for surface fault rupture are not known to be located beneath or projecting toward the site. In our opinion, the potential for surface rupture at the site due to fault plane displacement propagating to the ground surface during the design life of the project is considered low. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California

and the effects of ground shaking can be mitigated by proper engineering design and construction in conformance with current building codes and engineering practices.

The site is currently occupied by an abandoned State of California office building and adjoining parking structures. The remainder of the site, approximately the southeast quarter, is occupied by an asphalt-paved parking lot. There are no slopes at the site and the absence of nearby slopes precludes slope stability hazards. The potential for other geologic hazards such as liquefaction, seismic-induced settlement, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is considered low.

The proposed lowest floor level of the courthouse basement floor will place the building foundations into the siltstone bedrock material. The proposed structure can be supported on spread footings established in the undisturbed siltstone. The basement floor slab can be supported on the undisturbed siltstone.

The mass excavation for the proposed building, and locally for the building foundations will encounter ground-water seepage. The amount of ground-water seepage is difficult to estimate, however, based on our experience with similar projects in downtown Los Angeles, the ground-water seepage will impact the proposed construction. Provisions to address and control the ground-water seepage will be required during construction. In addition, the installation of internal sumps to collect water seepage and also to convey off-site will likely be required. Placement of gravel or crushed rock at the excavation bottom may also facilitate ground-water control as well as improve equipment maneuverability.

The presence of ground water within the excavation would soften and weaken the siltstone bedrock materials, depending on the duration of the exposure. Depending on the amount of water seepage and the construction sequencing, it may be desirable to construct waste slabs at the bottom of the foundation excavations. To facilitate floor slab construction, it may be prudent to consider leaving the mass excavation 6 to 12 inches above the planned elevation while the foundations are constructed, to minimize the amount of disturbance to the materials that will support the floor slab.

The location of the Metro Rail Redline Subway Station and/or tunnels in Hill Street should be located and identified. If these structures are within the zone of influence of the proposed courthouse building, additional recommendations will be necessary. The zone of influence is estimated to be below a 1:1 plane extending downward from the bottom of the outside edge proposed courthouse footings.



1.0 SCOPE

This report provides geotechnical recommendations for the proposed design and construction of the proposed Los Angeles Federal Courthouse. The locations of the proposed building, existing buildings, and our current and prior exploration borings are shown in Figure 1, Site Plan.

Our predecessor firm, LeRoy Crandall and Associates (LCA) we previously performed two foundation investigations at the site and submitted the results in reports dated April 9, 1975 and May 2, 1969 (LCA Job Nos. 56251 and A-69104, respectively). The investigations were for the existing buildings on the site and for a structure that was not constructed on the currently vacant portion of the site. We have reviewed the prior reports and we accept responsibility for the use and interpretation of the data presented in the reports.

This investigation was authorized to determine the static physical characteristics of the soils at the site of the proposed building, and to provide recommendations for foundation design, for floor slab support, for walls below grade, for temporary shoring, for excavation and for earthwork. We were to evaluate the existing soil and ground-water conditions and provide the following information:

- Summary of current and prior subsurface explorations and laboratory tests, with a description of the soil, bedrock and ground-water conditions encountered;
- Results of our geologic-seismic hazards evaluation;
- A site-specific ground motion study in accordance with ASCE-7-02;
- A determination of the applicable site class definition based on ASCE-7-02;
- Results of liquefaction evaluation of the site;
- Recommendations for design of foundations to be used for support of the proposed building, including allowable increases for wind and seismic loads;
- Estimated settlement for the anticipated loads;
- Recommendations regarding frictional and passive values for resistance of lateral forces;

- Recommendations for design of walls below grade;
- Recommendations for floor slab support;
- Recommendations for temporary shoring; and
- Recommendations for earthwork, including site preparation, excavation and placing of any required compacted fill.

Our recommendations are based on the results of our current and previous field explorations, laboratory tests, and appropriate engineering analyses. The results of the current and previous field explorations and laboratory tests are presented in the Appendices A and B, respectively.

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical consultants practicing in this or similar localities. No other warranty, expressed or implied, is made as to the professional advice included in this report. This report has been prepared for General Services Administration and their design consultants to be used solely in the design of the proposed Los Angeles Federal Courthouse. The report has not been prepared for use by other parties, and may not contain sufficient information for purpose of other parties or other uses.

2.0 PROJECT DESCRIPTION AND SITE CONDITIONS

The proposed Los Angeles Federal Courthouse will be located between Broadway and Hill Street and First and Second Streets in downtown Los Angeles, California. The majority of the site is currently occupied by an abandoned State of California office building and adjoining parking structure. The remainder of the site, approximately the southerly quarter of the site, is occupied by an asphalt-paved parking lot.

It is our understanding the existing Metro Red Line Subway Civic Center Station and/or tunnels are located beneath Hill Street, on the westerly side of the subject site. We have not been provided with information regarding the relative location of the existing tunnel to the proposed development.

Excavations on the order of 40 to 45 feet deep will be required to allow construction of the proposed building. Temporary tie-back shoring will be required to support the proposed excavation.

The ground surface level at the site slopes to the south with an approximate difference in elevation of about 16 feet between Hill Street and Broadway.

The proposed Courthouse building will be of steel construction over a reinforced concrete subterranean structure and will be about 24 stories in height (about 400 feet) with four to five subterranean levels below grade subterranean levels that will extend about 40 to 45 feet below the Broadway street grade.

The building will be set back horizontally from Hill Street about 40 feet and a 2:1 (horizontal to vertical) descending slope is planned from Hill Street to the building. The footprint of the proposed building may not extend to the streets and will be partially within the footprints of the existing building on the site. Mr. Kai-Chen Tu of John A. Martin and Associates furnished us with preliminary column loadings for the building. Mr. Tu estimates the maximum column dead-plus live loading to be on the order of about 5,000 kips.

3.0 EXPLORATIONS AND LABORATORY TESTS

We explored the subsurface conditions during the current investigation by drilling four borings to depths ranging from 25 to 75 feet below the existing grade. Borings 1 and 1b were terminated at 25 feet due to the presence of potentially contaminated soils. Our predecessor firm, LCA, previously explored the subsurface conditions beneath the site by drilling 16 borings to depths ranging from 14 to 68 feet below the existing grade. The locations of our current and the prior explorations LCA are shown on Figure 1. Details of the current and prior explorations are presented in Appendices A and B, respectively.

Laboratory tests were performed on selected samples obtained from our current and prior borings to aid in the classification of the soils and to determine the pertinent engineering properties of the soil and bedrock material at the site. The following tests were performed:

- Moisture content and dry density determinations.
- Direct shear.
- Consolidation.

All testing was done in general accordance with applicable ASTM specifications. Details of the current and prior laboratory testing program and test results are presented in the Appendices A and B, respectively.

4.0 GEOLOGY

4.1 GEOLOGIC SETTING

The site is located near the Los Angeles Civic Center, approximately 1.6 kilometers (1 mile) west of the Los Angeles River. Locally, the site is situated at the base of the southeast flank of Bunker Hill. Bunker Hill, a bedrock high composed primarily of Miocene and Pliocene age sedimentary bedrock. Bunker Hill has been significantly altered by grading, being topographically lowered up to 15 meters (50 feet in elevation), as part of past development activities in the downtown Los Angeles area.

Regionally, the site is in the northern portion of the Peninsular Ranges geomorphic province that is bounded by the Santa Monica, Hollywood, Raymond, Sierra Madre, and Cucamonga fault zones on the north, the San Andreas fault zone on the east, the Pacific Ocean coastline on the west, and extends beyond the Mexican border on the south. The province is characterized by elongate, northwest-trending mountain ridges separated by straight-sided sediment-filled valleys. The northwest trend is further reflected in the direction of the dominant geologic structural features of the province that are northwest to west-northwest trending folds and faults, such as the Newport-Inglewood fault zone, located approximately 12 kilometers southwest of the site.

The relationship of the site to local geologic features is depicted in Figure 2, Local Geology, and the faults in the vicinity of the site are shown in Figure 3, Regional Faults. Figure 4, Regional Seismicity, shows the locations of major faults and earthquake epicenters in Southern California.

4.2 GEOLOGIC MATERIALS

The site is predominantly underlain by bedrock of the Pliocene age Fernando Formation, mantled by Quaternary age alluvial sediments in the southeast half of the site. Artificial fill is present at the site, as a result of past uses. As encountered in our borings, the artificial fill consists of silty clay with bedrock fragments and locally cobbles and pieces of construction debris. The fill was encountered in each of the current borings ranging from 2.2 to 5.5 meters (7 ¼ to 18 feet) in thickness. Alluvial deposits were encountered below the fill materials in the borings, ranging from about 2.4 to 6.4 meters (8 to 21 feet) thick. The alluvial deposits at the site consist of interbedded sandy silt to silty sand, silty clay, sandy clay, and well graded sand and gravel. These material are underlain by bedrock of the Pliocene age Fernando Formation. As encountered in our borings, the Fernando Formation is dark olive gray, massive clayey siltstone. No planes of weakness such as bedding or through-going joints were observed in the bedrock, which exhibits a concoidal fracture pattern. The bedrock was encountered in our current borings at depths ranging from 5.9 to 8.5 meters (19½ to 28 feet) below the existing ground surface (both depths corresponding to approximately Elevation 264). The top of the bedrock surface encountered in our previous borings at the site ranged from Elevation 266 to Elevation 277. Based on our current and previous investigations at the site, the bedrock is anticipated to be the shallowest along First Street, about mid-way between Broadway and Hill Street

4.3 GROUND WATER

The site is located in Section 28 of Township 1 South, Range 13 West, within the Central Hydrologic Subarea in the Los Angeles-San Gabriel River Hydrologic Unit. According to the California Geological Survey, the historic high water level in the area is 7.6 to 9.1meters (25 to 30 feet) below the ground surface (California Division of Mines and Geology, 1998).

According to the Los Angeles County Department of Public Works, there are currently no operating ground-water monitoring wells within a kilometer of the site (County of Los Angeles, Hydrologic Records Division, 2004). The closest ground-water monitoring well was Los Angeles County Well No. 2765, located approximately 1.3 kilometers to the south-southeast. This well has been destroyed and the most recently recorded water level was measured on March 13, 1979 when the depth to water was about 33.2 meters (109 feet) beneath the existing ground surface. This

depth corresponds to a water surface elevation of about 45.7 meters (150 feet) above mean sea level.

The site is situated near the base of Bunker Hill and the bedrock beneath the site is relatively shallow. The site is not located within the limits of the regional ground-water basin. Therefore, ground water is not anticipated to be present in significant quantities in the alluvial deposits overlying the bedrock.

Ground water was not encountered within the 22.8-meter (75-foot) depth explored by our borings at the site. However, slight water seepage (in very limited quantities) was encountered in Borings 1c and 2 at depths of 8.2 meters and 5.6 meters (27 feet and 18½ feet), respectively. This seepage was observed near the base of the alluvial deposits, approximately 0.3 meter (1 foot), above the top of the less permeable bedrock. This is typical of the ground-water conditions in the downtown area.

4.4 FAULTS

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (previously the California Division of Mines and Geology) for the Alquist-Priolo Earthquake Fault Zoning Program (Hart, 1999). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault is a fault that has demonstrated surface displacement of Quaternary age deposits (last 1.6 million years). Inactive faults have not moved in the last 1.6 million years. A list of nearby active faults and the distance in kilometers between the site and the nearest point on the fault, the maximum magnitude, and the slip rate for the fault is given in Table 1. A similar list for potentially active faults is presented in Table 2. The faults in the vicinity of the site are shown in Figure 3.

Active Faults

Hollywood Fault

The closest active fault to the site, with the potential for surface fault rupture, is the Hollywood fault located approximately 8.0 kilometers to the north-northwest. This fault trends east-west along the base of the Santa Monica Mountains from the West Beverly Hills Lineament in the West

Hollywood-Beverly Hills area (Dolan and Sieh, 1992) to the Los Feliz area of Los Angeles. The fault is a ground-water barrier within Holocene sediments (Converse et al., 1981). Scarps 1.8 to 2.7 meters (6 to 9 feet) high in Holocene flood plain deposits have been suggested along the fault trace in the Atwater area (Weber et al. 1980). Studies by several investigators (Dolan et al., 2000b; Dolan et al., 1997; Dolan and Sieh, 1992; and Crook and Proctor, 1992) indicated that the fault is active, based on geomorphic evidence, stratigraphic correlation between exploratory borings, and fault trenching studies. Additionally, recent investigations performed in the Hollywood area by Law/Crandall (2000) have demonstrated that Holocene age alluvial sediments have been offset by several strands of the Hollywood fault. An Alquist-Priolo Earthquake Fault Zone has not been established for the Hollywood fault. However, the Hollywood fault is considered active by the State Geologist. Also, the City of Los Angeles considers the Hollywood fault active for planning purposes.

Raymond Fault

The active Raymond fault is located approximately 8.4 kilometers north-northeast of the site. The fault is a high-angle reverse fault, thrusting basement rocks north of the fault over alluvial sediments south of the fault. The Raymond fault has long been recognized as a ground-water barrier in the Pasadena/San Marino area and numerous geomorphic features along its entire length (such as fault scarps, sag ponds, springs, and pressure ridges) attest to the fault's activity during the Holocene epoch (last 11,000 years). Within the last 36,000 years, eight separate earthquake events have been recognized along the Raymond fault (Crook et al., 1987). The most recent fault movement, based on radiocarbon ages from materials collected in an excavation exposing the fault, occurred sometime between 2,160 ± 105 and 1,630 ± 100 years before present (LeRoy Crandall and Associates, 1978; Crook et al., 1987).

Verdugo Fault

The active Verdugo fault zone is composed of several faults including the Verdugo fault, the San Rafael fault, and the Eagle Rock fault. The Verdugo fault is located approximately 11 kilometers north of the site. The most recent documented activity along this fault occurs in the Holocene age alluvial deposits along the western flank of the Verdugo Mountains in the Burbank area (County of Los Angeles Seismic Safety Element, 1990). Additionally, this portion of the fault is considered

active by the State Geologist (Jennings, 1994). An Alquist-Priolo Earthquake Fault Zone has not been established for the Verdugo fault by the State Geologist. However, a fault rupture hazard zone has been designated by the City of Burbank for the Verdugo fault. It is our opinion that the Verdugo fault should be considered active for planning purposes.

San Andreas Fault Zone

The active San Andreas fault zone is located about 53 kilometers north-northeast of the site. This fault zone, California's most prominent geological feature, trends generally northwest for almost the entire length of the state. The southern segment of the fault is approximately 450 kilometers long and extends from the Transverse Ranges west of Tejon Pass on the north to the Mexican border and beyond on the south. Wallace (1968) estimated the recurrence interval for a magnitude 8.0 earthquake along the entire fault zone to be between 50 and 200 years. Sieh (1984) estimated a recurrence interval of 140 to 200 years. The 1857 Fort Tejon earthquake was the last major earthquake along the San Andreas fault zone in Southern California.

Blind Thrust Faults

Several buried thrust faults, commonly referred to as blind thrusts, are postulated to underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3 kilometers. These faults do not present a potential surface fault rupture hazard. However, the following described blind thrust faults are considered active and potential sources for future earthquakes.

Puente Hills Blind Thrust

The Puente Hills Blind-Thrust fault system (PHBT) is defined based on seismic reflection profiles, petroleum well data, and precisely located seismicity (Shaw and others, 2002). This blind thrust fault system extends eastward from downtown Los Angeles to Brea (in northern Orange County) and overlies the Elysian Park Thrust. The PHBT includes three north-dipping segments, named from east to west as the Coyote Hills segment, the Santa Fe Springs segment, and the Los Angeles segment. These segments are overlain by folds expressed at the surface as the Coyote Hills, Santa Fe Springs Anticline, and the Montebello Hills. The PHBT is believed to be the causative fault of the October 1, 1987 Whittier Narrows Earthquake (Shaw and others, 2002). The PHBT underlies

the site at depth. Postulated earthquake scenarios for the PHBT include single segment fault ruptures capable of producing an earthquake of moment magnitude 6.6 (Mw) and a multiple segment fault rupture capable of producing an earthquake of moment magnitude 7.1 (Mw). The PHBT is not exposed at the ground surface and does not present a potential for surface fault rupture. However, based on deformation of late Quaternary age sediments above this fault system and the occurrence of the Whittier Narrows earthquake, the PHBT is considered an active fault capable of generating future earthquakes beneath the Los Angeles Basin. An average slip rate of 0.7 mm/yr and a maximum magnitude of 7.1 are estimated by the California Geological Survey (2003) for the Puente Hills Blind Thrust.

Upper Elysian Park

The Upper Elysian Park fault is a blind thrust fault that overlies the Los Angeles and Santa Fe Springs segments of the Puente Hills Thrust (Oskin et al., 2000 and Shaw et al., 2002). The eastern edge of the Upper Elysian Park fault is defined by the northwest-trending Whittier fault zone. The Upper Elysian Park fault underlies the site at depth. Like other blind thrust faults in the Los Angeles area, the Upper Elysian Park fault is not exposed at the surface and does not present a potential surface rupture hazard; however, the Upper Elysian Park fault should be considered an active feature capable of generating future earthquakes. An average slip rate of 1.3 mm/yr and a maximum magnitude of 6.4 are estimated by the California Geological Survey (2003) for the Upper Elysian Park fault.

Northridge Thrust

The Northridge Thrust, as defined by Petersen et al. (1996), is an inferred deep thrust fault that is considered the eastern extension of the Oak Ridge fault. The Northridge Thrust is located beneath the majority of the San Fernando Valley and is believed to be the causative fault of the January 17, 1994 Northridge earthquake. This thrust fault is not exposed at the surface and does not present a potential surface fault rupture hazard. However, the Northridge Thrust is an active feature that can generate future earthquakes. The vertical surface projection of the Northridge Thrust is approximately 24 kilometers northwest of the site at the closest point. The California Geological Survey (2003) estimates an average slip rate of 1.5 mm/yr. and a maximum magnitude of 7.0 for the Northridge Thrust.

San Joaquin Hills Thrust

Until recently, the southern Los Angeles Basin has been estimated to have a low seismic hazard relative to the greater Los Angeles region (Working Group on California Earthquake Probabilities, 1995; Dolan et al., 1995). This estimation is generally based on the fewer number of known active faults and the lower rates of historic seismicity for this area. However, several recent studies by Grant et al. (2000, 2002) suggest that an active blind thrust fault system underlies the San Joaquin Hills. This postulated blind thrust fault is believed to be a faulted anticlinal fold, parallel to the Newport-Inglewood fault zone (NIFZ) but considered a distinctly separate seismic source (Grant et al., 2002). The recency of movement and Holocene slip rate of this fault are not known. However, the fault, if it exists, has been estimated to be capable of producing a Magnitude 6.8 to 7.3 earthquake (Grant et al., 2002). This estimation is based primarily on coastal geomorphology and age-dating of marsh deposits that are elevated above the current coastline.

The vertical surface projection of the San Joaquin Hills Thrust is approximately 72 kilometers southeast of the site at the closest point. This thrust fault is not exposed at the surface and does not present a potential surface fault rupture hazard. However, the San Joaquin Hills Thrust is an active feature that can generate future earthquakes. The California Geological Survey (2003) considers this fault to be active and estimates an average slip rate of 0.5 mm/yr and a maximum magnitude of 6.6 for the San Joaquin Hills Thrust.

Potentially Active Faults

MacArthur Park Fault

The potentially active MacArthur Park fault is located approximately 1.4 kilometers south of the site. The fault, inferred west of downtown Los Angeles, has been located based on south-facing scarps, truncated drainages, and other geomorphic features (Dolan and Sieh, 1993). The fault is approximately 8 kilometers long, extending northwest from the Pershing Square area in downtown Los Angeles through MacArthur Park to the Paramount Studios area in Hollywood. Current information suggests the fault is potentially active.

Coyote Pass Fault

The potentially active Coyote Pass fault is located about 4.0 kilometers east-southeast of the site. This fault trends east-west across the southerly flank of the Repetto Hills for a distance of about 5 kilometers (California Department of Water Resources, 1961). Based on available information, the fault is a northerly-dipping reverse fault with rocks of the Pliocene age Fernando Formation, north of the fault, thrust over younger Pleistocene age sediments, south of the fault. There is no evidence that this fault has offset late Pleistocene or Holocene age alluvial deposits (County of Los Angeles Seismic Safety Element, 1990). Ziony and Jones (1989) indicate that the fault is potentially active (no displacement of Holocene age alluvium). Additionally, Jennings (1994) indicates the fault is potentially active.

Overland Fault

The potentially active Overland fault is located about 14½ kilometers southwest of the site. The Overland fault trends northwest between the Charnock fault and the Newport-Inglewood fault zone. The fault extends from the northwest flank of the Baldwin Hills to Santa Monica Boulevard in the vicinity of Overland Avenue. Based on water level measurements, displacement along the fault is believed to be vertical, with an offset of about 9 meters (Poland, 1959). The west side of the fault has apparently moved downward, relative to the east side, forming a graben between the Charnock and Overland faults. However, there is no evidence that this fault has offset late Pleistocene or Holocene age alluvial deposits (County of Los Angeles County Seismic Safety Element, 1990). Ziony and Jones (1989) indicate that the fault is potentially active (no displacement of Holocene age alluvium). Additionally, the State Geologist considers this fault to be potentially active (Jennings, 1994).

Charnock Fault

The potentially active Charnock fault is located approximately 16½ kilometers southwest of the site. The Charnock fault trends northwest-southeast, subparallel to the trend of the Newport-Inglewood fault zone and the Overland fault. Differential water levels across the fault occur in the early Pleistocene age San Pedro Formation. However, there is no evidence that this fault has offset late Pleistocene or Holocene age alluvial deposits (County of Los Angeles Seismic Safety

Element, 1990). Ziony and Jones (1989) indicate that the fault is potentially active (no displacement of Holocene age alluvium). Additionally, the State Geologist considers this fault to be potentially active (Jennings, 1994).

4.5 GEOLOGIC-SEISMIC HAZARDS

Fault Rupture

The site is not within a currently established Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards. The closest Alquist-Priolo Earthquake Fault Zone, established for the active Raymond fault, is located approximately 7.9 kilometers north-northeast of the site. Additionally, the site is not within a City of Los Angeles Fault Rupture Study area. Based on the available geologic data, active or potentially active faults with the potential for surface fault rupture are not known to be located directly beneath or projecting toward the site. Therefore, the potential for surface rupture due to fault plane displacement propagating to the surface at the site during the design life of the project is considered low.

Seismicity

Earthquake Catalog Data

The seismicity of the region surrounding the site was determined from research of an electronic database of seismic data (Southern California Seismographic Network, 2004). This database includes earthquake data compiled by the California Institute of Technology from 1932 through 2003 and data for 1812 to 1931 compiled by Richter and the U.S. National Oceanic Atmospheric Administration (NOAA). The search for earthquakes that occurred within 100 kilometers of the site indicates that 409 earthquakes of Richter magnitude 4.0 and greater occurred from 1932 through 2003; 2 earthquakes of magnitude 6.0 or greater occurred between 1906 and 1931; and 1 earthquake of magnitude 7.0 or greater occurred between 1812 and 1905. A list of these earthquakes is presented as Table 3. Epicenters of moderate and major earthquakes (greater than magnitude 6.0) are shown in Figure 4.

The information for each earthquake includes date and time in Greenwich Civil Time (GCT), location of the epicenter in latitude and longitude, quality of epicentral determination (Q), depth in

kilometers, distance from the site in kilometers, and magnitude. Where a depth of 0.0 is given, the solution was based on an assumed 16-kilometer focal depth. The explanation of the letter code for the quality factor of the data is presented on the first page of the table.

Historic Earthquakes

A number of earthquakes of moderate to major magnitude have occurred in the Southern California area within about the last 70 years. A partial list of these earthquakes is included in the following table.

List of Historic Earthquakes

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Kilometers)	Direction to Epicenter
Long Beach	March 10, 1933	6.4	55	SE
Tehachapi	July 21, 1952	7.5	135	NW
San Fernando	February 9, 1971	6.6	42	NNW
Whittier Narrows	October 1, 1987	5.9	16	E
Sierra Madre	June 28, 1991	5.8	34	NE
Landers	June 28, 1992	7.3	164	E
Big Bear	June 28, 1992	6.4	130	E
Northridge	January 17, 1994	6.7	32	NW
Hector Mine	October 16, 1999	7.1	193	NE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated by proper engineering design and construction in conformance with current building codes and engineering practices.

Slope Stability

The site is currently occupied by an abandoned State of California office building and adjoining parking structure. The remainder of the site, approximately the southeast quarter, is occupied by an asphalt-paved parking lot. There are no slopes at the site and the absence of slopes precludes both stability problems and the potential for lurching (earth movement at right angles to a cliff or steep slope during ground shaking). According to the City of Los Angeles Safety Element (1996) and the County of Los Angeles Seismic Safety Element (1990), the site is not within an area identified as

having a potential for slope instability. There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Additionally, the site is not located within an area identified as having a potential for seismic slope instability (California Division of Mines and Geology, 1999).

An approximate 13.7- to 14-meter-deep (40 to 45-foot-deep) basement excavation is planned as part of the proposed development. The upper portions of the excavation will expose alluvial deposits and fill materials; bedrock will be exposed in the lower portions of the excavation. The alluvial deposits are horizontally stratified and lack any well-defined planar features or discontinuities (such as bedding or joints) which would act as planes of weakness. The bedrock that will be exposed in the lower portions of the excavation is anticipated to be similar in nature to the bedrock encountered in our current borings at the site. The bedrock is massive in nature and lacks well-defined bedding planes or other well-defined planes of weakness and is not anticipated to adversely affect the proposed basement construction.

The geologic conditions at the site will not result in lateral surcharge loading on the proposed basement walls. However, the sandy alluvial deposits will be prone to local raveling or caving, particularly when combined with local groundwater seepage, and a temporary shoring system with lagging could be required.

Temporary and permanent retaining walls should be designed for the recommended lateral earth pressures and provided with a good drainage system, as recommended, to mitigate the potential for instability due to the proposed excavation at the site.

Liquefaction

Liquefaction potential is greatest where the ground-water level is shallow, and submerged loose, fine sands occur within a depth of about 50 feet or less. Liquefaction potential decreases as grain size and clay and gravel content increase. As ground acceleration and shaking duration increase during an earthquake, liquefaction potential increases.

The Quaternary age alluvial deposits will be removed during the proposed excavation for the proposed subterranean levels. The siltstone beneath the site at the proposed foundation level is very stiff and cohesive and is not considered to be subject to liquefaction.

Tsunamis, Inundation, Seiches, and Flooding

The site is not in a coastal area. Therefore, tsunamis (seismic sea waves) are not considered a significant hazard at the site.

According to the City of Los Angeles Safety Element (1990) and the County of Los Angeles Seismic Safety Element (1990), the site is not located downslope of any large bodies of water that could adversely affect the site in the event of earthquake-induced dam failures or seiches (wave oscillations in an enclosed or semi-enclosed body of water). Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure or seiche is considered low.

The site is in an area of minimal flooding potential (Zone C) as defined by the Federal Insurance Administration.

Subsidence

The site is not within an area of known subsidence associated with fluid withdrawal (ground water or petroleum), peat oxidation, or hydrocompaction.

4.6 CONCLUSIONS

Based on the available geologic data, active or potentially active faults with the potential for surface fault rupture are not known to be located beneath or projecting toward the site. In our opinion, the potential for surface rupture at the site due to fault plane displacement propagating to the ground surface during the design life of the project is considered low. Although the site could be subjected to strong ground shaking in the event of an earthquake, this hazard is common in Southern California and the effects of ground shaking can be mitigated by proper engineering design and construction in conformance with current building codes and engineering practices.

The site is currently occupied by an abandoned State of California office building and adjoining parking structures. The remainder of the site, approximately the southeast quarter, is occupied by an asphalt-paved parking lot. There are no slopes at the site and the absence of slopes precludes slope stability hazards. The potential for other geologic hazards such as liquefaction, seismic-induced settlement, tsunamis, inundation, seiches, flooding, and subsidence affecting the site is considered low.

5.0 SITE-SPECIFIC GROUND MOTION

A site-specific ground motion study was performed in accordance with Section 9.4.1.3 of the Structural Engineering Institute/American Society of Civil Engineers publication titled "Minimum Design Loads for Buildings and Other Structures", SEI/ASCE 7-02, 2002.

The site-specific response spectra for a Maximum Considered Earthquake (MCE) ground motion having a 2% probability of being exceeded in 50 years was determined by a Probabilistic Seismic Hazard Analysis (PSHA) using the computer program EZFRISK, Version 6.1. The faults used in the study are shown in Tables 1 and 2 along with the maximum magnitude and the slip rate assigned to each fault. The response spectra were developed using the average of the spectra obtained using the attenuation relationships discussed in Abrahamson and Silva (1997), Boore et al. (1997) and Sadigh et al. (1997) for a "soil" site type with a shear wave velocity in the upper 30 meters of about 400 meters per second based on our prior shear wave velocity measurements near the site.

The deterministic maximum considered earthquake ground motion was examined for a variety of nearby faults. The deterministic MCE ground motions were determined to be controlled by a Moment Magnitude 7.5 event occurring on the Puente Hills blind thrust fault. The analysis provided ground motion estimates for the median of the attenuation relations.

The probabilistic and deterministic maximum considered earthquake ground motions are presented in Table 4 and in Figure 6. The site-specific design ground motion response spectra as determined by the procedures described in Section 9.4.1.3.4 of the SEI/ASCE-7 publication is presented in Table 4 and in Figure 7.

6.0 RECOMMENDATIONS

The proposed lowest floor level of the courthouse basement floor will place the building foundations into the siltstone bedrock material. The proposed structure can be supported on spread footings established in the undisturbed siltstone. The basement floor slab can be supported on the undisturbed siltstone.

Although ground water was not encountered during our investigation, and the amount of ground-water seepage during our borings was relatively minor, mass excavation for the proposed building and locally for the building foundations, will encounter ground-water seepage. The amount of ground-water seepage is difficult to estimate, however, based on our experience with similar projects in downtown Los Angeles, the ground-water seepage will impact the proposed construction. Provisions to address and control the ground-water seepage will be required during construction.

The presence of ground water within the excavation would soften and weaken the siltstone bedrock materials, depending on the duration of the exposure. Depending on the amount of water seepage and the construction sequencing, it may be desirable to construct waste slabs at the bottom of the foundation excavations.

To facilitate floor slab construction, it may be prudent to consider leaving the mass excavation 6 to 12 inches above the planned elevation while the foundations are constructed, to minimize the amount of disturbance to the materials that will support the floor slab.

It should also be noted that the location of the Metro Red Line Subway station and/or tunnels should be located and identified. If the station and/or tunnels are in the zone of influence of the proposed courthouse, additional recommendations will be necessary. The zone of influence is estimated to be below a 1:1 plane extending downward from the bottom of the outside edge of the proposed Courthouse footings.

6.1 FOUNDATIONS

In this section, data are given for the following foundation design considerations:

- Bearing value for both major structures and structurally separate minor structures.
- Estimated settlement of the building.
- Lateral resistance.

Bearing Value

Spread footings below the lowest basement floor, carried at least 1 foot into the undisturbed siltstone and at least 2 feet below the lowest adjacent grade or floor level can be designed to impose a net dead-plus-live load pressure of 15,000 pounds per square foot. The excavations should be deepened as necessary to extend into satisfactory materials.

A one-third increase can be used for wind or seismic loads. The recommended bearing value is a net value, and the weight of concrete in the footings can be taken as 50 pounds per cubic foot; the weight of soil backfill can be neglected when determining the downward loads.

Footings for minor structures (loading dock walls, minor retaining walls, and free-standing walls) that are structurally separate from the building can be designed to impose a net dead-plus-live load pressure of 1,500 pounds per square foot at a depth of 1½ feet below the lowest adjacent grade. Such footings can be established in either properly compacted fill soils or undisturbed natural soils.

Settlement

We estimate the settlement of the building, supported on spread footings in the manner recommended, will be 1 inch or less. Differential settlement between adjacent columns is expected to be about ¼ inch or less.

Lateral Resistance

Lateral loads can be resisted by soil friction and by the passive resistance of the bedrock. A coefficient of friction of 0.4 can be used between the footings and the floor slab and the supporting bedrock. The passive resistance of the bedrock can be assumed to be equal to 1,000 pounds per square foot at the surface and increasing by 400 pounds per square foot for each additional foot of depth up to a maximum value of 8,000 pounds per square foot. The passive resistance of the fill and alluvial soils, if utilized, can be assumed to be equal to the pressure developed by a fluid with a density of 250 pounds per cubic foot up to a maximum value of 3,000 pounds per square foot. However, please note that if the passive resistance of the soils or bedrock behind the building walls below grade is relied on, we do not recommend limiting the passive value.

A one-third increase in the passive value can be used for wind or seismic loads. The frictional resistance and the passive resistance of the soils can be combined without reduction in determining the total lateral resistance.

Construction Considerations

As mentioned above, the mass excavation and foundation excavations will likely encounter ground-water seepage. To control ground-water seepage, the installation of internal sumps to collect water seepage and a system to convey the water off-site will likely be required. Placement of gravel or crushed rock at the excavation bottom may also facilitate ground-water control as well as improve equipment maneuverability.

The presence of ground water within the excavation would soften and weaken the siltstone bedrock materials, depending on the duration of the exposure. Depending on the amount of water seepage and the construction sequencing, it may be desirable to construct waste slabs at the bottom of the foundation excavations.

If the ground-water seepage is excessive, it may be beneficial to utilize waste slabs to construct the building foundations (and floor slabs). Waste slab construction consists of over-excavation of about 8 inches of upper materials, the placement of 4 inches of crushed rock and the subsequent placement of 3 to 4 inch thick concrete slab to provide a firm working surface. The strength of the

waste slab concrete should be equal to or greater than the foundation concrete strength. The building foundations can be constructed directly on the waste slabs.

6.2 SITE CLASS DEFINITION

The bedrock materials beneath the proposed current anticipated building foundation level site may be classified as Soil Class Definition "C" in accordance with Table 9.4.1.2 of SEI/ASCE 7-02, Section 9.4.1.2.1.

6.3 FLOOR SLAB SUPPORT

If the subgrade is prepared as recommended in the following section on grading, the building floor slab can be supported on the undisturbed siltstone bedrock.

Construction activities and exposure to the environment can cause deterioration of the prepared subgrade. Therefore, we recommend our that our field representative observe the condition of the final subgrade soils immediately prior to slab-on-grade construction, and, if necessary, perform further density and moisture content tests to determine the suitability of the final prepared subgrade.

To facilitate floor slab construction, it may be prudent to leave the mass excavation 6 to 12 inches above the planned elevation while the foundations are constructed, to minimize the amount of disturbance to the materials that will support the floor slab.

If the ground-water seepage is excessive, it may be desirable to utilize waste slabs to further facilitate the construction of the floor slab. As stated in Section 6.1, waste slab construction consists of over-excavation of about 8 inches of upper materials, the placement of 4 inches of crushed rock and the subsequent placement of 3 to 4 inch thick concrete slab to provide a firm working surface. The strength of the waste slab concrete should be equal or greater than the floor slab concrete strength. The building floor slab can be constructed directly on the waste slab. Please note that if waste slabs are utilized for the floor slab construction, the capillary break, recommended in the following paragraph, should be installed beneath (prior to the installation of) the waste slab.

If vinyl or other moisture-sensitive floor covering is planned on the lower floor, we recommend that the floor slab in those areas be underlain by a capillary break consisting of a vapor-retarding membrane over a 4-inch-thick layer of gravel. A 2-inch-thick layer of sand should be placed between the gravel and the membrane to decrease the possibility of damage to the membrane. We suggest the following gradation for the gravel:

Sieve Size	Percent Passing
¾"	90 – 100
No. 4	0 – 10
No. 100	0 - 3

A low-slump concrete should be used to reduce possible curling of the slab. A 2-inch-thick layer of coarse sand can be placed over the vapor retarding membrane to reduce slab curling. If this sand bedding is used, care should be taken during the placement of the concrete to prevent displacement of the sand. The concrete slab should be allowed to cure properly before placing vinyl or other moisture-sensitive floor covering.

6.4 SUBDRAIN SYSTEM

For a subdrain system, we recommend that the lower floor of the building be underlain by a layer of filter material approximately 1 foot thick. The filter material should be drained by subdrain pipes leading to sump areas equipped with automatic pumping units. We suggest that the filter material meet the requirements of Class 2 Permeable Material as defined in Section 68 of the latest edition of the State of California, Department of Transportation, Standard Specifications. If Class 2 material is not available, ¾-inch crushed rock separated from the adjacent soils by a filter fabric may be used. The crushed rock should have less than 5% passing a No. 200 sieve. The drain lines should consist of perforated pipe placed, with the perforations down, in trenches extending at least 1 foot below the filter material. The trenches should be backfilled with material meeting the requirements of the Class 2 Permeable Material or lined with filter fabric and filled with ¾-inch crushed rock. The drain lines should extend around the perimeter of the building and should be spaced approximately 40 feet apart within the interior of the building. A slope of at least 2 inches per 100 feet should be used for the drain lines. Although water will not initially flow into

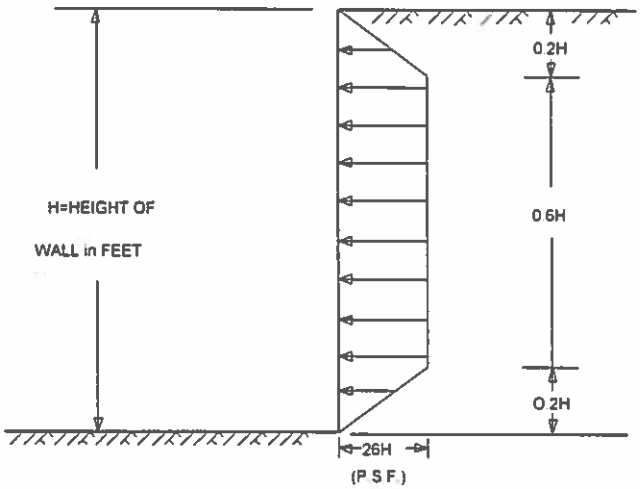
the subdrain system, we suggest that the pumps and sumps be sized for a total inflow into the system of 300 gallons per minute. The actual inflow into the subdrain system is expected to be less.

A permit from the State of California Regional Water Quality Control board will have to be obtained to discharge the subdrain water into the storm drain. To obtain such a permit, chemical tests will have to be performed on ground water samples obtained at the site to verify that chemicals or pollutants within the water do not exceed the allowable limits for discharging into the storm drain.

6.5 WALLS BELOW GRADE

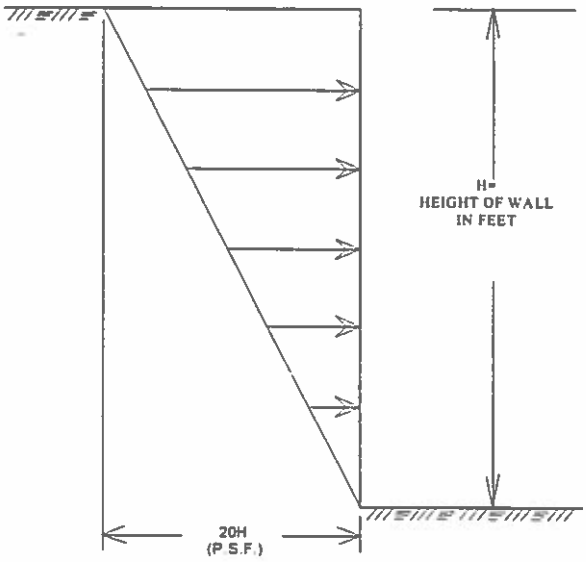
Lateral Pressure

Where the surface at the top of the retaining wall is flat, we recommend that the basement walls be designed to resist a trapezoidal pressure distribution, as shown on the following figure, where H is the retained height of the wall in feet, and 26H (in units of pounds per square foot) is the recommended maximum lateral earth pressure.



Please note that the lateral earth pressure is given above is based on level grade at the top of the wall. If the backfill is sloped at a 2:1 (horizontal:vertical), the increase to the lateral earth pressure recommended above should be 150%.

In addition to the static lateral earth pressure, the west and north wall sections that are above the designated ground level (the portion of the northeast, or Hill Street side wall, that is above the ground surface level of Broadway in the south side of the building should also be designed to support temporary seismic loading. For temporary seismic loading, we recommended an inverted triangular pressure distribution as illustrated in the following figure, where H is the height of the wall in feet and the maximum pressure is equal to 20H (in units of pounds per square foot).



Where the surface is inclined at 2:1 (horizontal:vertical) as planned for the west (Hill Street) side of the building, the maximum seismic pressure should be increased to 25H (in units of pounds per square foot).

In addition to the recommended earth pressure, the upper 10 feet of adjacent to driveways and streets should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot surcharge behind the shoring due to normal traffic and/or vehicle storage.

Drainage

The proposed walls should be designed to resist hydrostatic pressures or be provided with suitable backdrainage to prevent the development of hydrostatic pressures behind the walls.

The wall backdrainage system could consist of drainage board materials, such as Miradrain strips or equivalent, spaced at a maximum of 4 horizontal feet on-center and extending no closer than 2 feet from the finish ground surface behind the wall to minimize the potential for introducing surface water into the wall backdrain system. The drainage materials should be connected to a 4-inch-diameter perforated pipe placed with perforations down at the base of the wall. The pipe should be sloped at least 2 inches in 100 feet and surrounded by filter gravel. The filter gravel should in turn be placed within a geotextile drainage fabric to minimize the potential for clogging the pipe perforations and the filter gravel. The filter gravel should meet the requirements of Class 2 Permeable Material as defined in the current State of California, Department of Transportation, Standard Specifications.

If Class 2 Permeable Material is not available, ¾-inch crushed rock or gravel separated from the on-site soils by an appropriate filter fabric can be used. The crushed rock or gravel should have less than 5% passing a No. 200 sieve.

The installed drainage system should be observed by personnel from our firm. Inspection of the drainage system may also be required by the reviewing governmental agencies.

Please note that a discharge permit from the State of California Regional Water Quality Control Board is required to allow discharge from the wall backdrainage system into the storm drain. To obtain a discharge permit, chemical testing is required on water samples to evaluate if chemicals or pollutants within the water exceed the allowable limits for discharging into the storm drain.

6.6 EXCAVATION AND SLOPES

Excavation up to about 50 feet deep will be required for the lower subterranean parking level of the proposed development. Where the necessary space is available, temporary unsurcharged embankments may be sloped back at 1:1 without shoring. Adjacent to existing structures, the

bottom of any unshored excavation should be restricted so as not to extend below a plane drawn at 1½:1 (horizontal to vertical) downward from the foundations of existing structures. Where space is not available, shoring will be required. Data for design of shoring are presented in a following section.

Where sloped embankments are used, the tops of the slopes should be barricaded to prevent vehicles and storage loads within 10 feet of the tops of the slopes. A greater setback may be necessary when considering heavy vehicles, such as concrete trucks and cranes; we should be advised of such heavy vehicles, such as concrete trucks and cranes so that specific setback requirements can be established. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes, where necessary, to prevent runoff water form entering the excavation and eroding the slope faces.

The excavation should be observed by personnel of our firm so that any necessary modifications based on variations in the soil conditions encountered can be made. All applicable safety requirements, including OSHA requirements, should be met.

6.7 TEMPORARY SHORING

General

Where there is not sufficient space for sloped embankments, shoring will be required. One method of shoring would consist of steel soldier piles placed in drilled holes, backfilled with concrete, and tied back with earth anchors. Some difficulty may be encountered in the drilling of the soldier piles and the anchors because of caving in the sandy deposits. Special techniques and measures will be necessary in some areas to permit the proper installation of the soldier piles and/or tie-back anchors. In addition, if there is not sufficient space to install the tie-back anchors to the desired lengths on any side of the excavation, the soldier piles of the shoring system could be internally braced.

Recommendations are presented herein for conventional soldier pile, lagging, and tie-back shoring design. Soil-nail walls for temporary support of the excavation could be used as an alternative

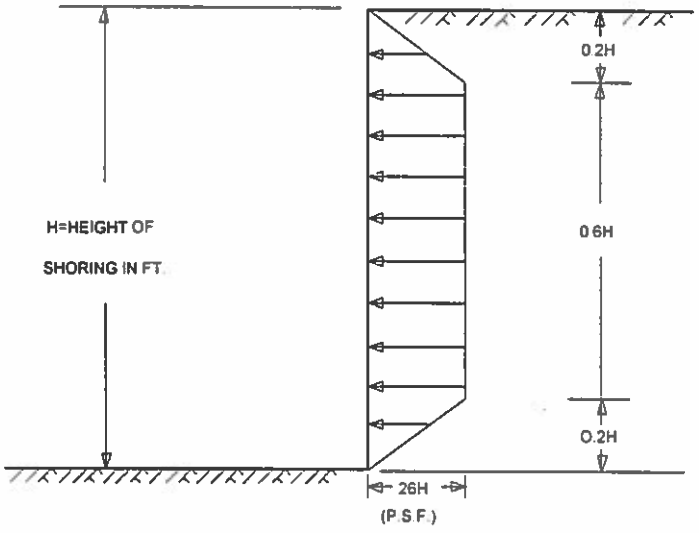
method. Evaluation of the feasibility of and recommendations for soil nail walls were beyond the scope of this investigation.

Lateral Pressures

Typically, where excavations are less than about 15 feet in height, cantilevered shoring is feasible. Although not anticipated for the mass excavation, local excavations less than about 15 feet deep may require temporary shoring.

For design of cantilevered shoring, a triangular distribution of lateral earth pressure may be used. It may be assumed that the retained soils with a level surface behind the cantilevered shoring will exert a lateral pressure equal to that developed by a fluid with a density of 30 pounds per cubic foot.

For the design of tied-back or braced shoring, we recommend the use of a trapezoidal distribution of earth pressure. The recommended pressure distribution, for the case where the grade is level behind the shoring, is illustrated in the following diagram with the maximum pressure equal to 26H in pounds per square foot, where H is the height of the shoring in feet.



For temporary cantilevered shoring and temporary braced shoring, if the retained surface is sloped, the lateral earth pressure should be increased in accordance with the values presented in the following table.

Increase in Static Lateral Pressure for Slopes

Slope of Soil behind Top of Shoring (horizontal to vertical)	Percent Increase in Lateral Earth Pressure
1:1	200
1½:1	165
2:1	150

In addition to the recommended earth pressure, the upper 10 feet of shoring adjacent to the streets and vehicular traffic areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot surcharge behind the shoring due to normal street traffic. If the traffic is kept back at least 10 feet from the shoring, the traffic surcharge may be neglected.

Furthermore, adjacent to existing structures, the shoring system should be designed for the appropriate lateral surcharge pressures imposed by the adjacent foundations of the structures unless the foundations are underpinned, or, as planned, the proper setback is incorporated.

Any lateral surcharge pressures imposed by the adjacent foundations could be computed when the locations, sizes, and loads of these foundations are known.

The shoring system should also be designed to support the lateral surcharge pressures imposed by concrete trucks and other heavy construction equipment placed near the shoring system. We can evaluate these loadings, when sufficient information is available, if authorized.

Design of Soldier Piles

For the design of soldier piles spaced at least two diameters on centers, the allowable lateral bearing value (passive value) of the siltstone materials below the level of excavation may be assumed to be 2000 pounds per square foot at the level of excavation, increasing by 800 pounds per square foot per foot of depth, up to a maximum of 8,000 pounds per square foot. Please note

that this value includes a 200% increase for the case of isolated poles, acting independently. To develop the full lateral value, provisions should be taken to assure firm contact between the soldier piles and the undisturbed soils. The concrete placed in the soldier pile excavations may be a lean-mix concrete. However, the concrete used in that portion of the soldier pile, which is below the planned excavated level, should be of sufficient strength to adequately transfer the imposed loads to the surrounding soils.

The frictional resistance between the soldier piles and the retained earth may be used in resisting the downward component of the anchor load. The coefficient of friction between the soldier piles and the retained earth may be taken as 0.3. This value is based on the assumption that uniform full bearing will be developed between the steel soldier beam and the lean-mix concrete and between the lean-mix concrete and the retained earth. In addition, provided that the portion of the soldier piles below the excavated level is backfilled with structural concrete, the soldier piles below the excavated level may be used to resist downward loads. For resisting the downward loads, the frictional resistance between the concrete soldier piles and the soils below the excavated level may be taken equal to 400 pounds per square foot.

Lagging

Continuous lagging will be required between the soldier piles. The soldier piles and anchors should be designed for the full anticipated lateral pressure. However, the pressure on the lagging will be less due to arching in the soils. For clear spans of up to 6 feet, we recommend that the lagging be designed for a semi-circular distribution of earth pressure where the maximum pressure is 400 pounds per square foot at the mid-line between soldier piles, and 0 pounds per square foot at the soldier piles. Lagging may be omitted in the siltstone bedrock materials. The exception should be observed by personnel of our firm to confirm that lagging may be omitted.

Anchor Design

Tie-back friction anchors may be used to resist lateral loads. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn at 35 degrees with the vertical through the bottom of the excavation. The anchors should extend at least 30 feet

beyond the potential active wedge and to a greater length if necessary to develop the desired capacities.

The capacities of anchors should be determined by testing of the initial anchors as outlined in a following section. The following table presents the estimated frictional resistance for tie-back anchors based on the average depth below the ground surface within the bonded length of the anchor.

Average Depth of Embedment (ft)	Estimated Tie-back Frictional Resistance (psf)
20	600
30	900
40	1100
50	1400

If post-grouted anchors are utilized, we estimate that the anchors will develop resistance on the order of three times the estimated values presented in the above table.

Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads. If the anchors are spaced at least 6 feet on centers, no reduction in the capacity of the anchors needs to be considered due to group action.

Anchor Installation

The anchors may be installed at angles of 15 to 40 degrees below the horizontal. Caving of the anchor holes should be anticipated and provisions made to minimize such caving. The anchors should be filled with concrete placed by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. To minimize chances of caving, we suggest that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill may contain a small amount of cement to allow the sand to be placed by

pumping. For post-grouted anchors of 8-inch diameter or less, the anchor may be filled with concrete to the surface of the shoring.

Anchor Testing

Our representative should select at least six of the initial anchors for 24-hour 200% test, and 12 additional anchors for quick 200% tests. The purpose of the 200% test is to verify the friction value assumed in design. The anchors should be tested to develop twice the assumed friction value. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

For post-grouted anchors where concrete is used to backfill the anchor along its entire length, the test load should be computed as that required to develop the appropriate friction along the entire bonded length of the anchor. The test load should therefore be computed as:

$$P_{test} = P_{design} * \frac{L_b}{L_a} * M$$

where L_a=Length of Anchor beyond the Active Wedge
L_b=Bonded Length of Anchor
M=150% or 200%, depending on the test performed

The total deflection during the 24-hour 200% test should not exceed 12 inches during loading; the anchor deflection should not exceed 0.75 inch during the 24-hour period, measured after the 200% test load is applied. If the anchor movement after the 200% load has been applied for 12 hours is less than 0.5 inch, and the movement over the previous 4 hours has been less than 0.1 inch, the test may be terminated.

For the quick 200% tests, the 200% test load should be maintained for 30 minutes. The total deflection of the anchor during the 200% quick test should not exceed 12 inches; the deflection after the 200% test load has been applied should not exceed 0.25 inch during the 30-minute period. Where satisfactory tests are not achieved on the initial anchors, the anchor diameter and/or length should be increased until satisfactory test results are obtained.

All of the production anchors should be pretested to at least 150% of the design load; the total deflection during the tests should not exceed 12 inches. The rate of creep under the 150% test should not exceed 0.1 inch over a 15-minute period for the anchor to be approved for the design loading.

After a satisfactory test, each production anchor should be locked-off at the design load. The locked-off load should be verified by rechecking the load in the anchor. If the locked-off load varies by more than 10% from the design load, the load should be reset until the anchor is locked-off within 10% of the design load.

The installation of the anchors and the testing of the completed anchors should be observed by our firm.

Internal Bracing

Raker bracing may be used to internally brace the soldier piles. If used, raker bracing could be supported laterally by temporary concrete footing (deadmen) or by the permanent interior footings. For design of such temporary footings, poured with the bearing surface normal to the rakers inclined at 45 to 60 degrees with the vertical, a bearing value of 4,000 pounds per square foot may be used for footings on the stiff undisturbed siltstone bedrock, provided the shallowest point of the footing is at least 1 foot below the lowest adjacent grade. To reduce the movement of the shoring, the rakers should be tightly wedged against the footings and/or shoring system.

Deflection

It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized, however, that some deflection will occur. We estimate that this deflection could be on the order of 1 inch at the top of the shored embankment. If greater deflection occurs during construction, additional bracing may be necessary to minimize settlement of the utilities in the adjacent streets. If it is desired to reduce the deflection of the shoring, a greater active pressure could be used in the shoring design.

Monitoring

Some means of monitoring the performance of the shoring system is recommended. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all the soldier piles. We will be pleased to discuss this further with the design consultants and the contractor when the design of the shoring system has been finalized.

We recommend that the adjacent existing buildings be surveyed for horizontal and vertical locations. Also, a careful survey of existing cracks and offsets in the adjacent buildings should be performed and recorded and photographic records made.

6.8 GRADING

To provide support for minor structures spread footings, and for at grade concrete walks and slab adjacent to the main building, all existing fill and disturbed natural soils should be excavated and replaced with properly compacted fill, and all required additional fill should be properly compacted. It is anticipated that fill will be required between the limits of the demolished structures and the exterior walls of the proposed building. Some settlement of the compacted backfill should be anticipated.

The footings of the minor structures may be established in properly compacted fill and/or undisturbed natural soils.

Site Preparation and Moisture Conditioning

After excavating as recommended, the exposed soils in areas to receive additional fill should be inspected and any disturbed deposits should be excavated. The moisture content of the soils should be determined, and the soils should be slowly and uniformly moistened (or dried) as necessary to bring the soils to a uniformly moist condition. The moisture content of the clay soils and compacted fill should be brought to between 2% and 4% over optimum moisture content to a depth of 6 inches. The moisture content of any non-expansive materials should be brought to within 2% of optimum moisture content. The moisture content of the subgrade should be checked and approved prior to placing the required fill.

Subgrade Preparation

After moistening as required, the exposed soils should be compacted to at least 90% of the maximum dry density obtainable by the ASTM Designation D1557-91 method of compaction. The upper clay soils have a high moisture content, and it will be necessary to allow the surface to dry out prior to compacting. As an alternative, a layer of coarse crushed rock about 12 inches thick could be placed over the exposed soils to provide a base for the compaction of the required fill. A geotextile fabric could be placed to help stabilize the subgrade soils and reduce the amount of gravel required. Where grading is interrupted by rain, fill operations should not be resumed until the moisture content and dry density of the placed fill are satisfactory.

Compaction

After compacting the exposed soils, or after placing the gravel layer, the required fill should be placed in horizontal lifts not more than 8 inches thick and compacted to at least 90%. Relatively non-expansive soils shall be compacted at a moisture content varying no more than 2% below or above optimum moisture content. It is recommended that the moisture content of the on-site expansive soils at the time of compaction be brought to between 2% and 4% over optimum moisture content.

Material for Fill

The on-site soils, less debris or organic materials within any existing fill soils, may be used in the required fills. All required imported fill and at least the upper 2 feet of fill beneath adjacent concrete slabs and walks adjacent to the building should consist of relatively non-expansive soils. The Expansion Index of the selected relatively non-expansive material should be less than 35. Any import material should contain sufficient fines (binder material) so as to provide a compacted fill that will be relatively impermeable and will be stable in shallow trenches.

6.9 GEOTECHNICAL OBSERVATION

The reworking of the upper soils and the compaction of all required fill should be observed and tested during placement by a representative of our firm. This representative should perform at least the following duties:

- Observe the clearing and grubbing operations for proper removal of all unsuitable materials.
- Observe the exposed subgrade in areas to receive fill and in areas where excavation has resulted in the desired finished subgrade. The representative should also observe proofrolling and delineation of areas requiring overexcavation.
- Evaluate the suitability of on-site and import soils for fill placement; collect and submit soil samples for required or recommended laboratory testing where necessary.
- Observe the fill and backfill for uniformity during placement.
- Test backfill for field density and compaction to determine the percentage of compaction achieved during backfill placement.
- Observe and probe foundation materials to confirm that suitable bearing materials are present at the design foundation depths.
- Observe installation of soldier piles, lagging and tie-backs for temporary shoring.
- Observe and record test results for tie back anchors.

The governmental agencies having jurisdiction over the project should be notified prior to commencement of grading so that the necessary grading permits can be obtained and arrangements can be made for required inspection(s). The contractor should be familiar with the inspection requirements of the reviewing agencies.

7.0 BASIS FOR RECOMMENDATIONS

The recommendations provided in this report are based upon our understanding of the described project information and on our interpretation of the data collected during our current and previous subsurface explorations. We have made our recommendations based upon experience with similar subsurface conditions under similar loading conditions. The recommendations apply to the specific project discussed in this report; therefore, any change in the structure configuration, loads, location, or the site grades should be provided to us so that we can review our conclusions and recommendations and make any necessary modifications.

The recommendations provided in this report are also based upon the assumption that the necessary geotechnical observations and testing during construction will be performed by representatives of our firm. The field observation services are considered a continuation of the geotechnical investigation and essential to verify that the actual soil conditions are as expected. This also provides for the procedure whereby the client can be advised of unexpected or changed conditions that would require modifications of our original recommendations. In addition, the presence of our representative at the site provides the client with an independent professional opinion regarding the geotechnically related construction procedures. If another firm is retained for the geotechnical observation services, our professional responsibility and liability would be limited to the extent that we would not be the geotechnical engineer of record.



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TABLES

Table 1
Major Named Faults Considered to be Active
in Southern California

Fault (in increasing distance)	Maximum Magnitude			Slip Rate (mm/yr.)	Distance From Site (kilometers)	Direction From Site
Puente Hills Blind Thrust	7.1	(a)	BT	0.7	0	---
Upper Elysian Park	6.4	(a)	BT	1.3	0	---
Hollywood	6.4	(a)	RO	1.0	8.0	NNW
Raymond	6.5	(a)	RO	1.5	8.4	NNE
Verdugo	6.9	(a)	RO	0.5	11	N
Newport-Inglewood Zone	7.1	(a)	SS	1.0	12	SW
Santa Monica	6.6	(a)	RO	1.0	16	W
Sierra Madre	7.2	(a)	RO	2.0	18½	N
Whittier	6.8	(a)	SS	2.5	19	ESE
Northridge Thrust	7.0	(a)	BT	1.5	24	NW
San Fernando	6.7	(a)	RO	2.0	26	NNW
San Gabriel	7.2	(a)	SS	1.0	26	N
Palos Verdes	7.3	(a)	SS	3.0	27	SW
Malibu Coast	6.7	(a)	RO	0.3	31	W
Anacapa-Dume	7.5	(a)	RO	3.0	44	W
Chino-Central Avenue	6.7	(a)	NO	1.0	47	E
Simi-Santa Rosa	7.0	(a)	RO	1.0	49	NW
Cucamonga	6.9	(a)	RO	5.0	50	ENE
San Andreas (Mojave Segment)	7.4	(a)	SS	30.0	53	NNE
Elsinore (Glen Ivy Segment)	6.8	(a)	SS	5.0	55	SE
Oak Ridge	7.0	(a)	RO	4.0	60	NW
San Cayetano	7.0	(a)	RO	6.0	63	NW
San Andreas (San Bernardino Segment)	7.5	(a)	SS	24.0	72	NE
San Jacinto (San Bernardino Segment)	6.7	(a)	SS	12.0	72	ENE
San Joaquin Hills	6.6	(a)	BT	0.5	72	SE

(a) California Geological Survey, 2003
(b) Mark, 1977
(c) Slemmons, 1979
(d) Wesnousky, 1986
(e) Hummon et al., 1994
SS Strike Slip
NO Normal Oblique
RO Reverse Oblique
BT Blind Thrust

Table 2
Major Named Faults Considered to be Potentially Active in Southern California

Fault (in increasing distance)	Maximum Magnitude			Slip Rate (mm/yr.)	Distance From Site (kilometers)	Direction From Site
MacArthur Park	5.7	(e)	RO	0.1	1.4	S
Coyote Pass	6.7	(b)	RO	0.1	4.0	ESE
Overland	6.0	(c)	SS	0.1	14½	SW
Charnock	6.5	(c)	SS	0.1	16½	SW
Norwalk	6.7	(c)	RO	0.1	21	SE
Clamshell-Sawpit	6.5	(a)	RO	0.5	25	NE
Duarte	6.7	(c)	RO	0.1	25	NE
Los Alamitos	6.2	(b)	SS	0.1	25	SSW
Northridge Hills	6.6	(d)	SS	1.2	28	NW
Indian Hill	6.6	(b)	RO	0.1	35	E
San Jose	6.4	(a)	RO	0.5	38	E
Santa Susana	6.7	(a)	RO	5.0	38	NW
Holser	6.5	(a)	RO	0.4	55	NW
Santa Cruz Island	7.0	(a)	RO	1.0	79	SW

(a) California Geological Survey, 2003
(b) Mark, 1977
(c) Slemmons, 1979
(d) Wesnousky, 1986
(e) Hummon et al., 1994
SS Strike Slip
NO Normal Oblique
RO Reverse Oblique
BT Blind Thrust

Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
11-01-1932	04:45:00	34.00 N	117.25 W	E	92	.0	4.0
03-11-1933	01:54:07	33.62 N	117.97 W	A	55	.0	6.4
03-11-1933	02:04:00	33.75 N	118.08 W	C	37	.0	4.9
03-11-1933	02:05:00	33.75 N	118.08 W	C	37	.0	4.3
03-11-1933	02:09:00	33.75 N	118.08 W	C	37	.0	5.0
03-11-1933	02:10:00	33.75 N	118.08 W	C	37	.0	4.6
03-11-1933	02:11:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	02:16:00	33.75 N	118.08 W	C	37	.0	4.8
03-11-1933	02:17:00	33.60 N	118.00 W	E	55	.0	4.5
03-11-1933	02:22:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	02:27:00	33.75 N	118.08 W	C	37	.0	4.6
03-11-1933	02:30:00	33.75 N	118.08 W	C	37	.0	5.1
03-11-1933	02:31:00	33.60 N	118.00 W	E	55	.0	4.4
03-11-1933	02:52:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	02:57:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	02:58:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	02:59:00	33.75 N	118.08 W	C	37	.0	4.6
03-11-1933	03:05:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	03:09:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	03:11:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	03:23:00	33.75 N	118.08 W	C	37	.0	5.0
03-11-1933	03:36:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	03:39:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	03:47:00	33.75 N	118.08 W	C	37	.0	4.1
03-11-1933	04:36:00	33.75 N	118.08 W	C	37	.0	4.6
03-11-1933	04:39:00	33.75 N	118.08 W	C	37	.0	4.9
03-11-1933	04:40:00	33.75 N	118.08 W	C	37	.0	4.7
03-11-1933	05:10:22	33.70 N	118.07 W	C	43	.0	5.1
03-11-1933	05:13:00	33.75 N	118.08 W	C	37	.0	4.7
03-11-1933	05:15:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	05:18:04	33.58 N	117.98 W	C	58	.0	5.2
03-11-1933	05:21:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	05:24:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	05:53:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	05:55:00	33.75 N	118.08 W	C	37	.0	4.0

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(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
03-11-1933	06:11:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	06:18:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	06:29:00	33.85 N	118.27 W	C	23	.0	4.4
03-11-1933	06:35:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	06:58:03	33.68 N	118.05 W	C	45	.0	5.5
03-11-1933	07:51:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	07:59:00	33.75 N	118.08 W	C	37	.0	4.1
03-11-1933	08:08:00	33.75 N	118.08 W	C	37	.0	4.5
03-11-1933	08:32:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	08:37:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	08:54:57	33.70 N	118.07 W	C	43	.0	5.1
03-11-1933	09:10:00	33.75 N	118.08 W	C	37	.0	5.1
03-11-1933	09:11:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	09:26:00	33.75 N	118.08 W	C	37	.0	4.1
03-11-1933	10:25:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	10:45:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	11:00:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	11:04:00	33.75 N	118.13 W	C	35	.0	4.6
03-11-1933	11:29:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	11:38:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	11:41:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	11:47:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	12:50:00	33.68 N	118.05 W	C	45	.0	4.4
03-11-1933	13:50:00	33.73 N	118.10 W	C	38	.0	4.4
03-11-1933	13:57:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	14:25:00	33.85 N	118.27 W	C	23	.0	5.0
03-11-1933	14:47:00	33.73 N	118.10 W	C	38	.0	4.4
03-11-1933	14:57:00	33.88 N	118.32 W	C	20	.0	4.9
03-11-1933	15:09:00	33.73 N	118.10 W	C	38	.0	4.4
03-11-1933	15:47:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	16:53:00	33.75 N	118.08 W	C	37	.0	4.8
03-11-1933	19:44:00	33.75 N	118.08 W	C	37	.0	4.0
03-11-1933	19:56:00	33.75 N	118.08 W	C	37	.0	4.2
03-11-1933	22:00:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	22:31:00	33.75 N	118.08 W	C	37	.0	4.4

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DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
03-11-1933	22:32:00	33.75 N	118.08 W	C	37	.0	4.1
03-11-1933	22:40:00	33.75 N	118.08 W	C	37	.0	4.4
03-11-1933	23:05:00	33.75 N	118.08 W	C	37	.0	4.2
03-12-1933	00:27:00	33.75 N	118.08 W	C	37	.0	4.4
03-12-1933	00:34:00	33.75 N	118.08 W	C	37	.0	4.0
03-12-1933	04:48:00	33.75 N	118.08 W	C	37	.0	4.0
03-12-1933	05:46:00	33.75 N	118.08 W	C	37	.0	4.4
03-12-1933	06:01:00	33.75 N	118.08 W	C	37	.0	4.2
03-12-1933	06:16:00	33.75 N	118.08 W	C	37	.0	4.6
03-12-1933	07:40:00	33.75 N	118.08 W	C	37	.0	4.2
03-12-1933	08:35:00	33.75 N	118.08 W	C	37	.0	4.2
03-12-1933	15:02:00	33.75 N	118.08 W	C	37	.0	4.2
03-12-1933	16:51:00	33.75 N	118.08 W	C	37	.0	4.0
03-12-1933	17:38:00	33.75 N	118.08 W	C	37	.0	4.5
03-12-1933	18:25:00	33.75 N	118.08 W	C	37	.0	4.1
03-12-1933	21:28:00	33.75 N	118.08 W	C	37	.0	4.1
03-12-1933	23:54:00	33.75 N	118.08 W	C	37	.0	4.5
03-13-1933	03:43:00	33.75 N	118.08 W	C	37	.0	4.1
03-13-1933	04:32:00	33.75 N	118.08 W	C	37	.0	4.7
03-13-1933	06:17:00	33.75 N	118.08 W	C	37	.0	4.0
03-13-1933	13:18:28	33.75 N	118.08 W	C	37	.0	5.3
03-13-1933	15:32:00	33.75 N	118.08 W	C	37	.0	4.1
03-13-1933	19:29:00	33.75 N	118.08 W	C	37	.0	4.2
03-14-1933	00:36:00	33.75 N	118.08 W	C	37	.0	4.2
03-14-1933	12:19:00	33.75 N	118.08 W	C	37	.0	4.5
03-14-1933	19:01:50	33.62 N	118.02 W	C	53	.0	5.1
03-14-1933	22:42:00	33.75 N	118.08 W	C	37	.0	4.1
03-15-1933	02:08:00	33.75 N	118.08 W	C	37	.0	4.1
03-15-1933	04:32:00	33.75 N	118.08 W	C	37	.0	4.1
03-15-1933	05:40:00	33.75 N	118.08 W	C	37	.0	4.2
03-15-1933	11:13:32	33.62 N	118.02 W	C	53	.0	4.9
03-16-1933	14:56:00	33.75 N	118.08 W	C	37	.0	4.0
03-16-1933	15:29:00	33.75 N	118.08 W	C	37	.0	4.2
03-16-1933	15:30:00	33.75 N	118.08 W	C	37	.0	4.1
03-17-1933	16:51:00	33.75 N	118.08 W	C	37	.0	4.1

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Table 3
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(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
03-18-1933	20:52:00	33.75 N	118.08 W	C	37	.0	4.2
03-19-1933	21:23:00	33.75 N	118.08 W	C	37	.0	4.2
03-20-1933	13:58:00	33.75 N	118.08 W	C	37	.0	4.1
03-21-1933	03:26:00	33.75 N	118.08 W	C	37	.0	4.1
03-23-1933	08:40:00	33.75 N	118.08 W	C	37	.0	4.1
03-23-1933	18:31:00	33.75 N	118.08 W	C	37	.0	4.1
03-25-1933	13:46:00	33.75 N	118.08 W	C	37	.0	4.1
03-30-1933	12:25:00	33.75 N	118.08 W	C	37	.0	4.4
03-31-1933	10:49:00	33.75 N	118.08 W	C	37	.0	4.1
04-01-1933	06:42:00	33.75 N	118.08 W	C	37	.0	4.2
04-02-1933	08:00:00	33.75 N	118.08 W	C	37	.0	4.0
04-02-1933	15:36:00	33.75 N	118.08 W	C	37	.0	4.0
05-16-1933	20:58:55	33.75 N	118.17 W	C	34	.0	4.0
08-04-1933	04:17:48	33.75 N	118.18 W	C	34	.0	4.0
10-02-1933	09:10:17	33.78 N	118.13 W	A	32	.0	5.4
10-02-1933	13:26:01	33.62 N	118.02 W	C	53	.0	4.0
10-25-1933	07:00:46	33.95 N	118.13 W	C	16	.0	4.3
11-13-1933	21:28:00	33.87 N	118.20 W	C	21	.0	4.0
11-20-1933	10:32:00	33.78 N	118.13 W	B	32	.0	4.0
01-09-1934	14:10:00	34.10 N	117.68 W	A	52	.0	4.5
01-18-1934	02:14:00	34.10 N	117.68 W	A	52	.0	4.0
01-20-1934	21:17:00	33.62 N	118.12 W	B	50	.0	4.5
04-17-1934	18:33:00	33.57 N	117.98 W	C	59	.0	4.0
10-17-1934	09:38:00	33.63 N	118.40 W	B	49	.0	4.0
11-16-1934	21:26:00	33.75 N	118.00 W	B	41	.0	4.0
06-11-1935	18:10:00	34.72 N	118.97 W	B	99	.0	4.0
06-19-1935	11:17:00	33.72 N	117.52 W	B	77	.0	4.0
07-13-1935	10:54:16	34.20 N	117.90 W	A	36	.0	4.7
09-03-1935	06:47:00	34.03 N	117.32 W	B	86	.0	4.5
12-25-1935	17:15:00	33.60 N	118.02 W	B	55	.0	4.5
02-23-1936	22:20:42	34.13 N	117.34 W	A	84	10.0	4.5
02-26-1936	09:33:27	34.14 N	117.34 W	A	84	10.0	4.0
08-22-1936	05:21:00	33.77 N	117.82 W	B	51	.0	4.0
10-29-1936	22:35:36	34.38 N	118.62 W	C	50	10.0	4.0
01-15-1937	18:35:47	33.56 N	118.06 W	B	57	10.0	4.0

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DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
03-19-1937	01:23:38	34.11 N	117.43 W	A	76	10.0	4.0
07-07-1937	11:12:00	33.57 N	117.98 W	B	59	.0	4.0
09-01-1937	13:48:08	34.21 N	117.53 W	A	68	10.0	4.5
09-01-1937	16:35:33	34.18 N	117.55 W	A	66	10.0	4.5
05-21-1938	09:44:00	33.62 N	118.03 W	B	52	.0	4.0
05-31-1938	08:34:55	33.70 N	117.51 W	B	79	10.0	5.2
07-05-1938	18:06:55	33.68 N	117.55 W	A	76	10.0	4.5
08-06-1938	22:00:55	33.72 N	117.51 W	B	78	10.0	4.0
08-31-1938	03:18:14	33.76 N	118.25 W	A	33	10.0	4.5
11-29-1938	19:21:15	33.90 N	118.43 W	A	24	10.0	4.0
12-07-1938	03:38:00	34.00 N	118.42 W	B	17	.0	4.0
12-27-1938	10:09:28	34.13 N	117.52 W	B	68	10.0	4.0
04-03-1939	02:50:44	34.04 N	117.23 W	A	94	10.0	4.0
11-04-1939	21:41:00	33.77 N	118.12 W	B	34	.0	4.0
11-07-1939	18:52:08	34.00 N	117.28 W	A	89	.0	4.7
12-27-1939	19:28:49	33.78 N	118.20 W	A	30	.0	4.7
01-13-1940	07:49:07	33.78 N	118.13 W	B	32	.0	4.0
02-08-1940	16:56:17	33.70 N	118.07 W	B	43	.0	4.0
02-11-1940	19:24:10	33.98 N	118.30 W	B	9	.0	4.0
04-18-1940	18:43:43	34.03 N	117.35 W	A	83	.0	4.4
05-18-1940	09:15:12	34.60 N	118.90 W	C	86	.0	4.0
06-05-1940	08:27:27	33.83 N	117.40 W	B	82	.0	4.0
07-20-1940	04:01:13	33.70 N	118.07 W	B	43	.0	4.0
10-11-1940	05:57:12	33.77 N	118.45 W	A	37	.0	4.7
10-12-1940	00:24:00	33.78 N	118.42 W	B	34	.0	4.0
10-14-1940	20:51:11	33.78 N	118.42 W	B	34	.0	4.0
11-01-1940	07:25:03	33.78 N	118.42 W	B	34	.0	4.0
11-01-1940	20:00:46	33.63 N	118.20 W	B	47	.0	4.0
11-02-1940	02:58:26	33.78 N	118.42 W	B	34	.0	4.0
01-30-1941	01:34:46	33.97 N	118.05 W	A	21	.0	4.1
03-22-1941	08:22:40	33.52 N	118.10 W	B	61	.0	4.0
03-25-1941	23:43:41	34.22 N	117.47 W	B	74	.0	4.0
04-11-1941	01:20:24	33.95 N	117.58 W	B	62	.0	4.0
10-22-1941	06:57:18	33.82 N	118.22 W	A	26	.0	4.8
11-14-1941	08:41:36	33.78 N	118.25 W	A	30	.0	4.8

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DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
04-16-1942	07:28:33	33.37 N	118.15 W	C	77	.0	4.0
09-03-1942	14:06:01	34.48 N	118.98 W	C	83	.0	4.5
09-04-1942	06:34:33	34.48 N	118.98 W	C	83	.0	4.5
04-06-1943	22:36:24	34.68 N	119.00 W	C	99	.0	4.0
10-24-1943	00:29:21	33.93 N	117.37 W	C	82	.0	4.0
06-19-1944	00:03:33	33.87 N	118.22 W	B	21	.0	4.5
06-19-1944	03:06:07	33.87 N	118.22 W	C	21	.0	4.4
02-24-1946	06:07:52	34.40 N	117.80 W	C	56	.0	4.1
06-01-1946	11:06:31	34.42 N	118.83 W	C	68	.0	4.1
03-01-1948	08:12:13	34.17 N	117.53 W	B	67	.0	4.7
04-16-1948	22:26:24	34.02 N	118.97 W	B	67	.0	4.7
10-03-1948	02:46:28	34.18 N	117.58 W	A	63	.0	4.0
01-11-1950	21:41:35	33.94 N	118.20 W	A	13	.4	4.1
01-24-1950	21:56:59	34.67 N	118.83 W	C	87	.0	4.0
02-26-1950	00:06:22	34.62 N	119.08 W	C	99	.0	4.7
09-22-1951	08:22:39	34.12 N	117.34 W	A	84	11.9	4.3
02-17-1952	12:36:58	34.00 N	117.27 W	A	90	16.0	4.5
08-23-1952	10:09:07	34.52 N	118.20 W	A	52	13.1	5.1
10-26-1954	16:22:26	33.73 N	117.47 W	B	80	.0	4.1
11-17-1954	23:03:51	34.50 N	119.12 W	B	94	.0	4.4
05-15-1955	17:03:25	34.12 N	117.48 W	A	71	7.6	4.0
05-29-1955	16:43:35	33.99 N	119.06 W	B	75	17.4	4.1
01-03-1956	00:25:48	33.72 N	117.50 W	B	78	13.7	4.7
02-07-1956	02:16:56	34.53 N	118.64 W	B	64	16.0	4.2
02-07-1956	03:16:38	34.59 N	118.61 W	A	68	2.6	4.6
03-25-1956	03:32:02	33.60 N	119.11 W	A	94	8.2	4.2
03-18-1957	18:56:28	34.12 N	119.22 W	B	90	13.8	4.7
06-28-1960	20:00:48	34.12 N	117.47 W	A	72	12.0	4.1
10-04-1961	02:21:31	33.85 N	117.75 W	B	51	4.3	4.1
10-20-1961	19:49:50	33.65 N	117.99 W	B	50	4.6	4.3
10-20-1961	20:07:14	33.66 N	117.98 W	B	50	6.1	4.0
10-20-1961	21:42:40	33.67 N	117.98 W	B	50	7.2	4.0
10-20-1961	22:35:34	33.67 N	118.01 W	B	48	5.6	4.1
11-20-1961	08:53:34	33.68 N	117.99 W	B	48	4.4	4.0
09-14-1963	03:51:16	33.54 N	118.34 W	B	57	2.2	4.2

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DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
08-30-1964	22:57:37	34.27 N	118.44 W	B	30	15.4	4.0
01-01-1965	08:04:18	34.14 N	117.52 W	B	68	5.9	4.4
04-15-1965	20:08:33	34.13 N	117.43 W	B	76	5.5	4.5
07-16-1965	07:46:22	34.49 N	118.52 W	B	54	15.1	4.0
01-08-1967	07:37:30	33.63 N	118.47 W	B	51	11.4	4.0
01-08-1967	07:38:05	33.66 N	118.41 W	C	46	17.7	4.0
06-15-1967	04:58:05	34.00 N	117.97 W	B	26	10.0	4.1
02-28-1969	04:56:12	34.57 N	118.11 W	A	58	5.3	4.3
05-05-1969	16:02:09	34.30 N	117.57 W	B	68	8.8	4.4
10-27-1969	13:16:02	33.55 N	117.81 W	B	69	6.5	4.5
09-12-1970	14:10:11	34.27 N	117.52 W	A	71	8.0	4.1
09-12-1970	14:30:52	34.27 N	117.54 W	A	70	8.0	5.2
09-13-1970	04:47:48	34.28 N	117.55 W	A	69	8.0	4.4
02-09-1971	14:00:41	34.41 N	118.40 W	B	42	8.4	6.6
02-09-1971	14:01:08	34.41 N	118.40 W	D	42	8.0	5.8
02-09-1971	14:01:33	34.41 N	118.40 W	D	42	8.0	4.2
02-09-1971	14:01:40	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:01:50	34.41 N	118.40 W	D	42	8.0	4.5
02-09-1971	14:01:54	34.41 N	118.40 W	D	42	8.0	4.2
02-09-1971	14:01:59	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:02:03	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:02:30	34.41 N	118.40 W	D	42	8.0	4.3
02-09-1971	14:02:31	34.41 N	118.40 W	D	42	8.0	4.7
02-09-1971	14:02:44	34.41 N	118.40 W	D	42	8.0	5.8
02-09-1971	14:03:25	34.41 N	118.40 W	D	42	8.0	4.4
02-09-1971	14:03:46	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:04:07	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:04:34	34.41 N	118.40 W	C	42	8.0	4.2
02-09-1971	14:04:39	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:04:44	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:04:46	34.41 N	118.40 W	D	42	8.0	4.2
02-09-1971	14:05:41	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:05:50	34.41 N	118.40 W	D	42	8.0	4.1
02-09-1971	14:07:10	34.41 N	118.40 W	D	42	8.0	4.0
02-09-1971	14:07:30	34.41 N	118.40 W	D	42	8.0	4.0

NOTE: Q IS A FACTOR RELATING THE QUALITY OF EPICENTRAL DETERMINATION

A = +- 1 km horizontal distance; +- 2 km depth
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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
02-09-1971	14:07:45	34.41 N	118.40 W	D	42	8.0	4.5
02-09-1971	14:08:04	34.41 N	118.40 W	D	42	8.0	4.0
02-09-1971	14:08:07	34.41 N	118.40 W	D	42	8.0	4.2
02-09-1971	14:08:38	34.41 N	118.40 W	D	42	8.0	4.5
02-09-1971	14:08:53	34.41 N	118.40 W	D	42	8.0	4.6
02-09-1971	14:10:21	34.36 N	118.31 W	B	35	5.0	4.7
02-09-1971	14:10:28	34.41 N	118.40 W	D	42	8.0	5.3
02-09-1971	14:16:12	34.34 N	118.33 W	C	33	11.1	4.1
02-09-1971	14:19:50	34.36 N	118.41 W	B	37	11.8	4.0
02-09-1971	14:34:36	34.34 N	118.64 W	C	48	-2.0	4.9
02-09-1971	14:39:17	34.39 N	118.36 W	C	39	-1.6	4.0
02-09-1971	14:40:17	34.43 N	118.40 W	C	44	-2.0	4.1
02-09-1971	14:43:46	34.31 N	118.45 W	B	34	6.2	5.2
02-09-1971	15:58:20	34.33 N	118.33 W	B	32	14.2	4.8
02-09-1971	16:19:26	34.46 N	118.43 W	B	48	-1.0	4.2
02-10-1971	03:12:12	34.37 N	118.30 W	B	35	.8	4.0
02-10-1971	05:06:36	34.41 N	118.33 W	A	40	4.7	4.3
02-10-1971	05:18:07	34.43 N	118.41 W	A	44	5.8	4.5
02-10-1971	11:31:34	34.38 N	118.46 W	A	41	6.0	4.2
02-10-1971	13:49:53	34.40 N	118.42 W	A	41	9.7	4.3
02-10-1971	14:35:26	34.36 N	118.49 W	A	41	4.4	4.2
02-10-1971	17:38:55	34.40 N	118.37 W	A	40	6.2	4.2
02-10-1971	18:54:41	34.45 N	118.44 W	A	47	8.1	4.2
02-21-1971	05:50:52	34.40 N	118.44 W	A	42	6.9	4.7
02-21-1971	07:15:11	34.39 N	118.43 W	A	41	7.2	4.5
03-07-1971	01:33:40	34.35 N	118.46 W	A	38	3.3	4.5
03-25-1971	22:54:09	34.36 N	118.47 W	A	40	4.6	4.2
03-30-1971	08:54:43	34.30 N	118.46 W	A	34	2.6	4.1
03-31-1971	14:52:22	34.29 N	118.51 W	A	36	2.1	4.6
04-01-1971	15:03:03	34.43 N	118.41 W	A	44	8.0	4.1
04-02-1971	05:40:25	34.28 N	118.53 W	A	36	3.0	4.0
04-15-1971	11:14:32	34.26 N	118.58 W	B	38	4.2	4.2
04-25-1971	14:48:06	34.37 N	118.31 W	B	35	-2.0	4.0
06-21-1971	16:01:08	34.27 N	118.53 W	B	36	4.1	4.0
06-22-1971	10:41:19	33.75 N	117.48 W	B	79	8.0	4.2

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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
02-21-1973	14:45:57	34.06 N	119.04 W	B	73	8.0	5.3
03-09-1974	00:54:31	34.40 N	118.47 W	C	44	24.4	4.7
08-14-1974	14:45:55	34.43 N	118.37 W	A	43	8.2	4.2
01-01-1976	17:20:12	33.97 N	117.89 W	A	35	6.2	4.2
04-08-1976	15:21:38	34.35 N	118.66 W	A	50	14.5	4.6
08-12-1977	02:19:26	34.38 N	118.46 W	B	41	9.5	4.5
09-24-1977	21:28:24	34.46 N	118.41 W	C	48	5.0	4.2
05-23-1978	09:16:50	33.91 N	119.17 W	C	86	6.0	4.0
01-01-1979	23:14:38	33.94 N	118.68 W	B	42	11.3	5.2
10-17-1979	20:52:37	33.93 N	118.67 W	C	41	5.5	4.2
10-19-1979	12:22:37	34.21 N	117.53 W	B	68	4.9	4.1
09-04-1981	15:50:50	33.65 N	119.09 W	C	90	6.0	5.5
10-23-1981	17:28:17	33.64 N	119.01 W	C	84	6.0	4.6
10-23-1981	19:15:52	33.62 N	119.02 W	A	86	14.8	4.6
04-13-1982	11:02:12	34.06 N	118.97 W	A	67	12.1	4.0
05-25-1982	13:44:30	33.55 N	118.21 W	A	56	12.6	4.3
01-08-1983	07:19:30	34.13 N	117.45 W	A	74	7.8	4.1
02-27-1984	10:18:15	33.47 N	118.06 W	C	67	6.0	4.0
06-12-1984	00:27:52	34.54 N	118.99 W	A	87	11.7	4.1
10-26-1984	17:20:43	34.02 N	118.99 W	A	69	13.3	4.6
04-03-1985	04:04:50	34.38 N	119.04 W	A	82	24.9	4.0
10-02-1985	23:44:12	34.02 N	117.25 W	A	93	15.2	4.8
02-21-1987	23:15:29	34.13 N	117.45 W	A	74	8.5	4.0
10-01-1987	14:42:20	34.06 N	118.08 W	A	16	9.5	5.9
10-01-1987	14:45:41	34.05 N	118.10 W	A	13	13.6	4.7
10-01-1987	14:48:03	34.08 N	118.09 W	A	15	11.7	4.1
10-01-1987	14:49:05	34.06 N	118.10 W	A	14	11.7	4.7
10-01-1987	15:12:31	34.05 N	118.09 W	A	14	10.8	4.7
10-01-1987	15:59:53	34.05 N	118.09 W	A	15	10.4	4.0
10-04-1987	10:59:38	34.07 N	118.10 W	A	14	8.3	5.3
10-24-1987	23:58:33	33.68 N	119.06 W	A	86	12.2	4.1
02-11-1988	15:25:55	34.08 N	118.05 W	A	19	12.5	4.7
06-26-1988	15:04:58	34.14 N	117.71 W	A	50	7.9	4.7
11-20-1988	05:39:28	33.51 N	118.07 W	C	63	6.0	4.9
12-03-1988	11:38:26	34.15 N	118.13 W	A	15	14.3	5.0

NOTE: Q IS A FACTOR RELATING THE QUALITY OF EPICENTRAL DETERMINATION

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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
01-19-1989	06:53:28	33.92 N	118.63 W	A	38	11.9	5.0
02-18-1989	07:17:04	34.01 N	117.74 W	A	47	3.3	4.1
04-07-1989	20:07:30	33.62 N	117.90 W	A	58	12.9	4.7
06-12-1989	16:57:18	34.03 N	118.18 W	A	7	15.6	4.6
06-12-1989	17:22:25	34.02 N	118.18 W	A	7	15.5	4.4
12-28-1989	09:41:08	34.19 N	117.39 W	A	81	14.6	4.3
02-28-1990	23:43:36	34.14 N	117.70 W	A	52	4.5	5.4
03-01-1990	00:34:57	34.13 N	117.70 W	A	51	4.4	4.0
03-01-1990	03:23:03	34.15 N	117.72 W	A	50	11.4	4.7
03-02-1990	17:26:25	34.15 N	117.69 W	A	52	5.6	4.7
04-17-1990	22:32:27	34.11 N	117.72 W	A	49	3.6	4.8
06-28-1991	14:43:54	34.27 N	117.99 W	A	34	9.1	5.8
06-28-1991	17:00:55	34.25 N	117.99 W	A	32	9.5	4.3
07-05-1991	17:41:57	34.50 N	118.56 W	A	57	10.9	4.1
01-17-1994	12:30:55	34.21 N	118.54 W	A	32	18.4	6.7
01-17-1994	12:30:55	34.22 N	118.54 W	A	32	17.4	6.6
01-17-1994	12:31:58	34.27 N	118.49 W	C	33	6.0	5.9
01-17-1994	12:34:18	34.31 N	118.47 W	C	35	6.0	4.4
01-17-1994	12:39:39	34.26 N	118.54 W	C	36	6.0	4.9
01-17-1994	12:40:09	34.32 N	118.51 W	C	38	6.0	4.8
01-17-1994	12:40:36	34.34 N	118.61 W	C	46	6.0	5.2
01-17-1994	12:54:33	34.31 N	118.46 W	C	34	6.0	4.0
01-17-1994	12:55:46	34.28 N	118.58 W	C	39	6.0	4.1
01-17-1994	13:06:28	34.25 N	118.55 W	C	36	6.0	4.6
01-17-1994	13:26:45	34.32 N	118.46 W	C	35	6.0	4.7
01-17-1994	13:28:13	34.27 N	118.58 W	C	39	6.0	4.0
01-17-1994	13:56:02	34.29 N	118.62 W	C	44	6.0	4.4
01-17-1994	14:14:30	34.33 N	118.44 W	C	36	6.0	4.5
01-17-1994	15:07:03	34.30 N	116.47 W	A	35	2.6	4.2
01-17-1994	15:07:35	34.31 N	118.47 W	A	35	1.6	4.1
01-17-1994	15:54:10	34.38 N	118.63 W	A	50	13.0	4.8
01-17-1994	17:56:08	34.23 N	118.57 W	A	36	19.2	4.6
01-17-1994	19:35:34	34.31 N	118.46 W	A	35	2.3	4.0
01-17-1994	19:43:53	34.37 N	118.64 W	A	50	13.9	4.1
01-17-1994	20:46:02	34.30 N	118.57 W	C	40	6.0	4.9

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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
01-17-1994	22:31:53	34.34 N	118.44 W	C	36	6.0	4.1
01-17-1994	23:33:30	34.33 N	118.70 W	A	52	9.8	5.6
01-17-1994	23:49:25	34.34 N	118.67 W	A	50	8.4	4.0
01-18-1994	00:39:35	34.38 N	118.56 W	A	47	7.2	4.4
01-18-1994	00:40:04	34.39 N	118.54 W	A	47	.0	4.2
01-18-1994	00:43:08	34.38 N	118.70 W	A	55	11.3	5.2
01-18-1994	04:01:26	34.36 N	118.62 W	A	48	.9	4.3
01-18-1994	07:23:56	34.33 N	118.62 W	A	47	14.8	4.0
01-18-1994	11:35:09	34.22 N	118.61 W	A	38	12.1	4.2
01-18-1994	13:24:44	34.32 N	118.56 W	A	41	1.7	4.3
01-18-1994	15:23:46	34.38 N	118.56 W	A	46	7.7	4.8
01-19-1994	04:40:48	34.36 N	118.57 W	A	45	2.6	4.3
01-19-1994	04:43:14	34.37 N	118.71 W	C	55	6.0	4.0
01-19-1994	09:13:10	34.30 N	118.74 W	A	53	13.0	4.1
01-19-1994	14:09:14	34.22 N	118.51 W	A	30	17.5	4.5
01-19-1994	21:09:28	34.38 N	118.71 W	A	56	14.4	5.1
01-19-1994	21:11:44	34.38 N	118.62 W	A	50	11.4	5.1
01-21-1994	18:39:15	34.30 N	118.47 W	A	34	10.6	4.5
01-21-1994	18:39:47	34.30 N	118.48 W	A	34	11.9	4.0
01-21-1994	18:42:28	34.31 N	118.47 W	A	35	7.9	4.2
01-21-1994	18:52:44	34.30 N	118.45 W	A	33	7.6	4.3
01-21-1994	18:53:44	34.30 N	118.46 W	A	33	7.7	4.3
01-23-1994	08:55:08	34.30 N	118.43 W	A	32	6.0	4.1
01-24-1994	04:15:18	34.35 N	118.55 W	A	43	6.5	4.6
01-24-1994	05:50:24	34.36 N	118.63 W	A	49	12.1	4.3
01-24-1994	05:54:21	34.36 N	118.63 W	A	49	10.9	4.2
01-27-1994	17:19:58	34.27 N	118.56 W	A	38	14.9	4.6
01-28-1994	20:09:53	34.38 N	118.49 W	A	42	.7	4.2
01-29-1994	11:20:35	34.31 N	118.58 W	A	42	1.1	5.1
01-29-1994	12:16:56	34.28 N	118.61 W	A	42	2.7	4.3
02-03-1994	16:23:35	34.30 N	118.44 W	A	33	9.0	4.0
02-05-1994	08:51:29	34.37 N	118.65 W	A	51	15.4	4.0
02-06-1994	13:19:27	34.29 N	118.48 W	A	34	9.3	4.1
02-25-1994	12:59:12	34.36 N	118.48 W	A	40	1.2	4.0
03-20-1994	21:20:12	34.23 N	118.47 W	A	29	13.1	5.2

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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
05-25-1994	12:56:57	34.31 N	118.39 W	A	32	7.0	4.4
06-15-1994	05:59:48	34.31 N	118.40 W	A	32	7.4	4.1
12-06-1994	03:48:34	34.29 N	118.39 W	A	30	9.0	4.5
02-19-1995	21:24:18	34.05 N	118.92 W	A	62	15.6	4.3
06-26-1995	08:40:28	34.39 N	118.67 W	A	54	13.3	5.0
03-20-1996	07:37:59	34.36 N	118.61 W	A	48	13.0	4.1
05-01-1996	19:49:56	34.35 N	118.70 W	A	54	14.4	4.1
04-26-1997	10:37:30	34.37 N	118.67 W	A	52	16.5	5.1
04-26-1997	10:40:29	34.37 N	118.67 W	A	53	14.6	4.0
04-27-1997	11:09:28	34.38 N	118.65 W	A	52	15.2	4.8
06-28-1997	21:45:25	34.17 N	117.34 W	A	85	10.0	4.2
01-05-1998	18:14:06	33.95 N	117.71 W	A	51	11.5	4.3
03-11-1998	12:18:51	34.02 N	117.23 W	A	94	14.9	4.5
08-20-1998	23:49:58	34.37 N	117.65 W	A	66	9.0	4.4
07-22-1999	09:57:24	34.40 N	118.61 W	A	51	11.6	4.0
02-21-2000	13:49:43	34.05 N	117.26 W	A	92	15.0	4.5
03-07-2000	00:20:28	33.81 N	117.72 W	A	56	11.3	4.0
01-14-2001	02:26:14	34.28 N	118.40 W	A	29	8.8	4.3
01-14-2001	02:50:53	34.29 N	118.40 W	A	30	8.4	4.0
09-09-2001	23:59:18	34.06 N	118.39 W	A	13	7.9	4.2
10-28-2001	16:27:45	33.92 N	118.27 W	A	15	21.1	4.0
12-14-2001	12:01:35	33.95 N	117.75 W	A	47	13.8	4.0
01-29-2002	05:53:28	34.36 N	118.66 W	A	51	14.1	4.2
09-03-2002	07:08:51	33.92 N	117.78 W	A	46	12.9	4.8

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Table 3
List Of Historic Earthquakes Of Magnitude 4.0 Or Greater Within 100 Km Of The Site
(CAL TECH DATA 1932-2003)

S E A R C H O F E A R T H Q U A K E D A T A F I L E 1

SITE: GSA-Federal Courthouse

COORDINATES OF SITE	34.0536 N	118.2465 W
DISTANCE PER DEGREE	110.9 KM-N	92.3 KM-W
MAGNITUDE LIMITS	4.0 - 8.5	
TEMPORAL LIMITS	1932 - 2003	
SEARCH RADIUS (KM)	100	
NUMBER OF YEARS OF DATA	72.00	
NUMBER OF EARTHQUAKES IN FILE	4173	
NUMBER OF EARTHQUAKES IN AREA	409	

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Table 3
list of historic earthquakes of magnitude 4.0 or greater within 100 km of the site
(RICHTER DATA 1906-1931)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
05-15-1910	15:47:00	33.70 N	117.40 W	D	87	.0	6.0
07-23-1923	07:30:26	34.00 N	117.25 W	D	92	.0	6.3

S E A R C H O F E A R T H Q U A K E D A T A F I L E 2

SITE: GSA-Federal Courthouse

COORDINATES OF SITE	34.0536 N	118.2465 W
DISTANCE PER DEGREE	110.9 KM-N	92.3 KM-W
MAGNITUDE LIMITS	6.0 - 8.5	
TEMPORAL LIMITS	1906 - 1931	
SEARCH RADIUS (KM)	100	
NUMBER OF YEARS OF DATA	26.00	
NUMBER OF EARTHQUAKES IN FILE	35	
NUMBER OF EARTHQUAKES IN AREA	2	

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Table 3
list of historic earthquakes of magnitude 4.0 or greater within 100 km of the site
(NOAA/CDMG DATA 1812-1905)

DATE	TIME	LATITUDE	LONGITUDE	Q	DIST	DEPTH	MAGNITUDE
02-09-1890	04:06:00	34.00 N	117.50 W	D	69	.0	7.0

S E A R C H O F E A R T H Q U A K E D A T A F I L E 3

SITE: GSA-Federal Courthouse

COORDINATES OF SITE	34.0536 N	118.2465 W
DISTANCE PER DEGREE	110.9 KM-N	92.3 KM-W
MAGNITUDE LIMITS	7.0 - 8.5	
TEMPORAL LIMITS	1812 - 1905	
SEARCH RADIUS (KM)	100	
NUMBER OF YEARS OF DATA	94.00	
NUMBER OF EARTHQUAKES IN FILE	9	
NUMBER OF EARTHQUAKES IN AREA	1	

MACTEC Engineering and Consulting

Table 3
list of historic earthquakes of magnitude 4.0 or greater within 100 km of the site
(NOAA/CDMG DATA 1812-1905)

S U M M A R Y O F E A R T H Q U A K E S E A R C H

* * *

NUMBER OF HISTORIC EARTHQUAKES WITHIN 100 KM RADIUS OF SITE

MAGNITUDE RANGE	NUMBER
4.0 - 4.5	271
4.5 - 5.0	96
5.0 - 5.5	30
5.5 - 6.0	8
6.0 - 6.5	3
6.5 - 7.0	3
7.0 - 7.5	1
7.5 - 8.0	0
8.0 - 8.5	0

* * *

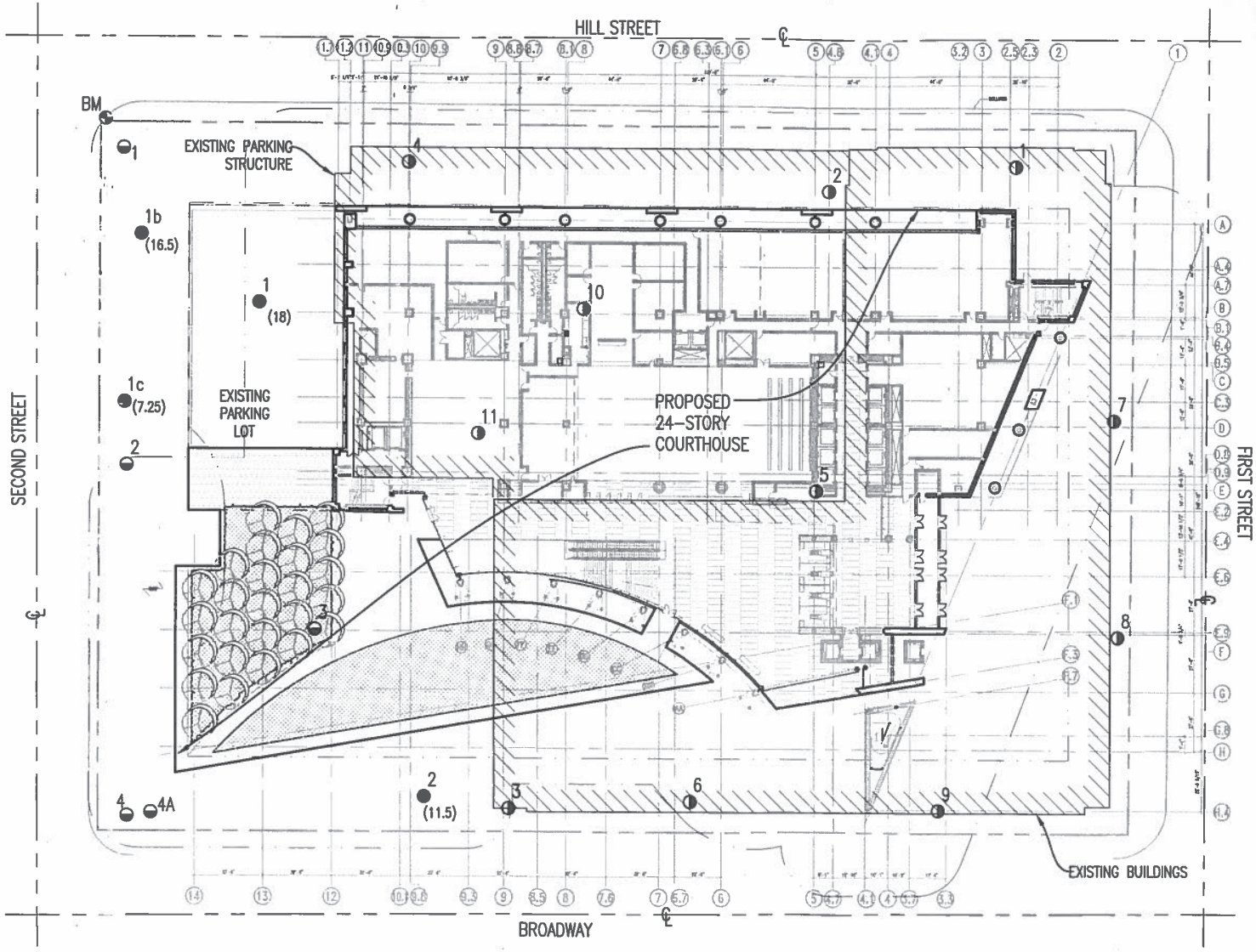
MACTEC Engineering and Consulting

Table 4: Horizontal Ground Motion Pseudo Spectral Acceleration in g's

Period in Seconds	Probabilistic MCE*	Deterministic MCE	Site-Specific Design
0.01	0.912	1.000	1.000
0.03	1.108	1.174	1.000
0.05	1.243	1.281	1.000
0.10	1.651	1.605	1.070
0.20	2.266	2.200	1.466
0.30	2.300	2.434	1.533
0.40	2.169	2.479	1.446
0.52	1.987	2.424	1.325
0.60	1.846	2.354	1.231
0.65	1.754	2.293	1.169
0.70	1.669	2.218	1.113
0.75	1.595	2.152	1.063
0.80	1.524	2.065	1.016
0.85	1.460	1.983	0.973
0.90	1.397	1.893	0.931
0.95	1.338	1.804	0.892
1.00	1.285	1.716	0.857
1.10	1.184	1.551	0.789
1.20	1.100	1.399	0.733
1.30	1.031	1.266	0.687
1.40	0.967	1.151	0.645
1.50	0.908	1.052	0.605
1.60	0.839	0.951	0.559
1.70	0.783	0.866	0.522
1.80	0.735	0.791	0.490
1.90	0.694	0.728	0.463
2.00	0.653	0.671	0.435
3.00	0.385	0.358	0.238
4.00	0.253	0.235	0.157

*MCE: Maximum Considered Earthquake

Prepared/Date: JA 1/12/04
Checked/Date: JAA 1/14/04



LEGEND

- 2 — BORING LOCATION (CURRENT INVESTIGATION)
- (18) — Thickness of Fill (In Feet)
- 4 — PRIOR BORING LOCATION (PROJECT NO. A-69104)
- 11 — PRIOR BORING LOCATION (PROJECT NO. 56251)
- BM — ASSUMED BENCHMARK ELEVATION = 100.0

0 25 50 100

SCALE IN FEET
1"=50'

REFERENCE:
SITE PLAN PROVIDED BY GENERAL SERVICES ADMINISTRATION.

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200 CITADEL DRIVE
LOS ANGELES, CALIFORNIA 90040
323-889-5300 FAX 323-889-5398

FIGURE 1
SITE PLAN
PROPOSED FEDERAL COURTHOUSE
LOS ANGELES, CALIFORNIA

PROJ NO.:	4953-03-3881	REVISIONS:
DATE:	1/09/04	
SCALE:	AS SHOWN	
DR.	JA	
CHECKED BY:	CJZ	

JOB 4953-03-3881 DATE 01/09/04 F.T. DR. Todd T O.E. S.F.K. CHKD

LEGEND:

QUATERNARY

af / Qg / Qc / Qa — Qls

SURFICIAL SEDIMENTS
unconsolidated detrital sediments; generally undissected
af *artificial cut and fill* Qls *landslide debris*
Qg *gravel and sand of major stream channels*
Qc *clay and sand of pre-development marshlands*
Qa *alluvium: clay, sand and gravel; includes gravel and sand of minor stream channels*

Qae / Qop / Qos

OLDER SURFICIAL SEDIMENTS
unconsolidated to weakly consolidated; dissected and eroded where elevated; late Pleistocene age
Qae *similar to* Qa, *but slightly elevated and dissected; includes alluvial fan sediments*
Qop *paleosoil in Baldwin Hills (Fox Hills residual paleosoil of Weber et al. 1982); moderately indurated, erosion-resistant, gray to rusty brown pebbly and sandy paleosoil or "hardpan" on* Qos
Qos *older alluvium, gray to light brown pebble-gravel, sand, silt, and clay of detritus derived from Santa Monica Mountains; similar to* Qae, *but slightly consolidated; in Baldwin Hills designated as Baldwin Hills sandy gravel (Weber et al. 1982), where it is much dissected and eroded*

—UNCONFORMITY—

TERTIARY

Tfsc / Tfr

FERNANDO FORMATION
marine and nonmarine; early to late (?) Pliocene age
Tfr *marine claystone (Repetto Member): gray, soft, vaguely bedded claystone, early Pliocene age (Repettian Stage) in lower part, middle and late (?) Pliocene age (Wheelerian Stage) in upper third*

Tuss / Tush

UNNAMED SHALE
(Yorba Member of Puente Formation of Schoellhamer, et al., 1965; included in Puente Formation by Lamar, 1970, and Weber, 1980; equivalent to Upper Modelo Formation of Hoots, 1931, in Santa Monica Mtns., and to Sisquoc Shale of Ventura Basin)
marine; late Miocene age ("Delmontian" and late Mohnian Stages)
Tush *gray to light brown, thin bedded, silty clay shale, locally contains scattered large calcareous nodules; in places contains thin interbeds of fine-grained sandstone; lower part locally contains thin lenses of light tan, platy, semi-siliceous or diatomaceous shale*

Tmss / Tmsh / Tmsl

MONTEREY FORMATION
(La Vida and Soquel Members of Puente Formation of Schoellhamer, et al., 1965; Puente Formation of Lamar, 1970; Weber, 1980)
marine; middle(?) and late Miocene age
Tmsh *white-weathering, thin bedded, platy, siliceous shale, locally porcelaneous and silty; Mohnian Stage*
Tmss *tan to light gray semi-friable arkosic sandstone; includes some interbedded silty shale*
Tmsl *gray, micaceous silty shale and siltstone; includes some semi-siliceous to siliceous shale and thin sandstone beds; Mohnian and Luisian Stages (includes upper part of Topanga Formation of Lamar, 1970)*

SYMBOLS:

FORMATION CONTACT — *dashed where inferred or indefinite*
MEMBER CONTACT — *between units of a formation*

CONTACT BETWEEN SURFICIAL SEDIMENTS
located only approximately in places

U / D — 25

FAULT
Dashed where indefinite or inferred, dotted where concealed, queried where existence is doubtful. Parallel arrows indicate inferred relative lateral movement. Relative vertical movement is shown by U/D (and U=upthrown side, D=downthrown side). Short arrow indicates dip of fault plane. Sawteeth are on upper plate of low angle thrust fault.

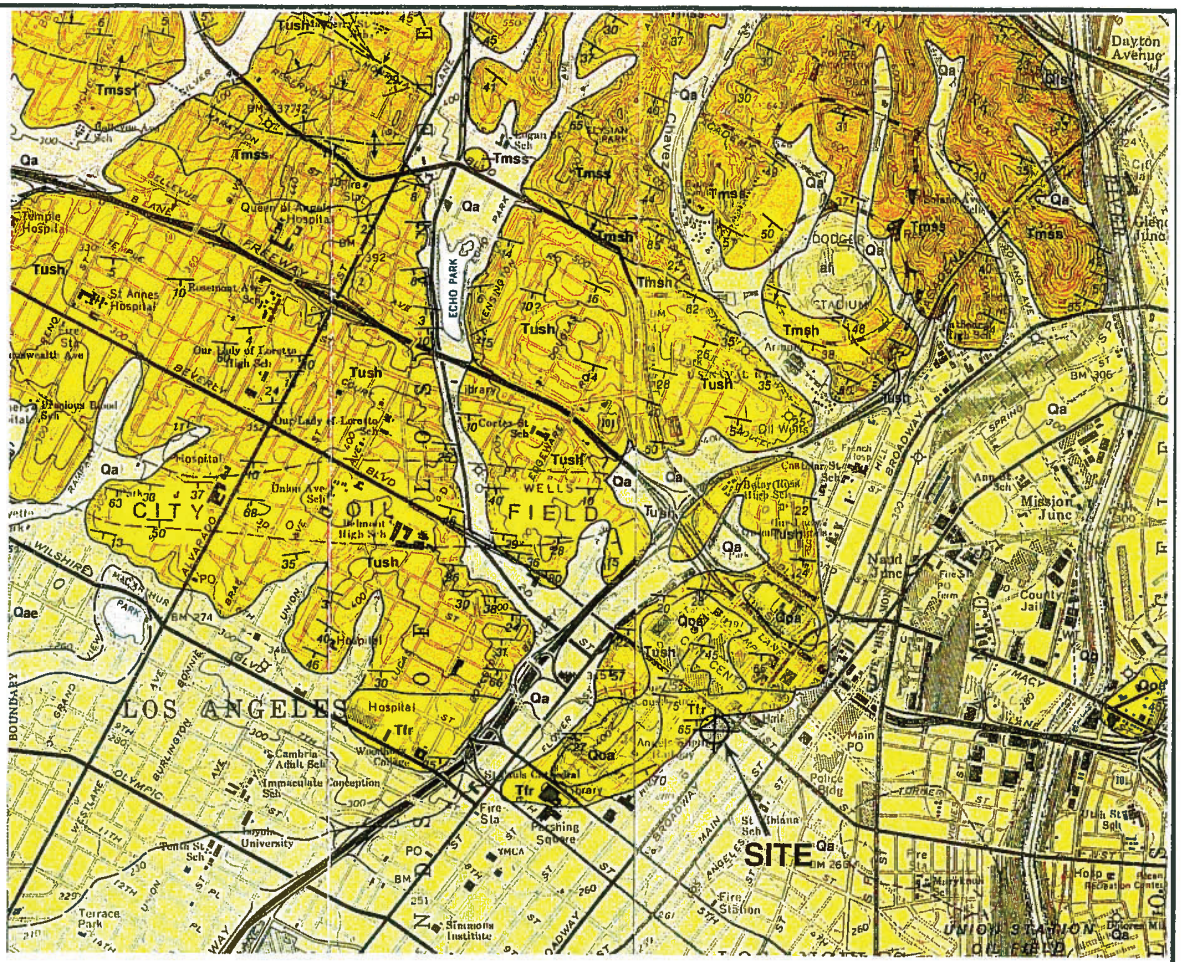
ANTICLINE — SYNCLINE
arrow on axis indicates direction of plunge, dotted where concealed by surficial sediments

horizontal — 24 inclined — 50 inclined (approx.) — vertical — 80 overturned — 75 inclined and vertical — *melamorphic or igneous rock foliation*

STRIKE AND DIP OF STRATIFIED ROCKS

DIRECTION OF LANDSLIDE MOVEMENT — SANDSTONE MARKER BED — CONGLOMERATE MARKER BED

MICROFOSSIL LOCALITIES (of Lagoe, 1989) Mohnian Stage — TAR SEEP — SPRING — ABANDONED EXPLORATORY OIL (OR GAS) WELL



REFERENCES:

Dibblee, T.W., Jr., 1991, "Geologic Map of the Hollywood and Burbank (South ½) Quadrangles, Los Angeles County, California," Dibblee Geologic Foundation Map #DF-30.
Dibblee, T.W., Jr., 1989, "Geologic Map of the Los Angeles Quadrangle, Los Angeles County, California," Dibblee Geologic Foundation Map #DF-22.

N

GEOLOGIC MAP

SCALE 1" = 2000' (0.61 km)

0 — 2000
SCALE IN FEET

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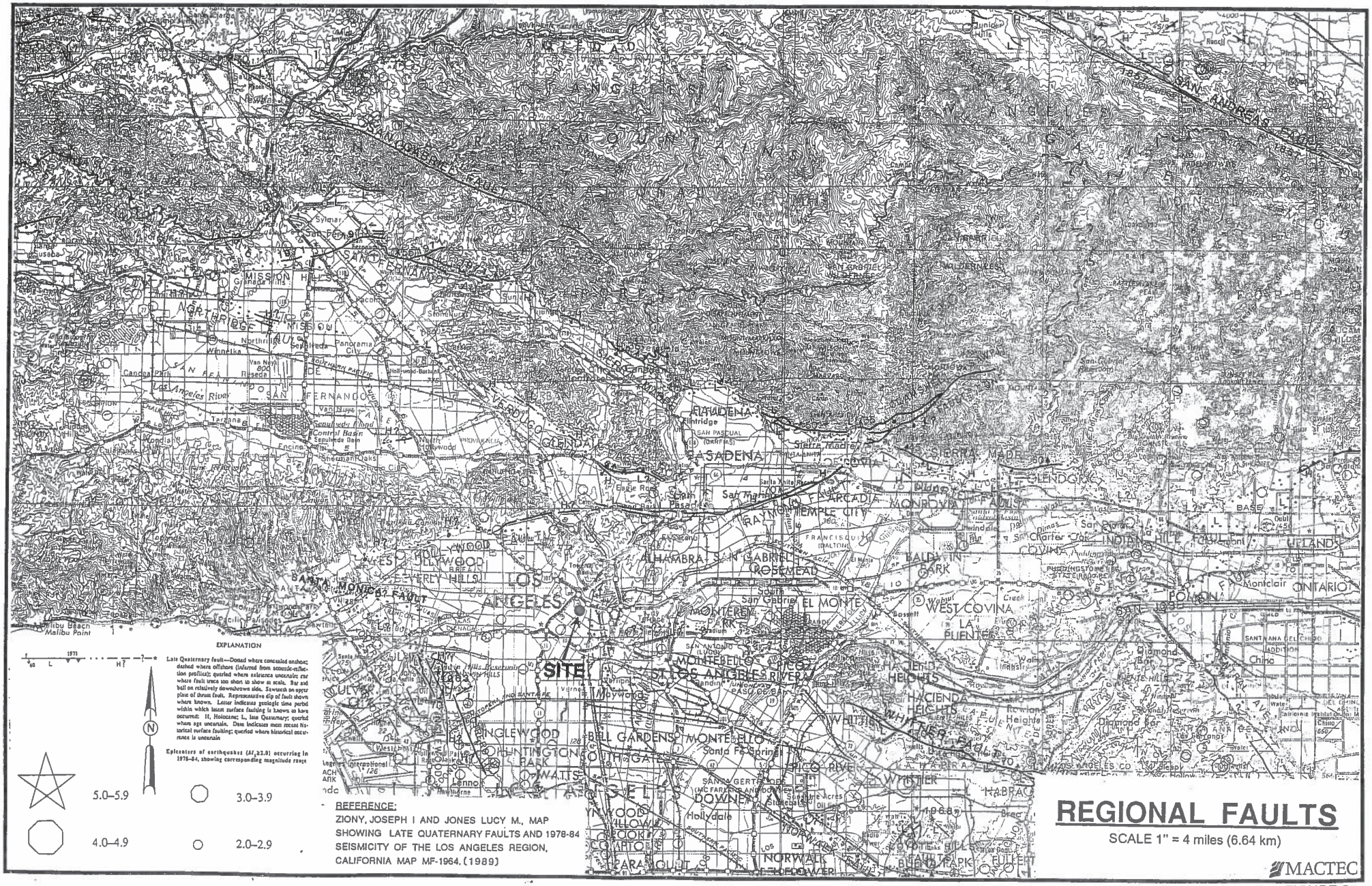
FIGURE 2

JOB 4953-03-3881 DATE 01/09/04 F.T. ____ DR. Todd T. ____ O.E. S.F.K. ____ CHKD SFK


SITE
SAN ANDREAS FAULT
SIERRA MADRE FAULT
SANTA MONICA FAULT
WHITTIER FAULT
NORTHRIDGE MISSION
SAN FERNANDO
GLENDALE
PASADENA
ALHAMBRA
MONTEREY PARK
EL MONTE
WEST COVINA
LA PUENTE
HACIENDA HEIGHTS
WHITTIER
MONTEBELLO
COMMERCE
BELL GARDENS
MONTE-ELLO
SOUTH GATE
DOWNEY
NORWALK
LOS ANGELES
HOLLYWOOD
BEVERLY HILLS
CULVER CITY
INGLEWOOD
HUNTINGTON PARK
WATTS
ARCADIA
MONROVIA
TEMPLE CITY
ROSEMEAD
SAN GABRIEL
BALDWIN PARK
COVINA
CHARTER OAK
INDIAN HILL
UPLAND
POMONA
Monclair
ONTARIO
CHINO
Diamond Bar
Rowland Heights
LA HABRA
BUENA PARK
FULLERTON
Hollydale
Santa Fe Springs
Sierra Madre
Malibu Beach
Malibu Point
Sylmar
San Fernando
Mission Hills
Northridge
Panorama City
Sepulveda
Van Nuys
Reseda
Canoga Park
Los Angeles River
Encino
Sherman Oaks
Wilshire
Hollywood-Burbank
Griffith Park
Eagle Rock
Glendale
Burbank
Verdugo Mts
Sunland
Tujunga
Big Tujunga Canyon
Angeles National Forest
Mt Wilson
Mt Lowe
Mt Baldy
San Gabriel Mts
Sierra Madre
Duarte
Azusa
Irwindale
Baldwin Park
Puente Hills
Whittier Narrows
Rio Hondo
San Gabriel River
Los Angeles River
Santa Ana River
Santa Ana Freeway
Pomona Freeway
Foothill Freeway
Ventura Freeway
Hollywood Freeway
Golden State Freeway
Harbor Freeway
Long Beach Freeway
Pasadena Freeway
Riverside Freeway
Orange Freeway
Artesia Freeway
Century Freeway
Glendale Freeway
Los Angeles International Airport
Lennox
Inglewood
Culver City
Beverly Hills
Hollywood
Los Angeles
Pasadena
Alhambra
Monterey Park
El Monte
West Covina
La Puente
Whittier
Norwalk
Downey
Bell Gardens
Montebello
Commerce
South Gate
Watts
Huntington Park
Inglewood
Culver City
Hollywood
Beverly Hills
Los Angeles
Pasadena
Glendale
Burbank
Arcadia
Monrovia
Temple City
Rosemead
San Gabriel
Baldwin Park
Covina
Charter Oak
Indian Hill
Upland
Pomona
Monclair
Ontario
Chino
Diamond Bar
Rowland Heights
La Habra
Buena Park
Fullerton

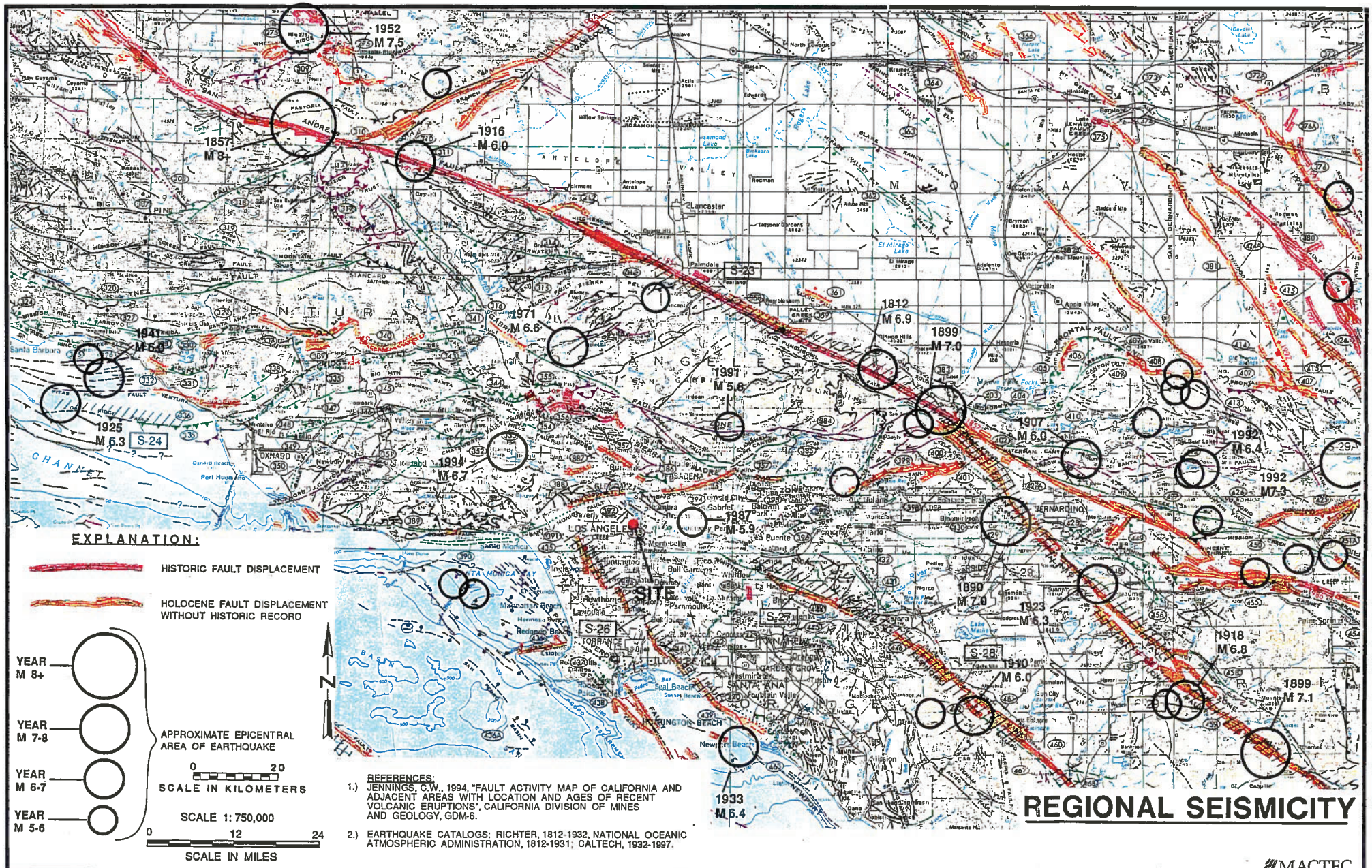
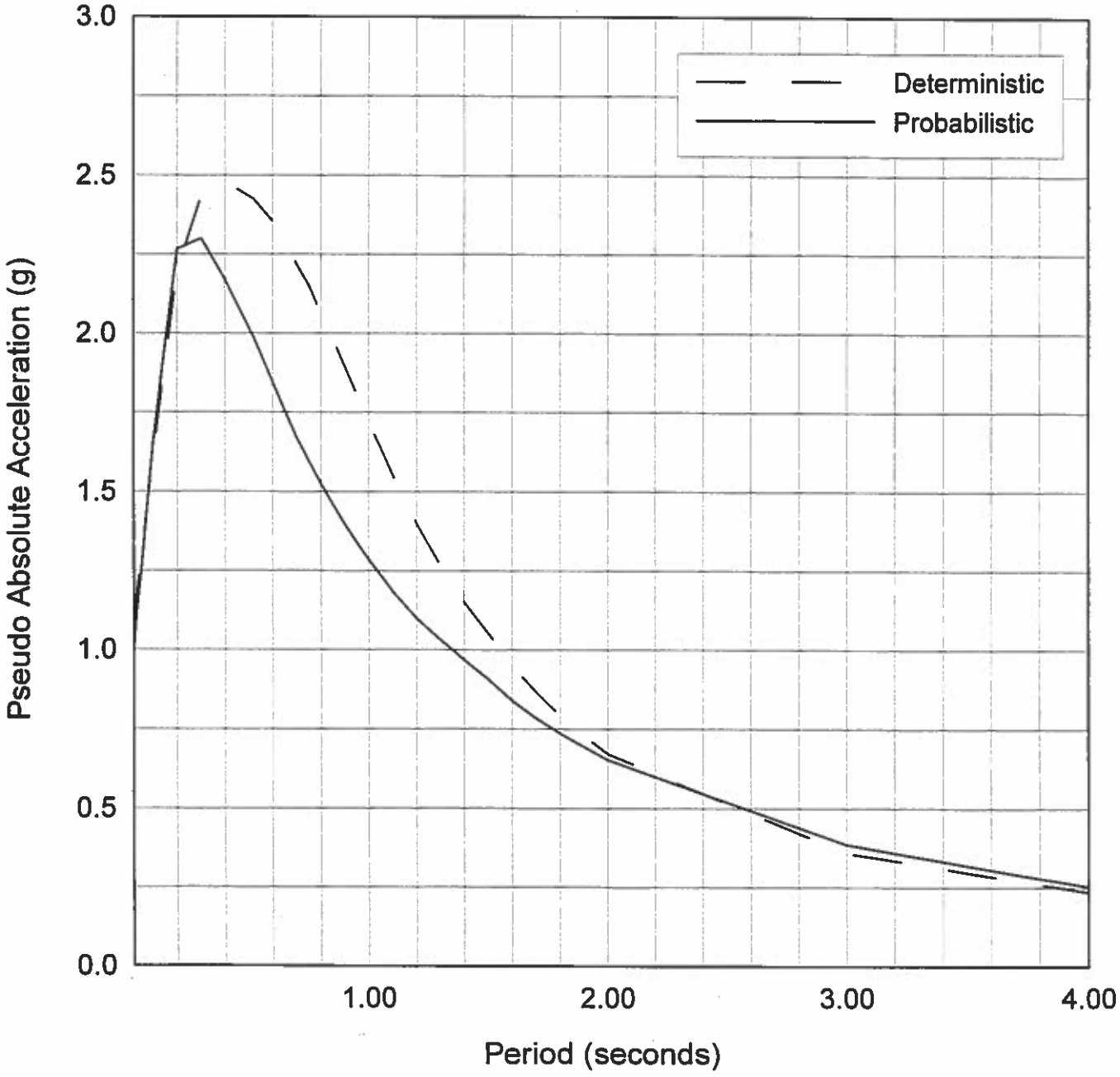


FIGURE 4

JOB 4953-03-3981 DATE 01/09/04 F.T. DR. Todd T. O.E. S.F.K. CHKD SFK

JOB: 4953-03-3881 DATE: 1/12/04 F.T.: n/a DR.: JA O.E.: CJZ CHKD: MB 1/14/03



PROBABILISTIC AND DETERMINISTIC
MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTIONS

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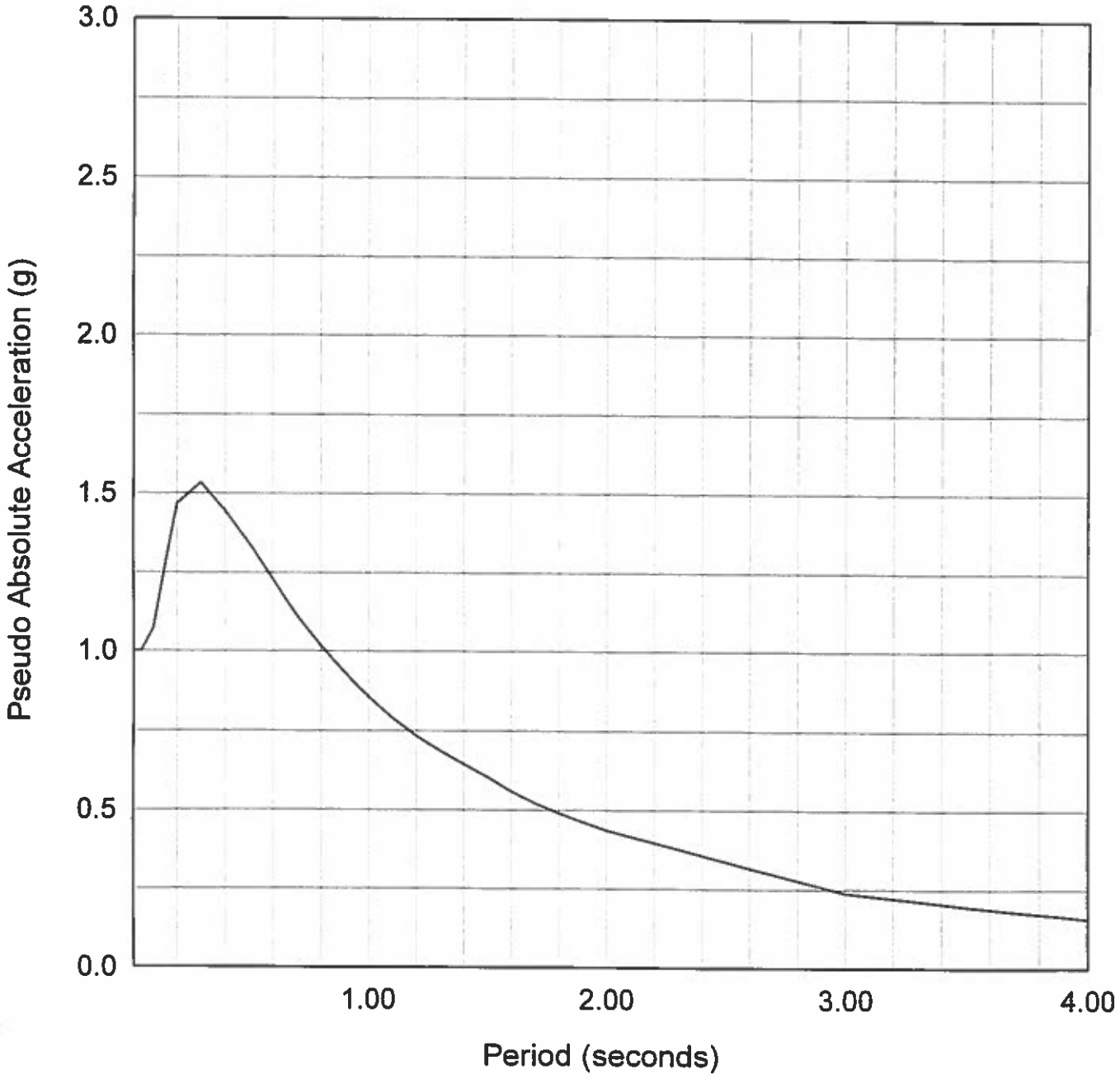
JOB: 4953-03-3881 DATE: 1/12/04 F.T.: n/a DR.: JA O.E.: CJZ CHKD: JAH 1/14/03



SITE-SPECIFIC DESIGN GROUND MOTIONS

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33881 \calculations and analysis\GMS\Figure 6.grf

Figure 6

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

APPENDIX A

CURRENT EXPLORATIONS AND LABORATORY TESTS

EXPLORATIONS

The soil conditions beneath the site were currently explored by drilling four borings at the locations shown in Figure l. The borings were drilled to depths of 25 to 75 feet below the existing grade using 24-inch-diameter bucket-type drilling equipment. Borings 1 and 1b were terminated at a depth of 25 feet due to the presence of potentially contaminated soils. Raveling of the boring walls occurred as indicated on the boring logs; however, casing or drilling mud was not used to extend the borings to the depths drilled.

The soils encountered were logged by our field technician, and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the borings are presented in Figures A-1.1 and A-1.4b; the depths at which undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Crandall sampler 12 inches and the hammer weight and drop are indicated on the logs. The soils are classified in accordance with the Unified Soil Classification System described in Figure A-2.

LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are shown to the left of the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed at field moisture content and after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented in Figure A-3, Direct Shear Test Data.

Confined consolidation tests were performed on three undisturbed samples to determine the compressibility of the soils. The results of the tests are presented in Figures A-4.1 and A-4.2, Consolidation Test Data.



BORING 1

DATE DRILLED: December 8, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 94.4 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
90	5	26.6	97	3		CL-ML	4" Thick Asphaltic Paving FILL - SILTY CLAY - stiff, moist, mottled brown, with shales and pieces of metal, brick and concrete Few gravel and cobbles Little cobbles
85	10	5.4	125	2			Becomes slightly moist
80	15	14.2	122	2			Becomes moist
75	20	19.2	109	2		ML	SANDY SILT - very stiff, moist, grey, gasoline odor
70	25	13.4	117	5			Becomes slightly moist END OF BORING AT 25'
65	30	8.5	108	4			
60	35						
55	40						

NOTES: Water not encountered. No Caving. Moved boring to location 1b due to contaminated soils. Boring backfilled with clean soil cuttings and tamped and patched. Contaminated soils were drummed for disposal.

* Number of blows required to drive the Crandall sampler 12 inches using a hammer falling 12 inches, depth and hammer weight as follows:
0 to 25' using a 3200 pound,
25' to 44' (Boring 1c) using a 1600 pound,
25' to 54' (Boring 2) using a 1600 pound,
44' to 54' (Boring 1c) using a 800 pound,
54' to 69' (Boring 1c) using a 2000 pound,
54' to 69' (Boring 2) using a 800 pound,
69' to 75' (Boring 1c) using a 1200 pound,
69' to 75' (Boring 2) using a 2000 pound.

** Elevations based on assumed benchmark; benchmark shown on Figure 1.

Field Tech: GMC
Prepared By: JA
Checked By: SB

B11SOIL CRANDALL 33881.GPJ LAW_CRAN.GDT 1/8/04

Los Angeles Federal Courthouse
Los Angeles, California

MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.1

BORING 1b

DATE DRILLED: December 9, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 95.9 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
95	0					CL-ML	2" Thick Asphaltic Paving FILL - SILTY CLAY - medium stiff, moist, brown, with shale fragments and brick and concrete debris
							Little Cobbles
90	5	18.0	111	Push			
	10	18.0	114	2			
85							
	15	16.4	108	2			
80						CL-ML	SANDY SILTY CLAY - very stiff, moist, light brown, fine to medium sand
	20	14.2	118	4			
75						ML	SANDY SILT - very stiff, moist, light brown, with some Clay
	25	19.7	109	4		SM	SILTY SAND - dense, moist, light gray, gasoline odor
70							END OF BORING AT 25'
	30						
65							
	35						
60							
	40						

NOTES: Water not encountered. No Caving. Moved boring to location 1c due to contaminated soils. Boring backfilled with clean soil cuttings, tamped and patched. Contaminated soils were drummed for disposal.

Field Tech: GMC
Prepared By: JA
Checked By: SB

B11SOIL_CRANDALL_3388I.GPJ LAW_CRAN.GDT 1/8/04

Los Angeles Federal Courthouse
Los Angeles, California

MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.2

BORING 1c

DATE DRILLED: December 9, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 92.7 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.		
90	5					CL-ML	3" Thick Asphaltic Paving - 4" Thick Base Course Material FILL - SILTY CLAY - medium stiff, moist, mottled brown, with siltstone fragments and brick and concrete fragments
85	10	21.4	103	1		CL-ML	SILTY CLAY - stiff, moist, dark brown
80	15	20.4	107	2			Brown
75	20	16.3	114	3			Light brown
70	25	9.2	117	6		ML	SANDY SILT - stiff, moist , light brown, few gravel
65	30	8.5	127	14		SW	WELL-GRADED SAND with GRAVEL - dense, slightly moist, light brown, few Cobbles
60	35	37.1	84	5			Slight water seepage. Fernando Formation (Tf) SILTSTONE - highly weathered, massive concoidal fracture, unoxidized, very stiff, moist, dark olive grey
55	40	29.8	89	7			
		28.6	93	9			
		29.8	89	9			

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: GMC
Prepared By: JA
Checked By: BB

Los Angeles Federal Courthouse
Los Angeles, California

MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.3a

B11SOIL CRANDALL 33881.GPJ LAW_CRAN.GDT 1/8/04

BORING 1c (Continued)

DATE DRILLED: December 9, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 92.7 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.
50	45	29.7	93	9	
45	50	30.0	90	34	
40	55	28.0	94	19	
35	60	30.9	92	9	
30	65	30.7	90	8	
25	70	30.2	89	8	
20	75	31.5	87	15	
15	80	31.0	89	17	

END OF BORING AT 75'

NOTES: Slight water seepage at 27 feet. No caving, slight ravelling from 21 to 27 feet. Boring backfilled with soil cuttings, tamped and patched.

Field Tech: GMC
Prepared By: JA
Checked By: BB

B11SOIL_CRANDALL_3388I.GPJ LAW_CRAN.GDT 1/8/04

Los Angeles Federal Courthouse
Los Angeles, California

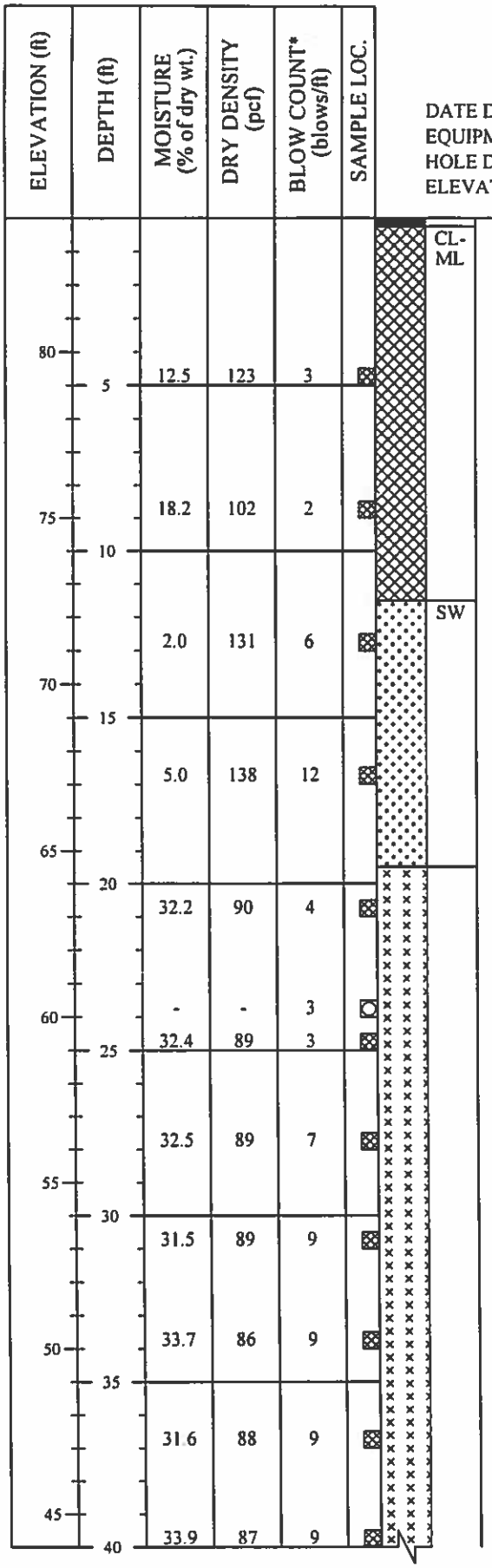
MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.3b

BORING 2

DATE DRILLED: December 8, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 84.0 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.



3" Thick Asphaltic Paving
FILL - SILTY CLAY - medium stiff, moist, mottled brown, with siltstone, brick and concrete fragments, some cobbles

WELL-GRADED SAND with GRAVEL - dense, slightly moist, light brown, some cobbles

Slight water seepage
Large boulder at boring side

Fernando Formation (Tf)
SILTSTONE - weathered, massive to poorly bedded, unoxidized, some white carbonate nodules, very stiff, moist, dark olive grey,

Sample not recovered.

Concoidal fracture

(CONTINUED ON FOLLOWING FIGURE)

Field Tech: GMC
Prepared By: JA
Checked By: SB

Los Angeles Federal Courthouse
Los Angeles, California

MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.4a

B11SOIL CRANDALL 33881.GPJ LAW CRAN.GDT 1/8/04

BORING 2 (Continued)

DATE DRILLED: December 8, 2003
EQUIPMENT USED: Bucket Auger
HOLE DIAMETER (in.): 24
ELEVATION: 84.0 **

THIS RECORD IS A REASONABLE INTERPRETATION OF SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND AT OTHER TIMES MAY DIFFER. INTERFACES BETWEEN STRATA ARE APPROXIMATE. TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

ELEVATION (ft)	DEPTH (ft)	MOISTURE (% of dry wt.)	DRY DENSITY (pcf)	BLOW COUNT* (blows/ft)	SAMPLE LOC.
40	45	32.5	88	14	
		28.8	93	20	
35	50	32.8	88	21	
30	55	30.8	90	23	
25	60	31.6	89	21	
20	65	30.9	89	21	
15	70	33.8	85	11	
10	75	32.1	86	10	
5	80				

END OF BORING AT 75'.

NOTES: Slight water seepage at 18.5 feet. No caving, slight ravelling from 12 to 19 feet. Boring backfilled with soil cuttings, tamped and patched.

Field Tech: GMC
Prepared By: JA
Checked By: SB

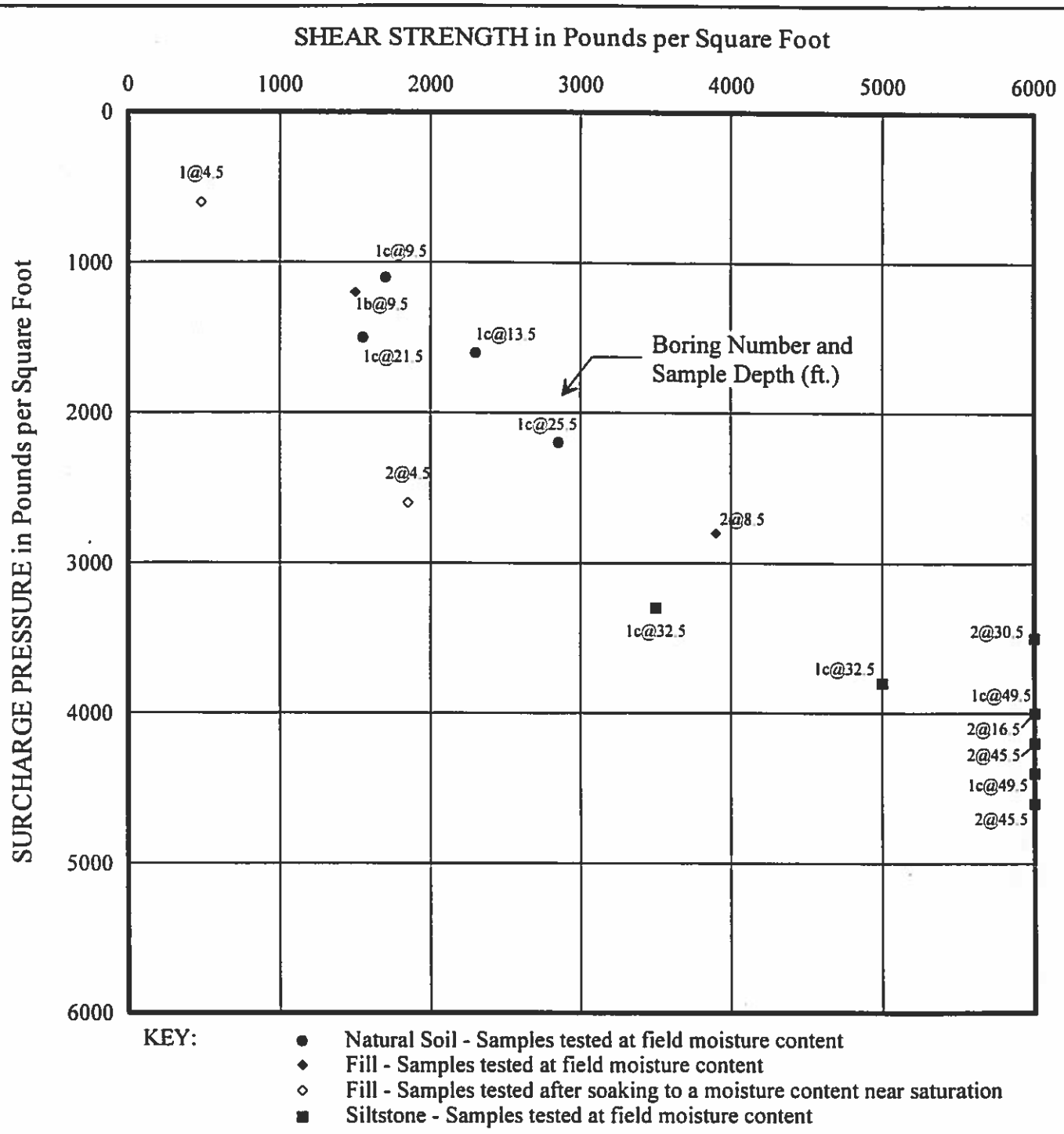
Los Angeles Federal Courthouse
Los Angeles, California

MACTEC

LOG OF BORING
Project: 4953-03-3881 Figure: A-1.4b

B11SOIL CRANDALL 33881.GPJ LAW_CRAN.GDT 1/8/04

JOB 4953-03-3881 DATE December 29, 2003 F.T. RT DR. JA O.E. CJZ CHKD

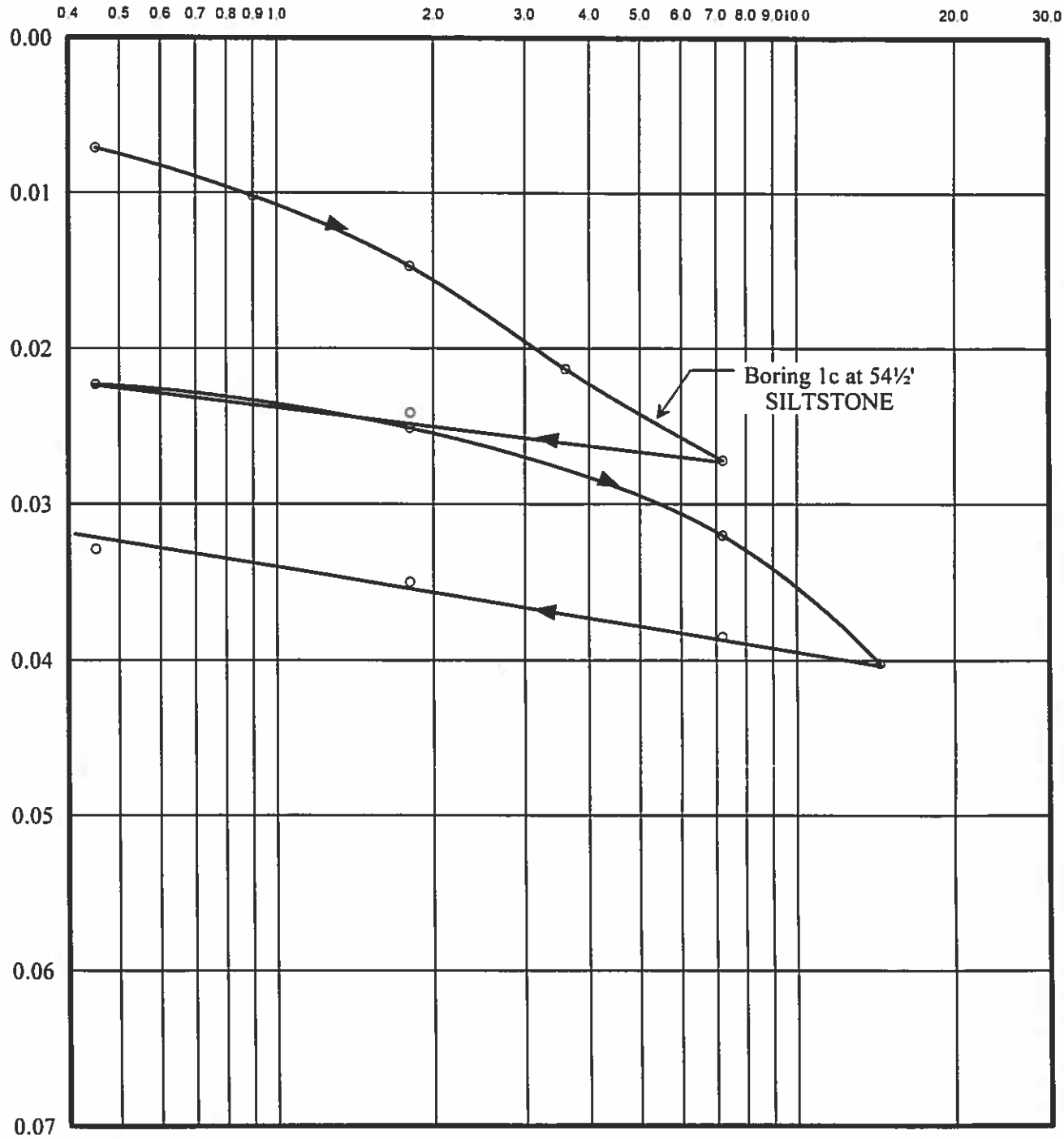


DIRECT SHEAR TEST DATA

MACTEC

FIGURE A - 3

JOB 4953-03-3881 DATE January 7, 2004 E.T. ROE DR. JA O.E. CJZ CHKD BB



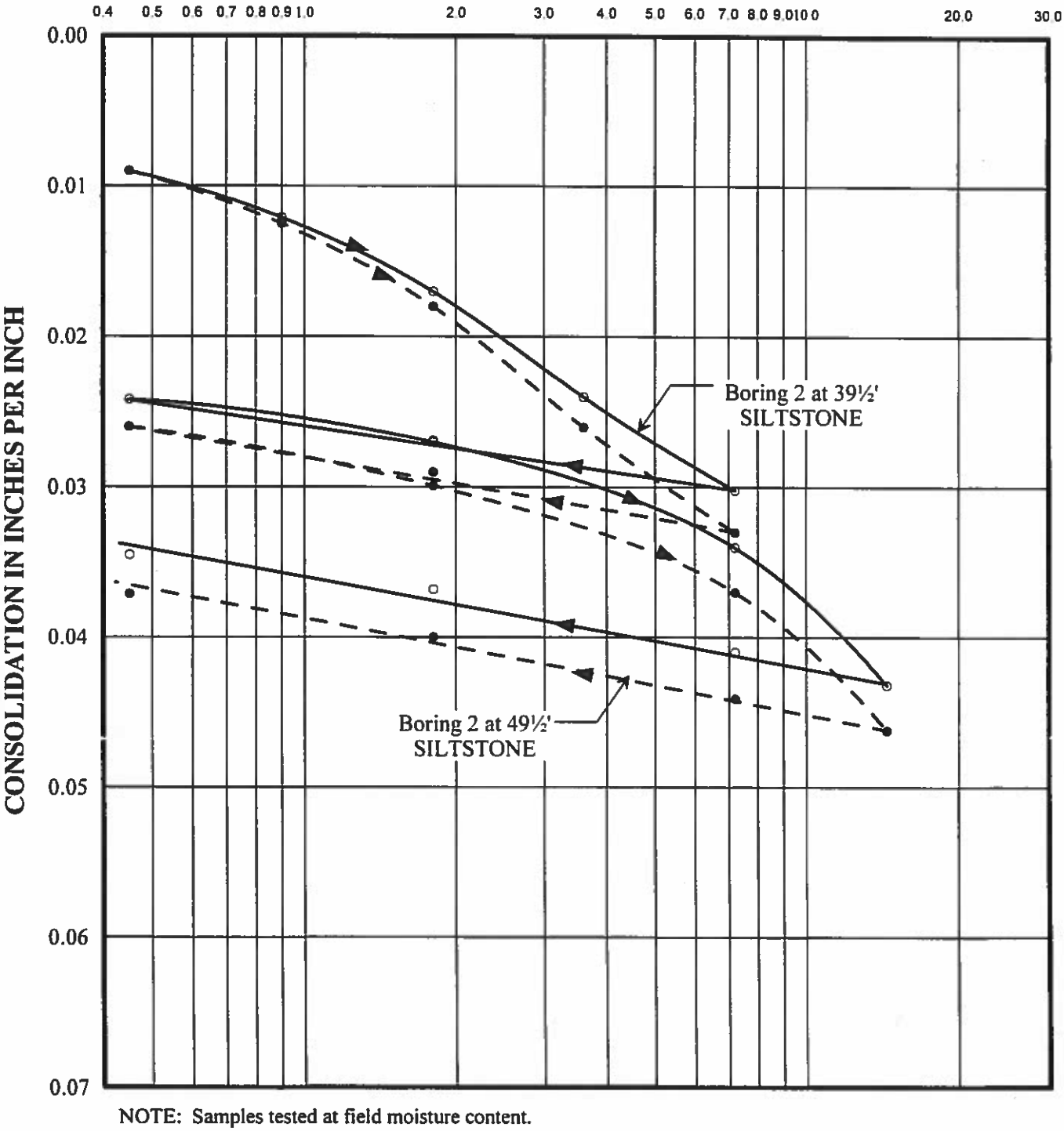
NOTE: Samples tested at field moisture content.

CONSOLIDATION TEST DATA

MACTEC

FIGURE A - 4.1

JOB 4951-03-3881 DATE January 7, 2004 F.T. ROE DR. JA O.E. CJZ CHKD BTS



NOTE: Samples tested at field moisture content.

CONSOLIDATION TEST DATA

MACTEC

FIGURE A - 4.2

APPENDIX B

PRIOR EXPLORATIONS AND LABORATORY TESTS

APPENDIX B

PRIOR EXPLORATIONS AND LABORATORY TESTS

PRIOR EXPLORATIONS

The soil conditions beneath the site were previously explored by drilling 16 borings to depths ranging from 14 to 68 feet below the existing grade using 18-inch diameter bucket auger-type drilling equipment and using rotary wash-type drilling equipment. The locations of our prior explorations are shown on Figure 1.

The soils encountered were logged by our field technician, and undisturbed and bulk samples were obtained for laboratory inspection and testing. The logs of the prior borings are presented in Figures B-1.1 through B-1.16. The depths at which the undisturbed samples were obtained are indicated to the left of the boring logs. The number of blows required to drive the Crandall sampler 12 inches and hammer weight are indicated on the logs. The soils are classified in accordance with the Unified Soil Classification System described in Figure B-2.

PRIOR LABORATORY TESTS

Laboratory tests were performed on selected samples obtained from the borings to aid in the classification of the soils and to determine their engineering properties.

The field moisture content and dry density of the soils encountered were determined by performing tests on the undisturbed samples. The results of the tests are shown to the left of the boring logs.

Direct shear tests were performed on selected undisturbed samples to determine the strength of the soils. The tests were performed at field moisture content and after soaking to near-saturated moisture content and at various surcharge pressures. The yield-point values determined from the direct shear tests are presented in Figure B-3, Direct Shear Test Data.

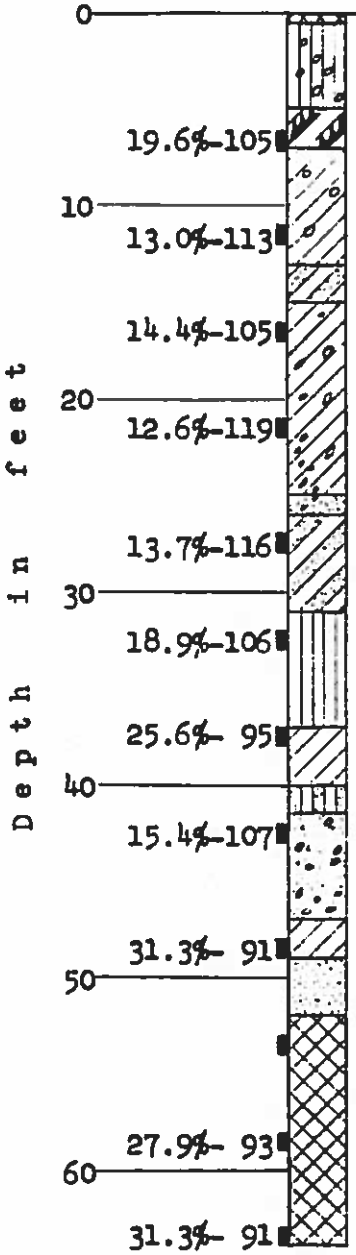
Confined consolidation tests were performed on undisturbed samples to determine the compressibility of the soils. The results of the tests are presented in Figures B-4.1 and B-4.2, Consolidation Test Data.



(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 1

Elevation 318.5 (U.S.G.S. Datum)



A.C. Paving
FILL - SILT - contains large amount of clay, pieces of brick and concrete, brown
FAT CLAY - few small gravel, dark brown
LEAN CLAY - contains medium amount of well graded sand, approximately 5% gravel and small cobbles, dark brown

Layer of CLAYEY SAND - sand well graded, large amount of clay, light brown
Contains medium amount of silt, small amount of fine sand, approximately 5% gravel and small cobbles, brown

Grading sandier with more gravel

Layer of WELL GRADED SAND
CLAYEY SAND - sand well graded, large amount of clay, trace of cobbles, brown

SILT - contains medium amount of clay, small amount of well graded sand, yellowish-brown

LEAN CLAY - contains trace of fine sand, yellowish-brown
SILTY SAND - sand very fine, yellowish-brown
WELL GRADED SAND - clean, contains approximately 35% small gravel and small cobbles, brown

LEAN CLAY - contains small amount of silt, yellowish-brown
POORLY GRADED SAND - predominantly fine, clean, light greyish-brown
SHALE - contains thin laminations, bluish-grey

NOTE: Heavy water seepage noted at 42'; caving from 42' to 47'; driller's mud used below 47'.

KEY:

31.3%- 91 — Indicates depth at which undisturbed sample obtained
Dry density in lbs./cu.ft.
Field moisture content in percent of dry weight

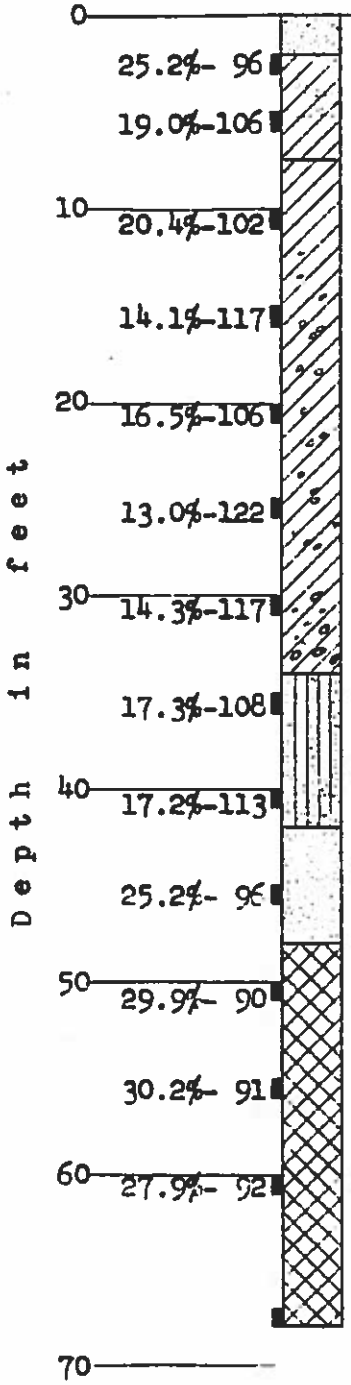
Soils classified in accordance with the United States Bureau of Reclamation system.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.1

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 2



FILL - WELL GRADED SAND - gravel, brown

FILL - LEAN CLAY - contains small amount of silt, trace of fine sand, mottled yellowish-brown

Contains thin layers of WELL GRADED SAND

LEAN CLAY - contains trace of medium to coarse sand, dark bluish-grey

Contains approximately 10% small gravel, brown

Contains layers of well graded sand

Layer of poorly graded sand with approximately 40% gravel and cobbles

SILTY SAND - sand fine, small to medium amount of silt, brown

Contains layers of WELL GRADED and POORLY GRADED SAND

POORLY GRADED SAND - predominantly fine, clean, grey

SHALE - contains thin laminations, bluish-grey

NOTE: Groundwater level not measured; driller's mud used during drilling.

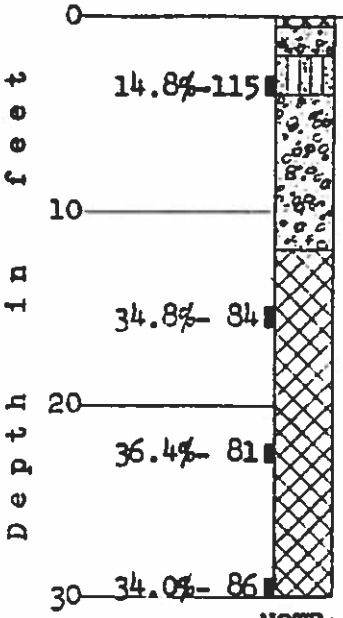
LEROY CRANDALL & ASSOCIATES

FIGURE B-1.2

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 3

Elevation 280.3



CONCRETE - FILL - WELL GRADED SAND - with gravel

SILTY SAND - sand very fine, medium amount of silt, brown

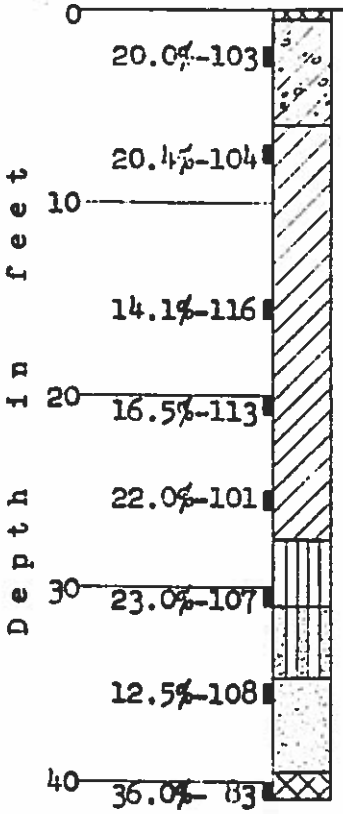
WELL GRADED GRAVEL - contains large amount of well graded sand, about 10% rounded cobbles, medium amount of silt, brown

SHALE - contains thin laminations, dark bluish-grey

NOTE: Groundwater level not measured; driller's mud used during drilling.

LOG OF BORING 4

Elevation 309.9



A.C. Paving

FILL - LEAN CLAY - with sand and gravel, mottled dark bluish-grey and reddish-brown

LEAN CLAY - contains trace of silt, brown

SILT - contains small amount of fine sand, brown

SILTY SAND - sand very fine, medium amount of silt, brown

POORLY GRADED SAND - predominantly fine, clean, bluish-grey

SHALE - contains thin laminations, dark bluish-grey

NOTE: Groundwater level not measured; driller's mud used during drilling.

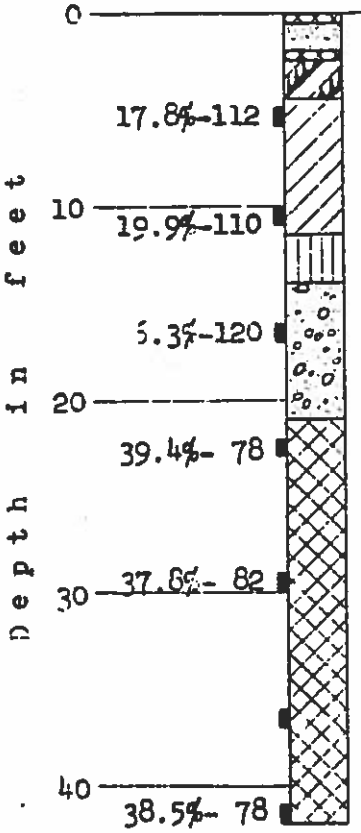
LEROY CRANDALL & ASSOCIATES

FIGURE B-1.3

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 5

Elevation 292.5



A.C. Paving
FILL - POORLY GRADED SAND - Layer of CONCRETE
FAT CLAY - plastic, dark brown
LEAN CLAY - contains large amount of silt, small amount of sand, brown

SILT - contains large amount of fine sand, small amount of clay, brown
WELL GRADED SAND - contains medium amount of silt, about 15% well graded gravel, brown

Contains about 30% gravel and cobbles

SHALE - contains thin laminations, dark bluish-grey

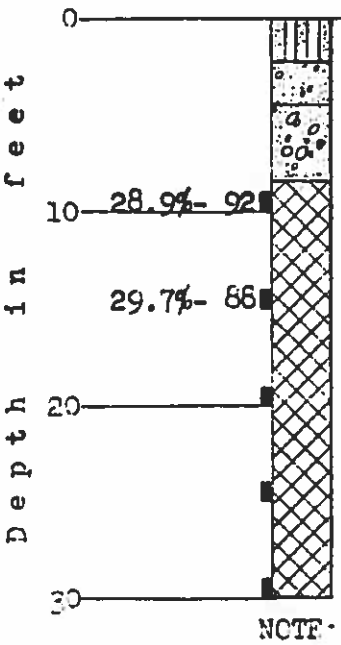
NOTE: Water seepage noted at 18'; caving from 14' to 18'; driller's mud used below 18'.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.4

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 6



Elevation 281.2

SILTY SAND - sand fine, large amount of silt, brown
POORLY GRADED SAND - fine to medium, small amount of silt and gravel, brown
WELL GRADED SAND - contains approximately 40% gravel and cobbles, brown
SHALE - contains thin laminations, yellowish-brown and greyish-brown

Grading to bluish-grey

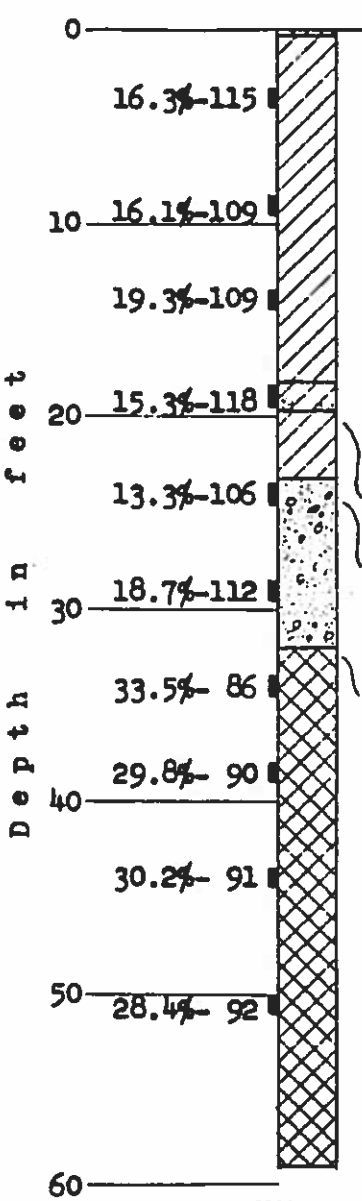
NOTE: Water seepage noted at 7'; caving slightly from 2' to 8'.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.5

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 7



4" Concrete

LEAN CLAY - contains small amount of silt and sand, bluish-grey
Contains large to medium amount of well graded sand
Contains approximately 25% gravel
Contains small patches of well graded sand, small amount of gravel, mottled brown and dark brown
Contains medium to large amount of poorly graded sand, small amount of gravel, dark brown
Contains small amount of fine sand

CLAYEY SAND - sand well graded, medium to large amount of clay, small amount of gravel, mottled brown and yellowish-brown

LEAN CLAY - contains medium amount of silt, light yellowish-brown

POORLY GRADED SAND - predominantly fine to very fine, trace of silt, light yellowish-brown with patches of light grey
Contains large amount of well graded gravel

SHALE - contains thin laminations, bluish-grey

Contains very firm layers

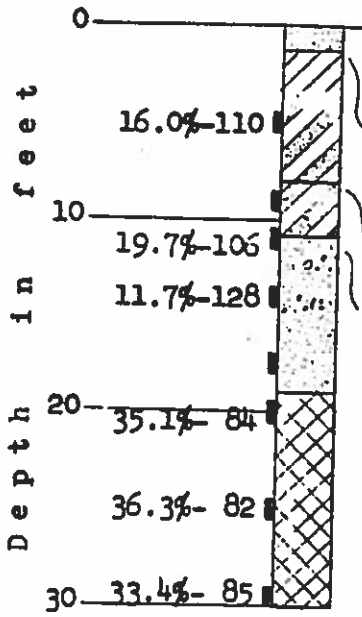
NOTE: Groundwater level not measured; driller's mud used during drilling.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.6

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 8



Elevation 289.8

FILL - POORLY GRADED SAND - predominantly fine to medium, some silt, pieces of brick and concrete, brown

FILL - LEAN CLAY and CLAYEY SAND - contains medium amount of silt and fine sand, medium amount of clay, mottled brown and dark brown

CLAYEY SAND - sand fine, small amount of clay, some small gravel, yellowish-brown

WELL GRADED SAND - contains some silt, approximately 30% well graded gravel, brown
Grading to light brown

SHALE - contains thin laminations, bluish-grey

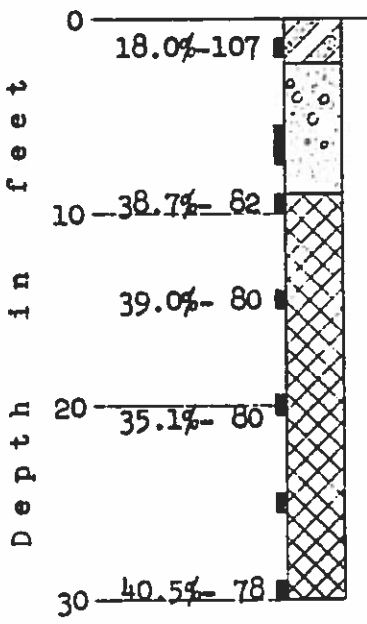
NOTE: Groundwater level not measured; driller's mud used during drilling.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.7

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 9



CLAYEY SAND - sand fine, small amount of clay, some small gravel, mottled brown and yellowish-brown

POORLY GRADED SAND - predominantly fine, some silt, large amount of gravel and cobbles, brown

SHALE - contains thin laminations, mottled rust brown and bluish-grey
Grading to bluish-grey

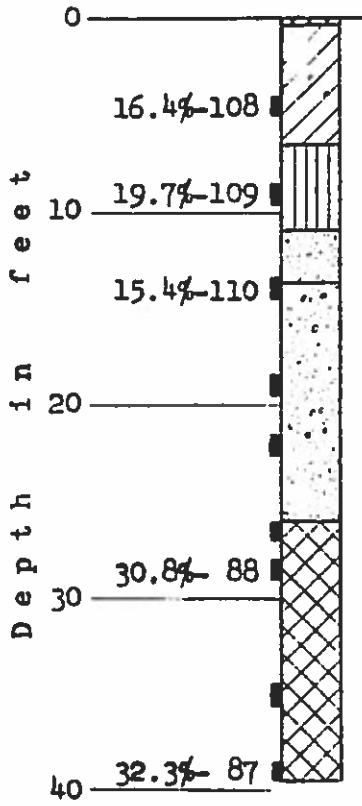
NOTE: Groundwater level not measured; driller's mud used during drilling.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.8

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 10



4" Concrete

FILL - LEAN CLAY - contains large amount of very fine sand, some silt, approximately 5% medium gravel, mottled brown and dark brown

SILT - contains medium to large amount of clay, trace of very fine sand, brown

POORLY GRADED SAND - predominantly fine, some silt, mottled brown and yellowish-brown

WELL GRADED SAND - contains some silt, approximately 30% gravel, brown
Contains occasional cobbles

Contains approximately 30 to 40% poorly graded gravel, brown

SHALE - contains thin laminations, bluish-grey

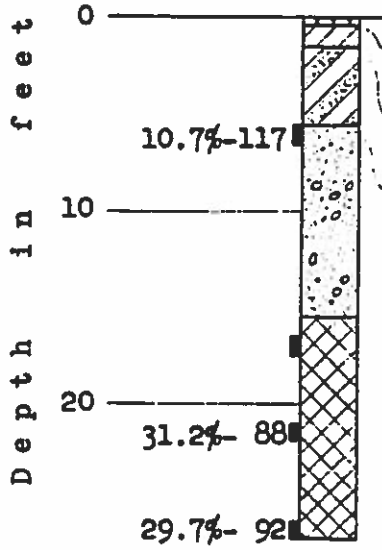
NOTE: Groundwater level not measured; driller's mud used during drilling.

LEROY CRANDALL & ASSOCIATES

FIGURE B-1.9

(PREVIOUS INVESTIGATION 56251)

LOG OF BORING 11



Elevation 283.5

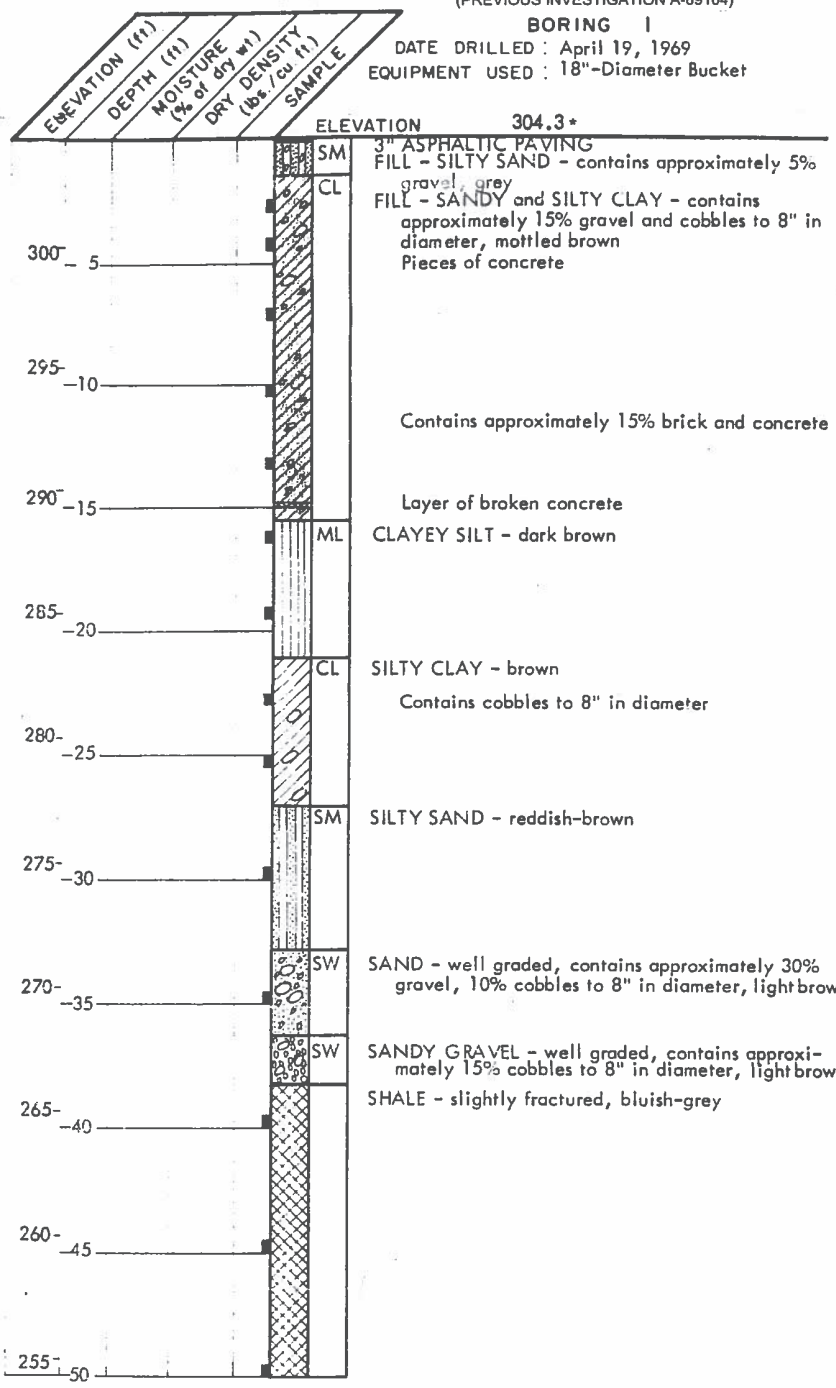
4" Brick Surface
FILL - LEAN CLAY - contains small amount of silt, mottled brown and dark brown
CLAYEY SAND - sand fine, medium to large amount of clay, dark yellowish-brown
POORLY GRADED SAND - predominantly fine, some silt, small amount of gravel, brown
Contains large amount of gravel, occasional cobbles
Contains thin layers of well graded sand
SHALE - contains thin laminations, bluish-grey

NOTE: Groundwater level not measured; driller's mud used during drilling.

(PREVIOUS INVESTIGATION A-69104)

BORING 1

DATE DRILLED : April 19, 1969
EQUIPMENT USED : 18"-Diameter Bucket



NOTE: Water seepage encountered from 36' to 38'. Water level at a depth of 36'-8" at completion of drilling. Caving from 32' to 38' (to 42" in diameter).

* Elevations refer to USGS datum; see bench mark shown on Plate 1.

Overburden soils classified in accordance with the Unified Soil Classification System.

JOB _____ DATE _____ BY _____ CHKD _____

LOG OF BORING

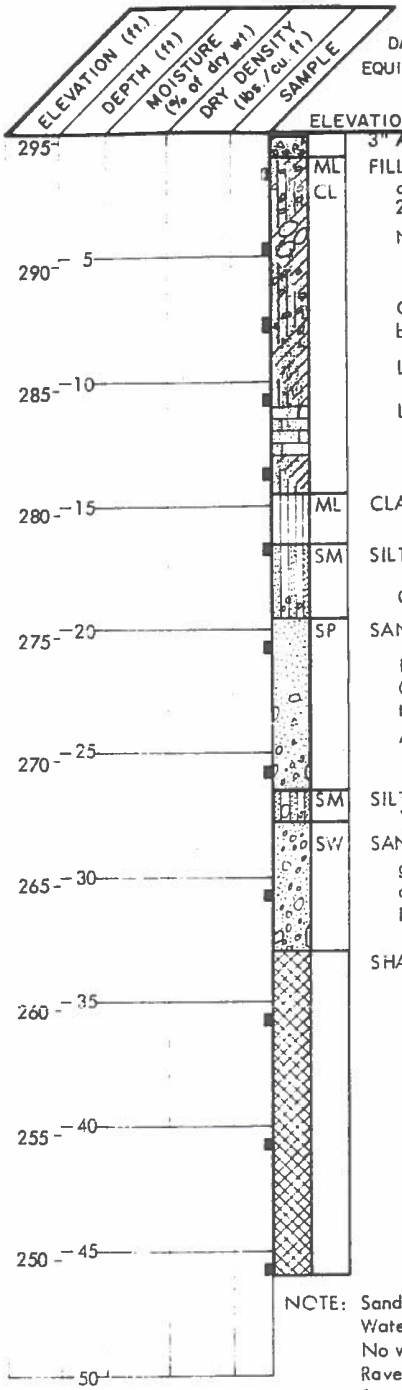
LEROY CRANDALL AND ASSOCIATES
FIGURE B-1.11

(PREVIOUS INVESTIGATION A-69104)

BORING 2

DATE DRILLED : April 19, 1969

EQUIPMENT USED : 18"-Diameter Bucket



3" ASPHALTIC PAVING over 8" BASE COURSE

FILL - SANDY and CLAYEY SILT and SILTY CLAY - contains large pieces of concrete, approximately 25% gravel, brown

Nest of concrete (GAD USED FROM 3½' TO 5')

Contains approximately 30% debris (concrete, brick, steel, wood)

Large amount of Shale fragments

Layer of brick (mortared)

CLAYEY SILT - brown

SILTY SAND - light brown

Contains approximately 15% gravel

SAND - fine, reddish-brown

Layer of CLAYEY SILT
Contains approximately 15% gravel, 5% cobbles to 6" in diameter
Approximately 15% cobbles to 12" in diameter

SILTY SAND - contains approximately 20% gravel, 10% cobbles to 6" in diameter, light brown

SAND - well graded, contains from 15% to 30% gravel, approximately 15% cobbles to 6" in diameter, light brown
Few boulders to 21" in diameter

SHALE - fractured and jointed, bluish-grey

NOTE: Sands between 28' and 33' saturated.
Water seepage encountered at 33'.
No water in boring at completion of drilling.
Raveling from 0' to 8'. Caving and raveling from 17½' to 33' (to 42" in diameter).

JOB [illegible] DATE [illegible] BY [illegible] CHKD [illegible]

LOG OF BORING

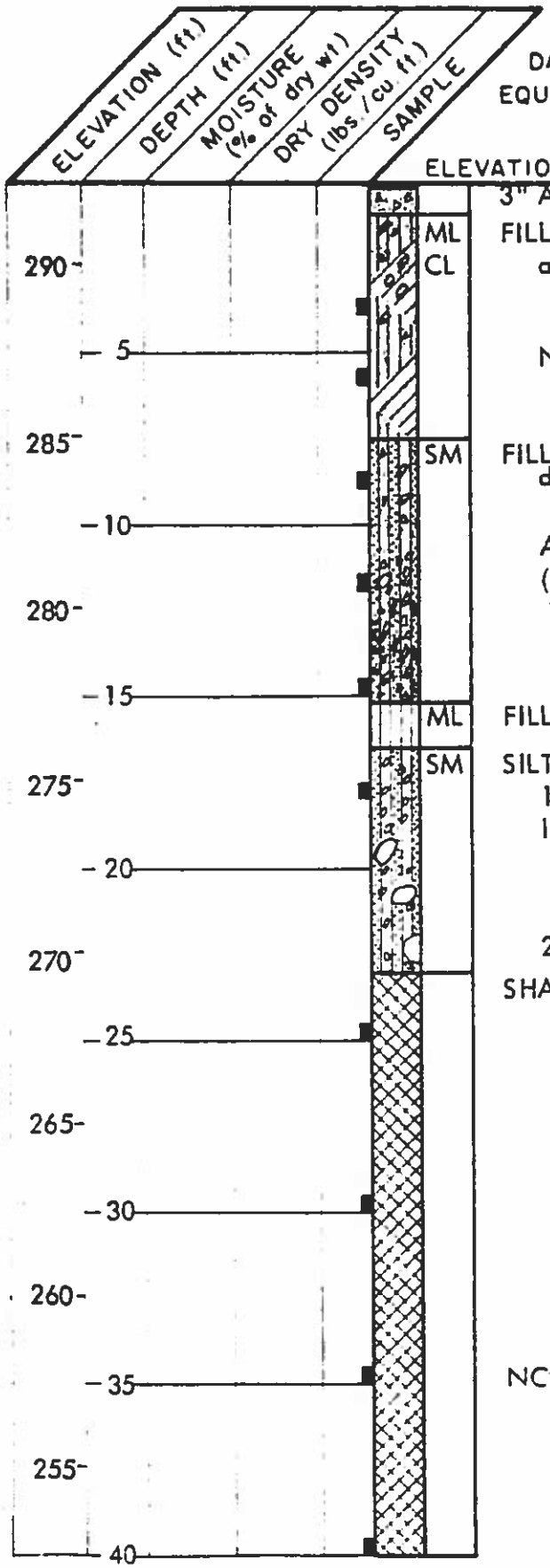
LEROY CRANDALL AND ASSOCIATES
FIGURE B-1.12

(PREVIOUS INVESTIGATION A-69104)

BORING 3

DATE DRILLED April 19, 1969

EQUIPMENT USED 18"-Diameter Bucket



3" ASPHALTIC PAVING over 8" BASE COURSE

FILL - CLAYEY SILT and SILTY CLAY - contains approximately 10% debris (concrete, brick), brown

No debris

FILL - SILTY SAND - contains approximately 15% debris (concrete, brick, steel, wire), brown

Approximately 30% to 75% debris with voids (USED CHOPPING BUCKET FROM 12' TO 14' TO PENETRATE CONCRETE)

FILL - CLAYEY SILT - brown

SILTY SAND - contains approximately 30% gravel, 15% cobbles to 12" in diameter, few boulders, light brown

24"-diameter boulder

SHALE - fractured and jointed, bluish-grey

NOTE: Slight water seepage at 23'. No water in boring at completion of drilling. Caving and raveling from 7½' to 16½' (to 48" in diameter) and from 16½' to 23' (to 66" in diameter).

LOG OF BORING

LEROY CRANDALL AND ASSOCIATES

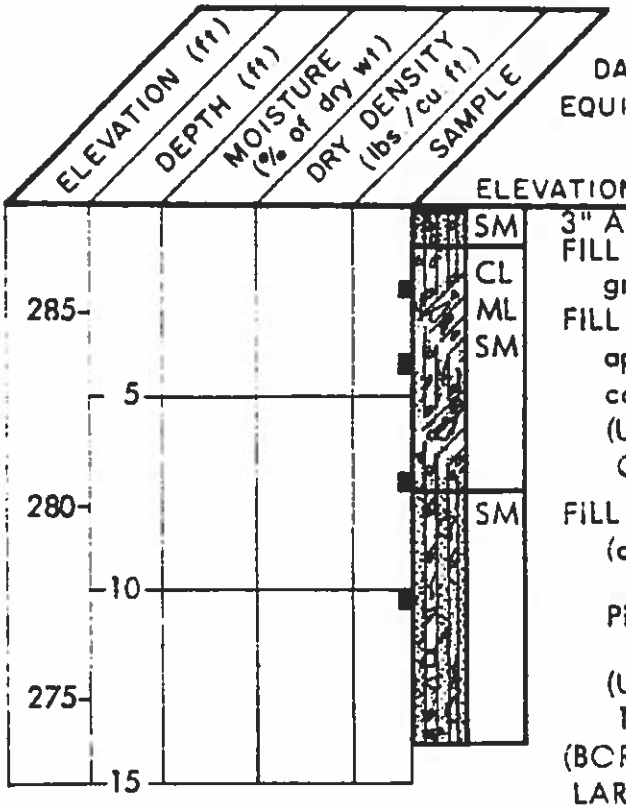
FIGURE B-1.13

(PREVIOUS INVESTIGATION A-69104)

BORING 4

DATE DRILLED . April 19, 1969

EQUIPMENT USED . 18"-Diameter Bucket



ELEVATION 287.8

3" ASPHALTIC PAVING

FILL - SILTY SAND - contains approximately 25% gravel, light brown

FILL - CLAY, SILT and SILTY SAND - contains approximately 15% gravel, pieces of asphalt and concrete to 18" in diameter, brown

(USED CHOPPING BUCKET AT 5½' TO PENETRATE CONCRETE)

FILL - SILTY SAND - contains up to 30% debris (concrete, brick, metal), brown

Pieces of concrete to 12" in diameter

(USED CHOPPING BUCKET BETWEEN 12' AND 14')

(BORING TERMINATED - UNABLE TO PENETRATE LARGE PIECE OF METAL)

NOTE: Water not encountered. See Boring 4-A.

LOG OF BORING

LEROY CRANDALL AND ASSOCIATES

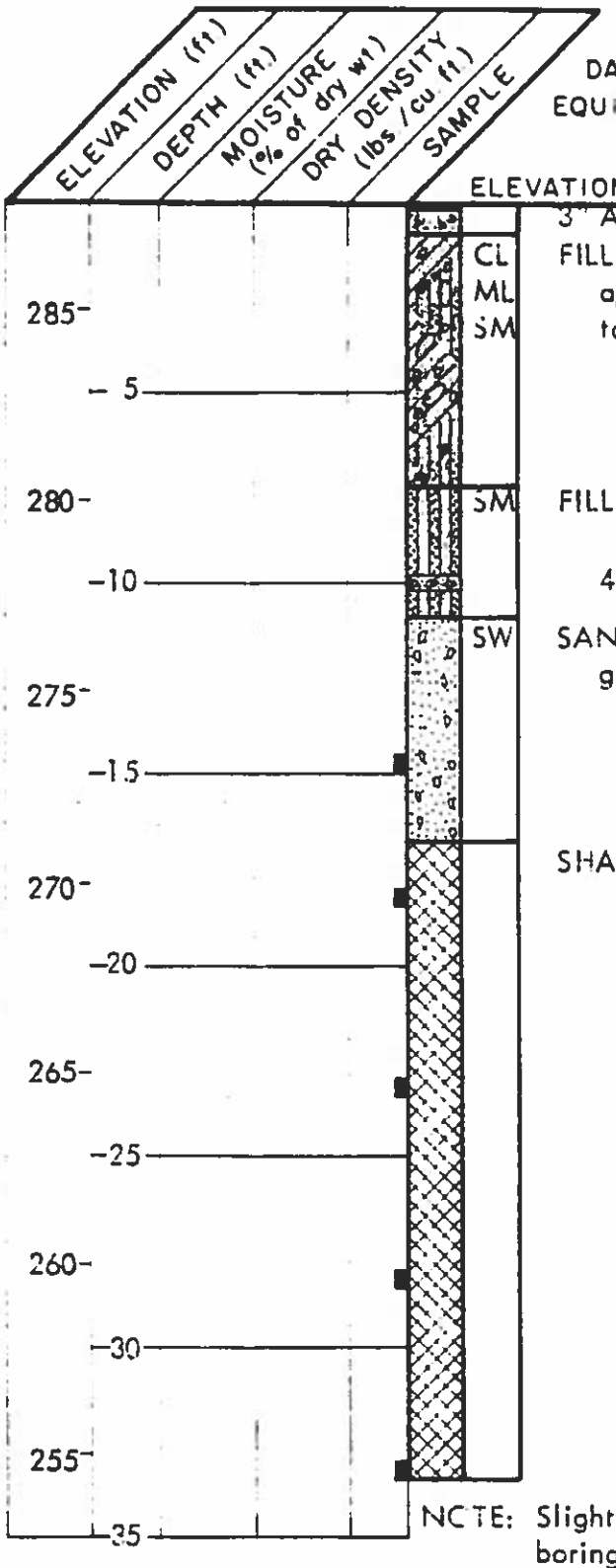
FIGURE B-1.14

(PREVIOUS INVESTIGATION A-69104)

BORING 4-A

DATE DRILLED April 20, 1969

EQUIPMENT USED 20"-Diameter Bucket



3" ASPHALTIC PAVING over 6" CRUSHED ROCK

FILL - CLAY, SILT and SILTY SAND - contains approximately 10% gravel, few pieces of concrete to 8" in diameter, brown

FILL - SILTY SAND, - brown

4" concrete slab

SAND - well graded, contains approximately 25% gravel, some cobbles, light brown

SHALE - fractured and jointed, bluish-grey

NOTE: Slight water seepage at 16½'. No water in boring at completion of drilling. Raveling from 0' to 16½' (to 24" in diameter).

LOG OF BORING

LEROY CRANDALL AND ASSOCIATES

FIGURE B-1.15

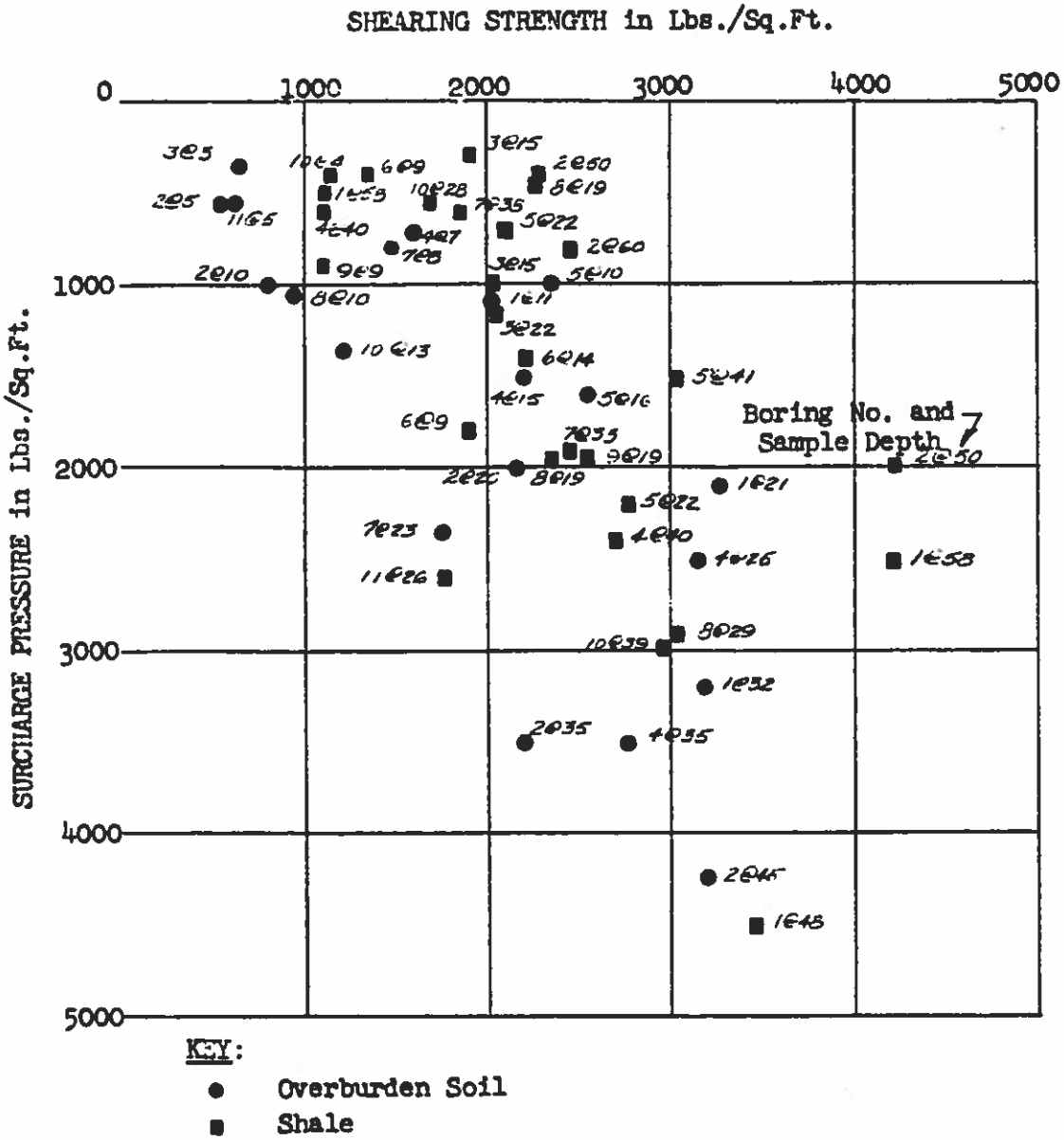
IDENTIFICATION, CLASSIFICATION AND DESCRIPTION OF SOILS

U. S. BUREAU OF RECLAMATION

MAJOR DIVISIONS & SUBDIVISIONS			STANDARD NAMES AND SOIL GROUP DESCRIPTIONS	SYMB.	DESCRIPTIVE INFORMATION TO BE ADDED TO THE STANDARD NAMES FOR DESCRIPTION
COARSE GRAINED SOILS Less than one-half the total soil passing the 200 mesh sieve.	GRAVELLY SOILS Less than one-half the coarse grains passing the No. 4 sieve	GRAVELS "clean" material Little or no fines	WELL GRADED GRAVEL Well-graded gravels or gravel-sand mixtures, little or no fines.		Maximum size, angularity and surface conditions, friability or hardness, and approximate percentage of sand, if any.
			POORLY GRADED GRAVEL Poorly graded gravels or sand-gravel mixtures, little or no fines.		Maximum size, predominant size, angularity, surface conditions, friability or hardness, and approximate percentage of sand, if any.
		GRAVEL WITH FINES "dirty" material Apprec. amount of fines	SILTY GRAVEL Silty gravels, or poorly graded gravel-sand-silt mixtures.		Maximum size, predominant size, friability or hardness; describe fines as being very silty, moderately silty, or slightly silty.
			CLAYEY GRAVEL Clayey gravels or gravel-sand-clay mixtures.		Well or poorly graded, maximum size, predominant size if poorly graded, angularity, friability or hardness; describe fines as slightly, moderately, or very clayey or type of binder in well graded gravels with clay binder.
	SANDY SOILS More than one-half the coarse grains passing the No. 4 sieve.	SANDS "clean" material Little fines	WELL GRADED SAND Well graded sands or gravelly sands, little or no fines.		Angularity, particle shape, friability or hardness, approximate color, percentage of gravel, if any.
			POORLY GRADED SAND Poorly graded sands or gravelly sands, little or no fines.		Coarse, medium, or fine particle, particle shape, clean or slightly dirty, approximate percentage of gravel, if any.
		SANDS WITH FINES "dirty" material Apprec. amount of fines	SILTY SAND Silty sands or poorly graded sand-silt mixtures.		Fine, medium, or coarse particles, shape and hardness of particles, large, medium or small proportion of silt, color, approximate percentage of gravel, if any.
			CLAYEY SAND Clayey sands or sand-clay mixture.		Well graded or poorly graded, predominant size if poorly graded, quality of binder if well graded, large medium, or small amount of clay, color, approximate percentage of gravel, if any.
FINE GRAINED SOILS More than one-half the total soil passing the 200 mesh sieve.	SILT AND CLAY SOILS with low compressibility		SILT Inorganic silts and very fine sand, silty or clayey fine sands.		Presence of clay or sand, and color, degree of plasticity, if any.
			LEAN CLAY Inorganic clays of low to medium plasticity, gravelly or sandy.		Degree of plasticity, silt, sand, or gravel content, and color.
			ORGANIC SILT Organic silts and organic silt-clays of low plasticity.		Visibility of organic material, odor, plasticity, and color.
	SILT AND CLAY SOILS with high compressibility		ELASTIC SILT Very compressible silts, micaceous or diatomaceous sandy or silt soil.		Presence of clay, degree of plasticity, and color.
			FAT CLAY Very compressible clays, inorganic clays of high plasticity.		Color, presence of gravel and other significant factors.
			ORGANIC CLAY Organic clays of medium to high plasticity, very compressible.		Odor, degree of plasticity, and color.
ORGANIC SOILS			PEAT Peat and other highly organic swamp soils.		Odor, presence of fibrous material, color.

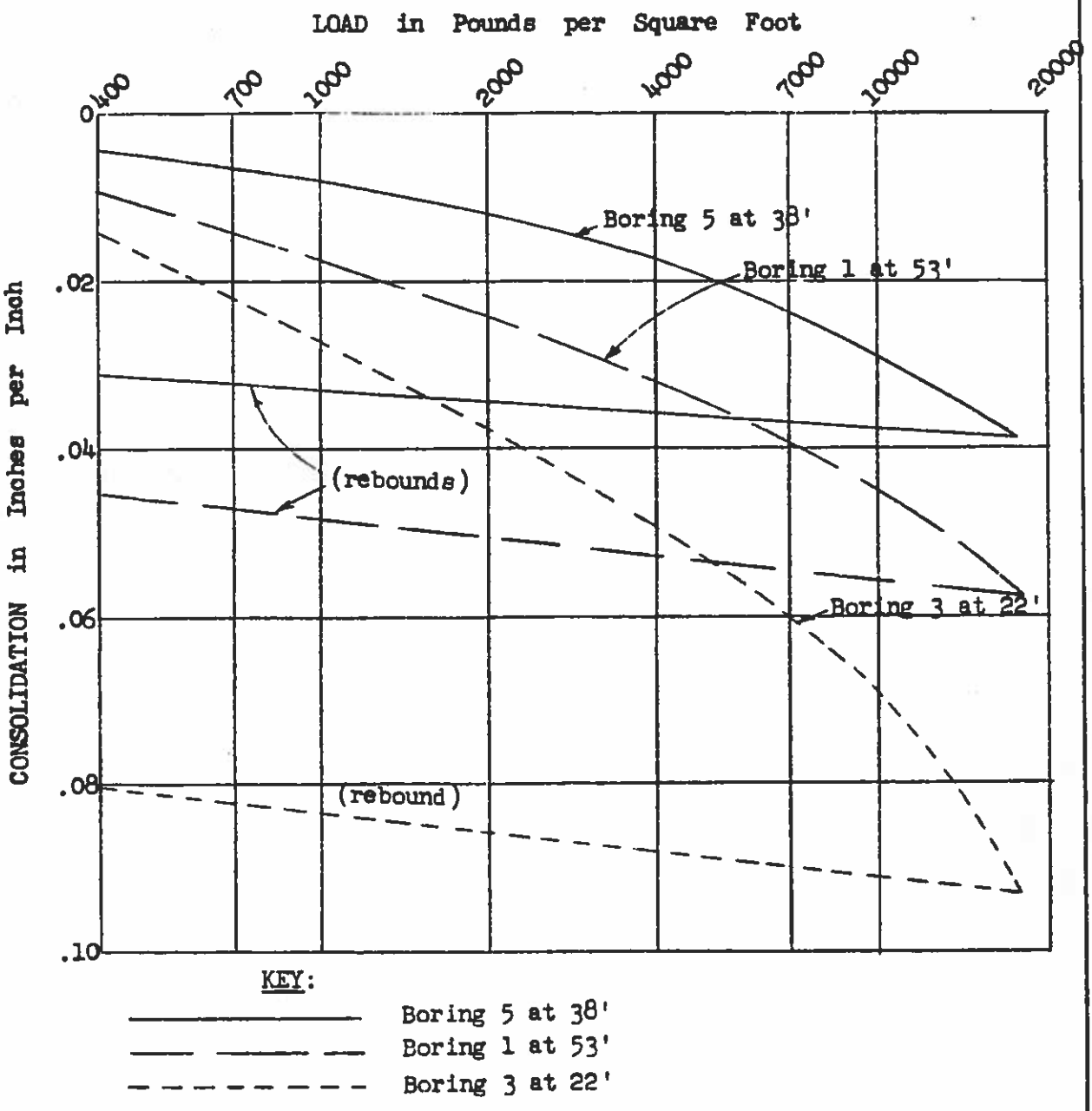
LEROY CRANDALL & ASSOCIATES

FIGURE B-2



S H E A R S U M M A R Y

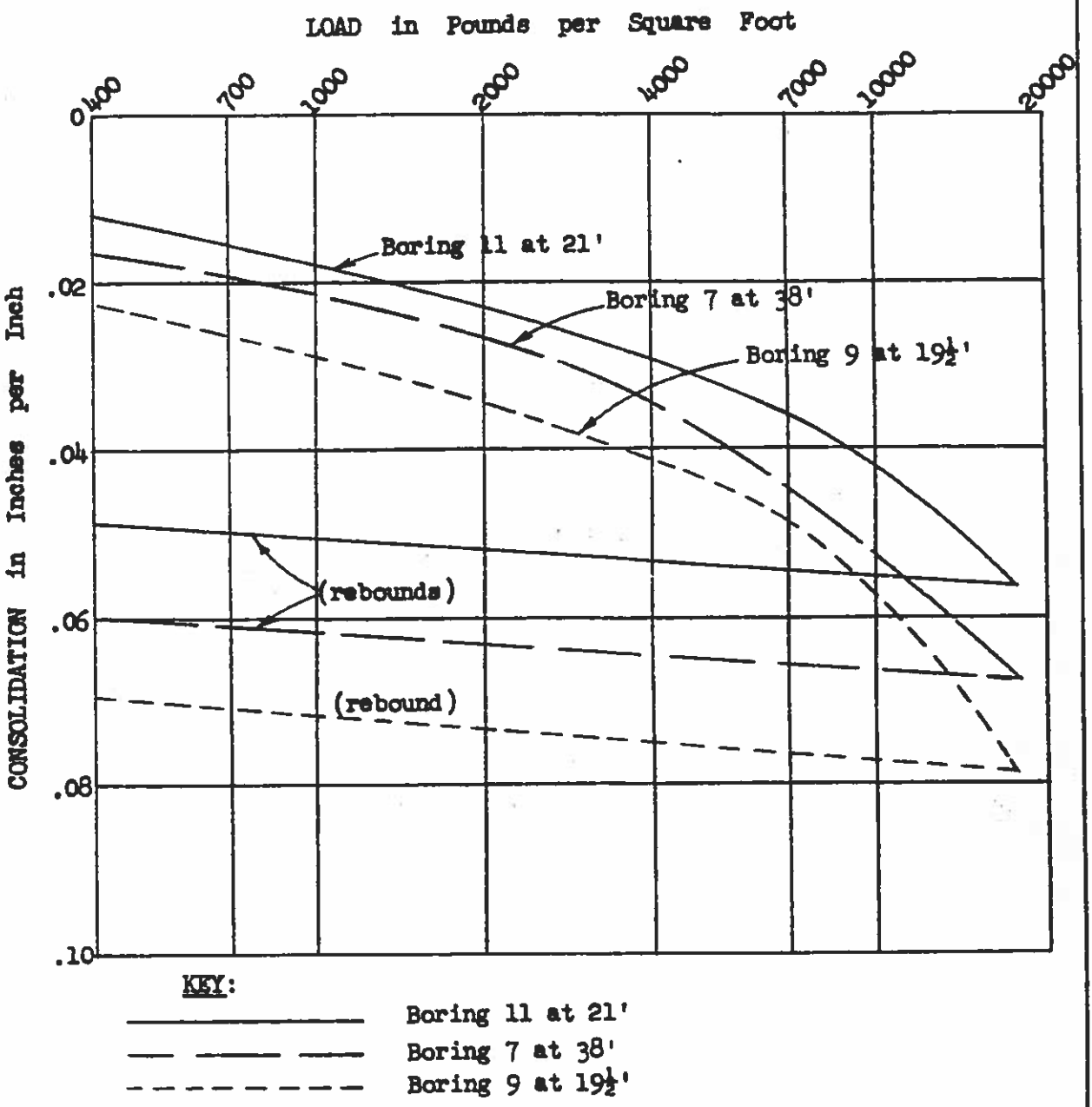
(PREVIOUS INVESTIGATION 56251)



CONSOLIDATION TEST DATA

(PREVIOUS INVESTIGATION 56251)

LEROY CRANDALL & ASSOCIATES
FIGURE B-4.1



CONSOLIDATION TEST DATA

(PREVIOUS INVESTIGATION 56251)

LEROY CRANDALL & ASSOCIATES
FIGURE B-4.2

APPENDIX D

APPENDIX D

PRIOR GEOTECHNICAL DATA REPORT
AND
GEOTECHNICAL BASELINE REPORT
(CD only)







REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT
Contract No. E0119

Geotechnical Baseline Report Rev. 1a

Task No. PH2.7.9.14
(Deliverable No. PH2.07.14.01)

Prepared for:

Metro

Prepared by:

The Connector Partnership
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August 1, 2013

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August 1, 2013

Girish Roy
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Re: Revised Geotechnical Baseline Report (GBR)
Regional Connector Transit Corridor (RCTC) Project
Los Angeles, California

Dear Mr. Roy,

We are pleased to submit this revised Geotechnical Baseline Report (GBR). The report entitled Geotechnical Baseline Report Rev.1a supersedes the earlier version dated April 20, 2012.

This report is updated for editorial revision and corrections including:

- Revision of the cover page
- Refinement of alignment station numbers
- Correction of section cross-references
- Contaminated soil quantities

The Geologic Profile dated June 12, 2013 has not been revised.

For any question regarding this report, please feel free to contact us. Thank you.

Very truly yours,



William H. Hansmire, PhD., PE.
Design Manager/Deputy Project Manager

cc: Document Control

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1.0 INTRODUCTION

1.1 Purpose of the Geotechnical Baseline Report

This Geotechnical Baseline Report (GBR) is issued by the Los Angeles County Metropolitan Transportation Authority (Metro) as part of the Design-Build Contract Documents for construction of the underground facilities of the Regional Connector Transit Corridor (RCTC) project, Contract No. C0980. The GBR was prepared based on an evaluation and interpretation of the boring logs and other geotechnical data in the Geotechnical Data Report (GDR), inspection of soil/rock samples, review of regional and local geology, and on past experience in drilling, excavating, and tunneling in Los Angeles. This GBR Rev 1 is the update of the GBR dated April 20, 2012 on the basis of the additional exploration and studies conducted since that time.

The purposes of this GBR are to:

1. Provide a summary of the ground conditions, ground behavior, groundwater, in-ground obstructions, contamination, and gas conditions in order to facilitate the Contractor's and owner's project management team's understanding of the geotechnical features and ground behavior to be addressed during proposal preparation and during design and construction of the underground facilities.
2. Establish baselines for the anticipated geotechnical conditions, to be relied upon in the preparation of proposals, in bid submittals, and in the design and the construction of the underground facilities.
3. Assist in administering the differing site conditions clause contained in the Contract Documents by providing a basis for their evaluation.

The GBR describes and baselines ground conditions and basic tunnel-ground behavior. Ground behavior described in the GBR is based on assumptions regarding construction means and methods. If different methods are employed, ground behavior may differ from that described. The Design-Builder must complete its own independent review and evaluation of the Contract Documents, GBR, GDR, and other geotechnical information and consider how its selected means and methods and designs will affect ground behavior and the construction of the underground facilities. The Contractor team is required to have a qualified geotechnical engineer/engineering geologist throughout the proposal, design and construction phases of the project to review and evaluate the GBR and its baselines, the GDR and other geotechnical information, to inspect boring samples, and to consider the application of the geotechnical information to the Contractor's design and construction plans.

Proper geotechnical and civil design requires that material parameters be selected based on representative exploration data and test results and geologic information and that the inherent variability of geologic materials be taken into account in selecting probable ranges of soil parameters to be incorporated into the design process.

The GBR is contractually binding and must be read in conjunction with the Geotechnical Data Report (GDR) and other Contract Documents. The order of precedence in the Contract provides that the GBR takes precedence over the GDR, as well as and any other geotechnical information, references or interpretations.

1.2 Scope of the Geotechnical Baseline Report

This GBR pertains to the underground portions of the RCTC project. As described in more detail in the following sections, the underground portions of the project include the bored tunnels, cut-and-cover tunnels, portal and station excavations, crossover structures, transition structures as well as cross-passages and sump structures. Section 2 provides a summary of these project elements. The Project Definition Documents including Project Definition Drawings, General and Technical Requirements are to be consulted for specific details.

1.3 Sources of Geologic and Geotechnical Data

Geotechnical data along the RCTC project alignment are available from several sources. A significant amount of data is available from geotechnical and environmental investigations carried out for other projects, such as the numerous buildings along the alignment. More recent data were collected specifically for the RCTC project. The data sources are summarized below and in the GDR, which was prepared and revised by AMEC (2013).

1.3.1 Previous Investigations

The proposed project alignment extends through a portion of downtown Los Angeles where there are numerous existing buildings and other engineered structures. As a result, the RCTC design team utilized geotechnical information from these previous investigations. However, many of these prior investigations did not address the specific data needs for underground construction and the RCTC project. Nonetheless, those investigations provide a useful source of information regarding the subsurface distribution of geologic units and some of their basic engineering properties. The results from the previous investigations are incorporated in the GDR and were considered in preparing this GBR.

In all, the GDR includes geologic and geotechnical data from 103 “historic” borings that were drilled in the vicinity of the RCTC alignment, post 1950. These borings were drilled by AMEC and its predecessor firms, namely MACTEC, LeRoy Crandall and Associates and Law/Crandall. For the purposes of including information from these borings in the Regional Connector project without duplicating boring numbers, these historic borings were renumbered as borings P-1 through P-110 (as indicated on the boring logs that are reproduced in the GDR).

More recently, site investigation was performed in support of a Draft Environmental Impact Statement (DEIS) / Draft Environmental Impact Report (DEIR) for the Regional Connector project. The final report of that investigation was completed in November 2010 by MACTEC (now AMEC), for Camp Dresser & McKee (CDM) and Metro. That investigation included: the compilation of previous data (the historic borings noted above); drilling of 10 additional borings (geotechnical and environmental); installation of groundwater and gas monitoring wells; and laboratory testing of selected samples. These borings were numbered 2 through 11 and the results are included in the GDR.

1.3.2 Preliminary Engineering Investigations

In support of the Advanced Conceptual Engineering/Preliminary Engineering/Advanced Preliminary Engineering (ACE/PE/APE) phase studies by AMEC, working through the Connector Partnership Joint Venture (CPJV), performed a supplemental geotechnical investigation. The investigation was directed toward providing information to address recent modifications to the project, including alignment, grade, station locations, and presumed

construction methods. The investigation included 32 borings, soil testing, groundwater testing, groundwater/gas monitoring, and preparation and revision of a GDR (AMEC, 2013).

2.0 PROJECT DESCRIPTION

2.1 Project Description

As shown on Figure 1, the RCTC project provides a 1.86 mile-long connection between the Gold Line LRT lines from Pasadena and East Los Angeles, to the Blue Line to Long Beach and new Expo Line to Culver City, with the provision of new tracks through downtown Los Angeles mainly within twin tunnels. In the direction of tunnel drive (i.e. decreasing stationing from east to west), the underground components of the project are included in Table 2-1.

Table 2-1: Underground Components

Underground Component	Start Station	End Station	Approx. Length (ft)
Mangrove Site			
• TBM Launch Pit	-	-	257
• TBM Launch Temporary Tunnel	-	-	150
East End Wye			
• 1st Street Cut/Cover (east branch of Wye)	R 84+39	R 80+20	419
• 1st Street Open Trench (east branch of Wye)	R 88+40	R 84+39	401
• Alameda Street Cut/Cover (north branch of Wye)	R1 88+32	R1 80+20	812
• Alameda Street Open Trench (north branch of Wye)	R1 92+41	R1 88+32	409
1st/Central Avenue Station Cut-&-Cover	R 80+20	R 76+45	375
Bored tunnel from 1st/Central Avenue Station to Crossover Cavern	R 76+45	R 56+61	1984
Crossover Cavern SEM Section	R 56+61	R 53+72	289
2nd/Broadway Station Cut-&-Cover	R 53+72	R 49+11	461
Bored tunnel from 2nd/Broadway Station to 2nd/Hope Street Station	R 49+11	R 32+81	1630
2nd/Hope Street Station	R 32+81	R 29+37	344
Bored tunnel from Flower Street Cut-&-Cover to 2nd/Hope Street Station	R 29+37	R 19+02	1035
Flower Street Cut-&-Cover Tunnels	R 19+02	R 5+48	1354

Notes: R indicates right track stationing and includes 1st Street branch of Wye; R1 indicates right track stationing for Alameda Street branch of Wye.

The project components are listed above from east to west to be consistent with the required tunnel drive direction, although the project stationing increases from west to east. By type of construction, the project components are summarized in Sections 2.1.1 through 2.1.6. For details regarding the project components, the reader should consult the Project Definition Documents.

2.1.1 Mangrove Site – Potential TBM Launch Area

As shown on Figure 1, the "Mangrove" site is located between the 1st Street and Alameda Street branches of the alignment. This area will be provided for the Design-Build Contractor's use and will provide space for a TBM launch pit and staging. Currently the Mangrove site is occupied by a parking lot. Historical aerial photographs and previous site investigation reports indicate that the site was occupied by one- to five- story buildings, which were demolished and some of which are believed to have had basements. Although foundation details are lacking, it is believed that all of the buildings had shallow foundations. These abandoned basement structures and foundations are expected to be encountered in the TBM launch pit excavation up to 30 feet below the ground surface. Refer to Section 4.2 for more details.

According to the Environmental Impact Statement (EIS) and the Mitigation Monitoring Reporting Program (MMRP), the TBM staging and tunneling is only allowed in the Mangrove site.

Consequently, tunnel drives may begin at the Mangrove site, or begin in the 1st/Central Avenue Station excavation pit by dragging the TBM from the Mangrove site through the cut-and-cover excavation under the intersection of 1st Street and Alameda Street. The position of the launch pit and the construction schedule will be the responsibility of the Contractor. As such, a length of temporary tunnel from the launch pit to the 1st/Central Street Station listed in the table above is assumed and approximated.

2.1.2 East End "Wye"

East of Station R 80+20 (where the 1st/Central Avenue cut-and-cover station ends beneath the intersection of 1st Street and Alameda Street), the alignment splits into two directions. This "Wye" (two legs of a true wye) will be constructed by cut-and-cover excavation methods, with branches extending to the east and north. The eastern branch (adjacent to 1st Street) extends approximately 419 feet within a cut-and-cover excavation, to the beginning of an open trench structure. The open trench structure extends approximately 401 feet farther east, toward the end of the alignment along 1st Street. The northern branch (adjacent to Alameda Street) extends approximately 812 feet within a cut-and-cover excavation, to the beginning of an open trench structure. The open trench structure extends approximately 409 feet farther to the north, to the beginning of an above grade section. The depth of excavation will range from a few feet to approximately 45 feet.

2.1.3 Flower Street Cut–and–Cover

The southwest end of the project is at the existing 7th Street/Metro Center Station, at approximately Station R 5+48. From this intersection to Station R 19+02 (at the southwest end of the bored tunnels), construction of the twin tunnels will be performed by cut-and-cover methods. This method of construction was selected because of anticipated conflicts with abandoned tieback anchors from existing buildings along this part of the alignment and considering the relatively shallow excavation depth. Also, the cut-and-cover excavation of this section will encounter the abandoned Pacific Electric tunnel crossing perpendicular to the proposed alignment near West 4th Street. The Contractor is required to demolish the abandoned tunnel lining within the excavation and backfill abandoned tunnel spaces between the proposed box structure and the adjacent property lines as described in the Project Definition Documents. Along this 1,354-foot long section of cut-and-cover tunnels, the depth of excavation will range from approximately 50 to 55 feet.

2.1.4 Stations

The project includes three underground stations, anticipated to be constructed using conventional cut-and-cover construction methods. They are summarized below, from east to west.

2.1.4.1 1st/Central Avenue Station

This station is located on the south side of 1st Street, diagonally between Central Avenue and Alameda Street and will be constructed using conventional cut-and-cover construction methods. This is a relatively shallow underground center platform station with no mezzanine. The station alignment and box location were established to meet the requirements of the tunnel portal locations on 1st Street and Alameda Street, as well as providing connection to the existing north bound and east bound Gold Line tracks. The provision of a "Wye" intersection to the north and east bound tracks also influenced the location of the station box. The depth of excavation will be approximately 45 to 50 feet below the existing ground surface.

2.1.4.2 2nd/Broadway Station

The 2nd/Broadway Station will be constructed beneath 2nd Street and between Broadway and Main streets, within a relatively narrow right-of-way. The station will be constructed using conventional cut-and-cover construction methods, and the depth of excavation will be approximately 95 to 100 feet below the existing ground surface.

2.1.4.3 2nd/Hope Street Station

The 2nd/Hope Street Station is an underground LRT center platform station and is diagonally oriented between 3rd Street and 2nd Street, and between South Flower Street and South Hope Street. The depth of the excavation is approximately 105 feet below the sidewalk elevation adjacent to Hope Street and General Thaddeus Kosciuszko Way (GTK Way) and approximately 85 feet below the existing ground surface at the west end of the station. The existing surface street of West GTK Way and the 2nd Place Bridge will be demolished and the area above the station/ancillary box will be re-graded.

2.1.5 Crossover Cavern

The project includes one mined crossover structure, which is located immediately east of the 2nd/Broadway station. It is 289 feet in length and the finished internal dimensions of the cavern would be approximately 56 feet wide and 30 feet high. Ground cover over the cavern is approximately 60 feet. It is anticipated that this structure will be constructed using Sequential Excavation Methods (SEM) to enlarge the previously bored tunnels.

2.1.6 Bored Tunnels

The limits of the stations, crossover cavern, the two end sections, and the cut-and-cover tunnel section (described above) result in three reaches of twin-bored tunnels. These tunnels are required to be constructed with a pressurized-face Tunnel Boring Machine (TBM) and will have an excavated diameter of approximately 22 feet, and a widely variable depth of cover. Because it is required that the tunnels would be driven starting at the east end of the project, these reaches are numbered herein starting with Reach 1 at the east.

Reach 1 extends from Station R 76+45 to Station R 53+72 (decreasing stationing in the direction of tunnel drive), a distance of 2,273 feet. These tunnels will be beneath the Japanese Village Plaza and the 2nd Street. The depth of cover will range from approximately 25 to 65 feet between tunnel crown and existing ground surface. From Station R 76+10 to R 70+50, the tunnels will be constructed beneath the Japanese Village Plaza, which includes a parking structure and retail store buildings, with a distance from tunnel crown to existing buildings/structure foundations of approximately 15 to 35 feet that is subject to field verification by the Contractor. From Station R 71+50 to R 44+00, the Regional Connector tunnels will be constructed beneath an existing storm drain, with a distance from tunnel crown to storm drain invert of approximately 20 to 44 feet. This reach includes two cross passages, located at Stations R 62+50 and R 69+00. This reach is divided into Reaches 1A and 1B for anticipated ground conditions discussed later.

Reach 2 extends east/southeast from the 2nd/Hope Station, beginning at Station R 49+11 and ending at Station R 32+81, a distance of 1,630 feet. The depth of cover (tunnel crown to ground surface) ranges from approximately 70 feet to 130 feet along this reach. This reach includes one cross passage, located at Station R 41+15. From Station R 49+11 to R 43+20, a distance of 591 feet, the tunnels will be beneath the existing storm drain, with a distance from tunnel crown

to storm drain invert of approximately 25 to 45 feet. From Station R 43+40 to R 36+50, a distance of 690 feet, the tunnels will be beneath the existing 2nd Street tunnel, where the distance between the 2nd Street tunnel invert and the crown of the Regional Connector tunnels will range from approximately 45 to 70 feet. Where the Regional Connector tunnels cross beneath Hill Street, they will cross under the existing Metro Red Line tunnels. The distance between the crown of the Regional Connector tunnels and the invert of the Red Line tunnels is expected to be approximately five feet.

Reach 3 extends from Station R 29+37 to R 19+02, a distance of 1035 feet with one cross passage at Station R 24+00. The majority of this tunnel reach will be beneath South Flower Street, with a depth of cover (above tunnel crown) ranging from approximately 30 to 60 feet. These tunnels pass between the existing pile foundations for the 4th Street overpass, as shown on the Project Definition Drawings. This leaves little clearance between the edge of the tunnel excavations and the existing pile foundations, and results in a reduced pillar width between the tunnels. Also, the reduced pillar width between 3rd and 4th Streets provides clearance between the tunnel excavation and a number of existing tieback anchors that remain from the construction of adjacent buildings. Generally, the clearance between the left and right tunnel alignment and the nearest tieback anchors is at least five feet. From Station R 25+15 to R 26+20, the abandoned tieback anchors from the Bank of America building near the intersection of West 3rd Street and South Flower Street are expected to be encountered in the right tunnel. The Contractor will be required to take pre-tunneling mitigation measures to remove the abandoned tieback anchors prior to the tunneling advance in this area. In addition, based on field measurement, invert of an existing sanitary sewer manhole at Station R 19+70 will be within two feet from the proposed tunnel lining. The outside dimension of the manhole structure is unknown. This reach is divided into Reaches 3A, 3B, and 3C for anticipated ground conditions discussed later.

3.0 GEOLOGIC CONDITIONS

The following information is summarized from the Geotechnical Data Report (GDR), and formed the basis for establishing the baselines in Section 4.

3.1 Geologic Setting

3.1.1 Regional, Tectonic, and Seismic Setting

As shown on Figure 2, the alignment traverses the southeastern end of the Elysian Park Hills and a portion of the ancient Los Angeles River floodplain. The Elysian Hills comprise the low-lying hills west of the Los Angeles River and southeast of the eastern end of the Santa Monica Mountains. The alignment along Flower, 2nd, 1st, and Alameda Streets will encounter artificial fill and geologic units that range in age from Miocene to Holocene. From oldest to youngest in geologic age are the Pliocene-age sedimentary strata of the Fernando Formation, Pleistocene-age alluvium (referred to in this report as Qal2 alluvium), and Holocene-age alluvium (Qal1).

Miocene-age bedrock of the Puente Formation has been mapped at the surface on Bunker Hill to the north of the alignment. The upper contact of the Puente Formation forms a slight angular unconformity with the overlying Fernando Formation and the contact appears to extend beneath the planned excavations for this project. Borehole data support this and indicate that the Puente Formation will not be encountered along the project alignment.

The bedrock formations are unconformably overlain by Pleistocene- and Holocene-age alluvial sediments. The Pleistocene sediments are present as remnant depositional terraces in the Bunker Hill area, whereas, the more recent Holocene alluvial sediments are present along the floodplain east of Bunker Hill and filling in the paleo-drainage along portions of Flower Street.

Artificial fill has been placed at various locations along the alignment including areas overlying both existing and abandoned tunnels.

3.1.2 Bedding Orientation, Local Faulting and Folding

As discussed in the GDR, geologic maps prepared by Soper and Grant (1932) and Lamar (1970) show that the dip of bedding in the local bedrock formations ranges from 32 to 83 degrees to the southeast and south. Bedding dips ranging from 22 to 42 degrees to the southwest and southeast in former cut slopes adjacent to 4th Street, between Flower and Hope Streets were reported by Glen A. Brown and Associates (1969).

Bedding in the Fernando Formation is generally indistinct. However, where present, it consists of poorly developed bedding plane separations or very thin sandy interbeds.

Borehole surveys performed as part of the ACE/PE/APE investigation indicate a strong trend of bedding orientations with nearly due south dips, at approximately 65 to 80 degrees within the portion of the alignment along 2nd Street and west of San Pedro Street. Bedding inclinations are less steep east of San Pedro Street with southerly dips varying from about 25 to 35 degrees. Bedding inclinations dip to the south at about 30 to 65 degrees within the portion of the alignment along Flower Street.

For more information on discontinuity orientation and frequency, refer to Figure 21A to 21C.

The bedrock is locally cut by small shears that have minor displacement. Thin clay gouge seams have been reported along some shears (Hood and Schmidt, Inc., 1966).

3.1.2.1 Faults

Faults that have surface evidence of past rupture include those classified by the California Geological Survey (Hart, 1999) as active, potentially active, and inactive. Based on the available data, no active or potentially active surface faults are known to cross the proposed project alignment (AMEC, 2013). In addition to these surface faults, two buried thrust faults commonly referred to as blind thrusts, are interpreted to underlie the project area at depth. These are the Puente Hills Blind Thrust fault (PHBT) and the Upper Elysian Park fault. Rupture surfaces for these faults are not exposed at the ground surface and thus these faults do not present a potential surface fault-rupture hazard for this project. However, they are considered active in the sense that they are potential sources for future earthquakes.

Uplift along the Elysian Park Anticline is believed to have been produced by movement along the Elysian Park blind thrust. The south flank of this anticline has been called the Coyote Pass Escarpment and is identified by a south-facing slope that trends approximately east-west. Previously, the possibility of the escarpment to pass south of the 1st/Central Avenue Station was considered. However, based on a separate exploration and study during APE, the escarpment was found not to be located near the proposed tunnel alignment and 1st/Central Avenue Station, and is not expected to impact the Project. Refer to the Report of Geologic Investigation of Coyote Pass Escarpment by AMEC (2013) for more details.

3.1.2.2 Seismic Ground Movement

In accordance with Metro Rail Design Criteria, the design of underground structure shall be based on two probabilistic levels:

- Maximum Design Earthquake (MDE) - defined as an event with a 4% probability of exceedance in 100 years (corresponding to a return period of 2,475 years).
- Operating Design Earthquake (ODE) - defined as an event with a 50% probability of exceedance in 100 years (corresponding to a return period of 150 years).

A probabilistic Seismic Hazard Analysis (PSHA) and response spectra matching with three existing time histories were performed in order to estimate the ground motions corresponding to the material at a depth of 145 feet below ground surface for each probabilistic level. Then using the outcropping ground motions, one-dimensional non-homogeneous site response analyses were performed to provide a non-linear distribution of free-field displacement at each underground structure. Details and results are presented in the Results of One-dimensional Site Response Analyses by AMEC (2013) for the seismic design of underground structures. The time histories of shear strains and horizontal ground displacement are presented for each proposed structure for each design earthquake level in the referenced report.

3.1.2.3 Liquefaction

In general, the potential for liquefaction is characterized as “high” within saturated upper (Qal1/younger) alluvium that is within 40 feet of the ground surface. The potential for liquefaction in the upper alluvium is considered “low” where it is not saturated. Because the lower (Qal2/older) alluvium is relatively dense, its liquefaction potential is characterized as “low”,

irrespective of the degree of saturation. Areas where a high potential for liquefaction is considered to exist within the planned excavations include:

- Portions of the upper alluvium within the cut-and-cover reach along Flower Street, between the 7th/Flower Station and the bored tunnels
- Limited portions of upper alluvium above the 2nd/Broadway Station

In these areas, settlement of the proposed underground structures due to liquefaction is not expected since the proposed structures will be constructed deeper in the Fernando Formation. However, the additional lateral earth pressure due to liquefaction is to be considered for the final structure within the "high" potential soil layers for liquefaction.

The alignment along Alameda (north branch of Wye) and First Streets (east branch of Wye) will be constructed in upper alluvial soils in which the potential for liquefaction is considered "low".

3.2 Geologic Units

The planned excavations will encounter the following units: artificial fill, alluvium, and the Fernando Formation. The characteristics of these units are described below. Baselines for the various characteristics are provided in Section 4 according to tunnel reach, Station, etc.

3.2.1 Artificial Fill

Artificial fill of variable thickness underlies the ground surface along much of the alignment. The fill consists of mixtures of gravel, sand, silt, and clay, with construction debris. At some locations, artificial fill contains up to 60 percent construction debris, which includes pieces of brick, asphalt, plaster, metal, wire, timber, and concrete. Typically, the construction debris ranges in size from gravel to cobbles. However, fragments that are several feet in maximum dimension (i.e. boulder size) are present.

Deep areas of fill, to depths of approximately 25 to 35 feet below ground surface, are located along and adjacent to Flower Street from 2nd Place to 4th Street above the abandoned Pacific Electric tunnel, the storm drain excavations, and other structure excavations that have been backfilled.

3.2.2 Alluvium

Holocene to probable late Pleistocene age alluvial deposits are present along the alignment beneath variably thick artificial fill. The alluvium overlies an erosional contact with the Fernando Formation and thins out laterally against an irregularly sloping contact with the Fernando Formation at variable depths in the subsurface.

The alluvial deposits thicken southward along South Flower Street between 2nd Street and 6th Street. The elevation of the alluvium/bedrock contact along Flower Street is near the proposed tunnel crown elevation. Data from prior geotechnical/foundation investigations and current boring data indicate an eastward increase in alluvial deposit thickness and increased depth to the Fernando Formation beneath 2nd Street between Main Street and Alameda Street.

Geologic maps prepared by Soper and Grant (1932) and Lamar (1970) show the alluvial deposits in depositional contact (i.e., the alluvium laterally thins or pinches out) against bedrock near the intersection of Hill Street and 2nd Street. Geologic maps prepared by the CGS (2010)

and the U.S. Geological Survey (2005) have delineated the alluvial deposits beneath Flower Street and 2nd Street as separate alluvial units. The alluvial deposits along Flower Street were deposited within a relatively small drainage area, whereas, the alluvial deposits along 2nd Street were deposited in a higher energy environment, primarily as floodplain, channel, and sheet flow deposits derived from the Los Angeles River.

Based on the characteristics described above, on Plate 1, the alluvial deposits are subdivided into two units: Qal1 which is typically finer grained and Qal2 which is typically coarser grained. In addition to this general difference in soil type, the subdivision of the alluvium is based on penetration blow count data and geologic observations of drive samples and sonic cores that indicate the coarser grained alluvial deposits beneath 2nd Street and Alameda Street (Qal2) are notably denser than the upper alluvial deposits (Qal1). In addition to this density contrast, locally the Qal2 unit has slight cementation. Together, these characteristics suggest that the lower coarser-grained alluvial unit (Qal2) is notably older, probably early Holocene to late Pleistocene age. A similar condition exists locally along Flower Street.

3.2.2.1 Qal1

A review of available boring logs along the project alignment was made to estimate the distribution of USCS soil types and maximum layer thickness within Qal1. The results are shown on Figure 3, which shows that Qal1 is dominantly comprised of sandy soils. Figure 3 also shows the number of gradation tests performed on each soil type.

The dry density of Qal1 has a broad range, varying from approximately 80 to 140 pounds per cubic foot (pcf), and based on a total of 308 tests, the average dry density is approximately 108 pcf. The moisture content ranges from a few percent to approximately 45 percent, and based on 310 tests averages approximately 14 percent. The wet density ranges from approximately 100 to 150 pcf and has an average of approximately 122 pcf. Figures 4, 5, and 6 show the distribution of dry density, moisture content, and wet density within the Qal1 unit.

The relative density (from sampler penetration blow counts) of the Qal1 varies widely, depending on soil type, with blow counts ranging from approximately 13 blows per foot (bpf) to 50+ blows for a few inches of sampler penetration. The instances of high blow counts (i.e. approximately 50 blows for a few inches of penetration) are generally limited to within the gravelly and cobbly soils.

Figure 7 shows the results of all gradation tests performed in Qal1. It is noted that the results of the gradation tests reflect the particle size of the soil samples actually obtained, and for coarse grained samples, these results do not accurately represent the in situ material. This is because coarse-grained materials commonly contain particles larger than the sampler opening and thus are not sampled.

Hydraulic conductivity within the Qal1 alluvium varies widely based on soil type. No hydraulic conductivity testing was performed in the Qal1 alluvium during the recent EIR or ACE/PE/APE studies. However three results are available from investigations performed by CEG Consultants (1981, 1983) where results ranged from 2.9×10^{-5} cm/s to 4.4×10^{-4} cm/s. Layers of relatively clean sand and gravel are expected to have higher hydraulic conductivity, ranging up to 10^{-2} cm/s. Based on the compilation of data from boring logs shown on Figure 3, such higher conductivity layers comprise up to 36 percent of the Qal1 alluvium unit.

3.2.2.2 Qal2

A review of available boring logs along the project alignment was made to illustrate the distribution of USCS soil types and maximum layer thickness within the Qal2 unit. The results are shown on Figure 8, which shows that the Qal2 is dominantly comprised of sandy soils. In comparing Figures 3 and 8, it is apparent that the Qal2 contains more poorly graded and well graded sand, more gravely soils, and much less silty and clayey soils, as compared to the Qal1. For reference, Figure 8 also shows the number of gradation tests performed on each soil type.

The dry density of the Qal2 has a broad range, varying from approximately 80 to 140 pcf, and based on a total of 207 tests, the average density is approximately 115 pcf. The moisture content ranges from a few percent to approximately 40 percent, and based on 212 tests, averages approximately 10 percent. The wet density ranges from approximately 100 to 160 pcf and has an average of approximately 126 pcf. Figures 4, 5, and 6 show the distribution of dry density, moisture content, and wet density within the Qal2.

The relative density of the Qal2 varies with soil type, and overall, this unit is denser than the Qal1. Where it is gravelly/cobbly, penetration resistance within Qal2 is commonly over 50 bpf or 50+ blows for a few inches of sampler penetration.

Figure 9 shows the results of all gradation tests performed in Qal2. As with the Qal1, the results of the gradation tests for the Qal2 reflect the particle size of the soil samples actually obtained, and for coarse grained samples, these results do not accurately represent the in situ material.

One hydraulic conductivity test (a slug test using the standpipe piezometer installed in boring G2-15) was performed in the Qal2 during the ACE/PE/APE studies. The test zone primarily included poorly to well graded sands with silt and some gravel, with approximately 3% to 9% fines (passing the #200 sieve). The test result indicates an average conductivity of approximately 4×10^{-4} cm/s. One test result is available from investigations performed by CEG Consultants (1983) with a result of 2.3×10^{-6} cm/s. Local layers of clean sand and gravel are present and are expected to have hydraulic conductivity ranging up to 10^{-3} cm/s. As part of the ACE/PE/APE geotechnical investigation, the relative abrasiveness of the Qal2 was tested by performing Soil Abrasion Tests (SAT) and Miller abrasion tests. The results of these tests are summarized on Figures 10 and 11. As shown on Figure 10, the three samples of Qal2 showed “medium” abrasiveness based on a comparison to the rock abrasivity scale of the Abrasion Value Steel (AVS). As shown on Figure 11, the three samples that were subjected to Miller Abrasion testing to evaluate the abrasiveness of the material in slurry, ranked as high to very high.

3.2.2.3 Alluvium at South Flower Street

Alluvial deposits along South Flower Street consist primarily of interlayered silty clays, sandy silts, clayey sands, and silty sands with some sand layers containing variable gravel and few cobbles, overlain by a variable thickness of fill. The depth of the alluvial/bedrock contact beneath South Flower Street ranges from 20 feet to 45 feet bgs. South of 6th Street, coarser-grained alluvium was encountered beneath the upper finer-grained alluvium at depths of approximately 20 feet below ground surface (bgs). This coarser-grained alluvium consists of poorly- to well-graded sand with variable gravel and cobble content.

3.2.2.4 Alluvium at 2nd Street

Alluvial deposits beneath 2nd Street are overlain by a variable thickness of fill. The depth of the alluvial/bedrock contact beneath 2nd Street ranges from 15 feet to 47 feet bgs. From Central Avenue to Alameda Street, the depth of the alluvial/bedrock contact ranges between approximately 45 and 50 feet bgs. From Hill Street to Alameda Street, the alluvial deposits consist of variably thick layers of silty sand, poorly- to well-graded sand, sand with gravel and poorly- to well-graded gravel.

The upper portion of the alluvial deposits from about San Pedro Street eastward to Alameda Street consist primarily of silty sand, poorly graded fine- to medium-grained sand, and well-graded sand with generally less than 20 percent gravel content. A coarser-grained alluvial unit was encountered beneath artificial fill between Broadway and San Pedro Street and beneath the upper alluvial unit from about San Pedro Street eastward to Alameda Street. The base of this lower alluvial unit forms an erosional contact with the underlying Fernando Formation at variable depth. The coarser-grained alluvial unit consists primarily of poorly- to well-graded sand, sand with gravels, and poorly- to well-graded gravel with cobbles. East of Main Street, gravel content ranges to 50 percent and cobble content ranges to 20 percent. Boulders up to 20 inches in diameter have been reported in the historical borings. Boulders up to 4 feet in maximum dimension were reported on other local projects. Cobbles and boulders are dominantly igneous and metamorphic rocks that are fresh to slightly weathered and strong to very strong.

3.2.3 Colluvium

Deposits inferred to be of colluvial origin were encountered beneath thick artificial fill on the western flank of Bunker Hill between 3rd Street and Hope Street. These deposits were about five feet thick and primarily consist of medium dense clayey sand and stiff to very stiff, sandy to clayey silt.

3.2.4 Fernando Formation

The Fernando Formation (bedrock) consists of a poorly bedded to massive clayey siltstone to silty claystone that is poorly cemented and extremely weak to very weak (per ISRM, 1978). Although its appearance in excavations is massive, on close inspection the formation does contain bedding, which is commonly apparent as bedding plane partings. The formation includes sandy layers, concretions, and nodules that range from moderately to strongly cemented and range in strength from weak to strong (per ISRM, 1978).

3.2.4.1 Weathering

The Fernando Formation commonly exhibits a weathered profile, which as described on some boring logs ranges from “moderately weathered” to “highly weathered”, this being in comparison to the underlying “slightly weathered” to “fresh” bedrock (refer to the GDR Figure A-1.1b for an explanation of weathering grades). The thickness of the more weathered, weaker bedrock ranges from 0 to approximately 60 feet along the project alignment. As shown on Plate 1, the thickest weathering underlies the high terrain in the vicinity of 2nd and Hope Streets (i.e. from approximately Station R 29+00 to R 45+00), where the depth to slightly weathered/fresh bedrock ranges from approximately 30 to 60 feet below the top of bedrock. The thickness of the more highly weathered bedrock decreases toward the flanks of the hill.

3.2.4.2 Sampler Penetration Resistance

Within the moderately to highly weathered zones, the consistency of the Fernando Formation, as evidenced by sampler penetration resistance, is as low as approximately 10 bpf and as high as approximately 50 bpf. Where slightly weathered to fresh, the penetration resistance is markedly higher, typically 50 bpf or higher.

3.2.4.3 Cemented Materials

Borehole Data

Some intervals in the Fernando Formation are notably stronger than is typical for the formation. These materials have been described in logs of borings made over several decades in a variety of ways, including:

> Carbonate cemented siltstone; carbonate cemented zone; cemented layer; cemented layer of limestone; cemented lens; cemented lumps; cemented nodules; cemented siltstone and sandstone; cemented zone; concretion; hard layer; hard cemented layer; hard layer; hard lens; highly cemented layer; layer of cemented lumps; layer of limestone; layer of limestone gravel; limestone nodule; siltstone concretion; trace cemented shell fragments; very hard cemented lens; well cemented siltstone; calcium carbonated-cemented zone; cemented siltstone zone; carbonate cemented siltstone; cemented siltstone lens; dolomitic/cemented zone; cemented siltstone layer; calcareous cemented siltstone; cemented layer of limestone; cemented limestone nodules.

Field observations of excavations in downtown Los Angeles indicate that with few exceptions these cemented materials are concretions. A concretion is a hard, compact mass of sedimentary rock formed by the precipitation of mineral cement within the spaces between the sediment grains, typically in irregular shapes and variable sizes from a few to ten feet. Field observations indicate that these concretions extend laterally for a distance of 3 to 5 times their thickness and are typically elongate in shape.

To evaluate the size of the concretions, borehole data were evaluated and as shown on Figure 12, 85% of the concretions encountered in borings were 1 foot or less in thickness. Field observations indicate that the maximum size of concretions is approximately 10 feet.

Plate 1 illustrate the locations where these concretions were encountered in borings, and as shown, their frequency is greater in the area between approximately Stations R 1+65 to (immediately south of project limit) R 28+00, and Stations R 49+00 to R 54+00, as compared to other locations along the alignment.

The stronger layers encountered in boring G2-4 were identified as sandstone layers in the Puente Formation, which stratigraphically underlies the Fernando Formation. The Puente Formation including sandstone layers was studied to evaluate its potential to be intersected in excavations for the Regional Connector project. It was determined that, based on nearby borings and dip of the formation, the Puente Formation encountered in boring G2-4 will not intersect the planned excavations.

Red Line Tunnels

Information regarding the distribution of concretions within the Fernando Formation is available from construction records for the Red Line tunnels. A review was made of those records, for the

area between Civic Center Station and Westlake/MacArthur (Wilshire/Alvarado) Station, where the Fernando Formation was encountered.

For the tunnels between Civic Center Station and Pershing Square (5th/Hill) Station (a portion of Metro Construction Contract A-141), information on ground conditions encountered was recorded by the construction management team and the construction contractor. For the tunnels between 7th/Metro Center (7th/Flower) Station and Westlake/MacArthur Station (Metro Construction Contract A-171), information on ground conditions is only available from the construction management team.

Based on the available information, the strong cemented materials were described by the Construction Management team using the following terms:

> Some concretions; 18" concretion; small concretions; several concretions; scattered concretions; 6"-8" concretions; concretion nodules; some concretion nodules; concretions of 2"-3" diameter; seam(s) of concretions; scattered concretions < 2' across; concretions to 6" diameter and nodules; concretions 3' x 1" and 4' x 18"; 10" seam of hardened siltstone; bands of concretions; concretion layer.

Similar to field observations, with few exceptions the tunnel logs refer to the strong cemented materials as concretions. The records suggest that the concretions were encountered at individual locations and also scattered along tunnel intervals that were a few hundred feet long. With few exceptions, the records indicate that the concretions ranged to approximately 1 foot in thickness and approximately 4 feet in lateral extent. The construction management records do not indicate that there was difficulty in excavating the concretions with the digger shields that were used.

Using the construction records, an estimate was developed for the lengths of the AR and AL tunnels where concretions were observed. The results are summarized below:

Table 3-1: Summary of Cemented Materials (Concretions) In Red Line Tunnels

Tunnel Segment	Tunnel Segment Length (ft)	Estimated Total Length of Tunnel Where Concretions were Reported in Construction Documents			
		AR Tunnel		AL Tunnel	
		Feet	% of Tunnel Segment	Feet	% of Tunnel Segment
Contract A-141: Civic Center Station to Pershing Square Station	1772	457	26	210	12
Contract A-171: 7th/Metro Center Station and Westlake/MacArthur Station	4937	1066	22	2550	52

Note: Estimates based on construction management team descriptions cited by Mahar (1994).

For the tunnels from Civic Center Station to 5th/Hill Station, the construction records also contain observations from the construction contractor. Those reports do not describe the stronger materials as concretions, as did the construction management team, but rather as "rock", "rocky", "hard rock", or "hard ground"; this description being in contrast to the description of "good" or "good ground" that the construction contractor used otherwise.

In evaluating this information, it was noticed that the locations of cemented materials identified by the construction contractor do not align well with the locations where the construction

management team identified concretions. As a result, it is interpreted that the construction contractor was referring to stronger layers within the Fernando Formation, and not isolated concretions. Based on where the stronger material (i.e. rock, hard rock) was reported by the construction contractor, the following summary was developed:

Table 3-2: Summary of "Hard Rock" In Red Line Tunnels

Tunnel Segment	Tunnel Segment Length (ft)	Estimated Total Length of Tunnel Where Hard Rock was Reported in Construction Documents			
		AR Tunnel		AL Tunnel	
		Feet	% of Tunnel Segment	Feet	% of Tunnel Segment
Contract A-141: Civic Center Station to Pershing Square Station	1772	180	10	410	23
Contract A-171: 7th/Metro Center Station and Westlake/MacArthur Station	Data not available				

Note: Estimates based on construction contractor descriptions cited by Mahar (1994).

The tunnel reaches where rock/hard rock was encountered range in length from approximately 5 to 50 feet. Within these reaches, the largest recorded size of hard rock was 8 feet by 12 feet (presumed to be length and width of the layer). The largest dimension overall was 14 feet long. These dimensions are considered more representative than can be estimated using boring data, however the maximum observable dimension is still limited to the width of the tunnel and depends on the dip orientation of the formation. The thickness of the seams/layers of "hard rock" is not well documented, but appears to be limited to approximately 2 feet. In one instance, in the AR tunnel between 2nd Street and the 5th/Hill station, it was reported that the tunnel encountered "hard rock" in the invert and that the shield was possibly damaged.

3.2.4.4 Density and Moisture Content

The dry density of the Fernando Formation ranges from approximately 70 to 120 pcf, and based on a total of over 1,100 tests, the average dry density is approximately 93 pcf. The moisture content ranges from approximately 6 to 55 percent, and based on over 1,100 tests, averages approximately 29 percent. The wet density ranges from approximately 101 to 140 pcf and averages approximately 120 pcf. Figures 4, 5, and 6 show the distribution of dry density, moisture content, and wet density within the Fernando Formation.

In reviewing the moisture-density data, it is recognized that there are some locations where light weight (<90 pcf dry density) and/or high water content (>40%) materials are present. The locations where laboratory tests are available to identify these materials are shown on Plate 1 and as shown, the light weight/high water content materials appear to be more common in the vicinity of Bunker Hill.

3.2.4.5 Gradation

Figure 13 shows the results of all gradation tests performed on samples of Fernando Formation. To perform these tests, the bedrock samples had to be disaggregated in the laboratory to form a soil. All of the available gradation data were used to create Figure 14, which summarizes the minimum, maximum, and average gradation, together with one standard deviation above and below the average gradation.

3.2.4.6 Plasticity

Figure 15 shows the distribution of soil plasticity testing results for samples of the Fernando Formation. These results are for samples that were processed to disaggregate the otherwise firm bedrock material to a soil material that could be subjected to Atterberg Limits testing. As shown on Figure 15, the results indicate that the material is near the silt/clay borderline, and ranges in plasticity from low to high.

3.2.4.7 Stickiness

The available plasticity and moisture content data were used to determine Consistency Index. The Consistency Index values are plotted together with the plasticity indices on Figure 16, which illustrates the relative potential for the formation to exhibit clogging behavior during Tunnel Boring Machine (TBM) excavation. The “low”, “medium”, and “high” categories for potential for clogging that, shown on Figure 16, are based on Thewes and Burger (2005) for tunneling in clay. Based on the results shown on Figure 16, the Fernando Formation will exhibit a “medium” to “high” potential for clogging. However, Figure 16 is based on Atterberg Limit tests which require a high degree sample disaggregation of the sample, while the TBM, during excavation at the face, muck mixing in the plenum, and throughout the muck transport process, is not anticipated to disaggregate the formation to a high degree. The actual tendency of the excavated materials for clogging will be less than suggested by Figure 16. The actual tendency for clogging will be low to medium.

3.2.4.8 Strength

The unconfined compressive strength of the typical weakly to uncemented siltstone/claystone of the Fernando Formation ranges from approximately 25 psi to 300 psi. As discussed above, the formation contains cemented materials that are notably stronger than the typical siltstone/claystone material. For comparison, carbonate cemented materials range in unconfined compressive strength from 5,000 to 13,000 psi.

The strength testing results from the ACE/PE/APE investigations, excluding strongly cemented materials, are shown in Figure 17, which indicates a trend of increasing strength with depth below the bedrock surface. This increase in strength with depth below top of bedrock may be due, in part, to the effects of decrease in degree of weathering with depth.

Figure 18 shows the distribution of strength results for all tested samples of Fernando Formation, including the test results for cemented materials. Figure 18 illustrates the significant strength difference between the typical Fernando Formation and those materials that are moderately to highly cemented. Based on the strength classifications of ISRM (1978), the typical Fernando Formation is considered “extremely weak” to “very weak” rock and the cemented materials are considered to be very strong rock.

Figure 19 provides an expanded distribution chart for the lower end of the strength range, to illustrate the distribution of strength within the typical “extremely weak” to “very weak” Fernando Formation.

3.2.4.9 Slake Durability

Being a weak rock that is composed of silt/clay, the Fernando Formation is subject to slaking and will disintegrate or crumble due to changes in moisture content. Testing of 14 bedrock samples shows that the second cycle slake durability index ranges from 0.3 to 69 with an

average of 34. Figure 20 graphically shows the distribution of these test results. As shown on Figure 20, over 90% of the Formation has a low to very low durability.

3.2.4.10 Abrasion

The relative abrasiveness of the bedrock was tested by performing Soil Abrasion Tests (SAT) and Miller abrasion tests. The results of these tests are summarized on Figures 10 and 11 (together with results for samples of alluvium). As shown on Figure 10, the six tested samples showed "very low" to "low" abrasiveness. As shown on Figure 11, seven samples that were subjected to Miller Abrasion testing ranked as "low" to "moderate". Also Cerchar Abrasion Tests were performed on four cemented material samples from the Fernando Formation. The Cerchar Index ranges from 1.2 to 1.9.

3.2.4.11 Hydraulic Conductivity

Due to its fine grained texture, typical massive condition (i.e. lack of well developed bedding planes), and lack of open fractures, the Fernando Formation has a relatively low hydraulic conductivity. Information from previous investigations (i.e. for the Red Line tunnels) indicates that the hydraulic conductivity in the bedrock ranges from approximately 10^{-8} cm/s to 10^{-6} cm/s. The field measurements obtained during the ACE/PE/APE investigation shows the hydraulic conductivity in the bedrock ranges from approximately $4x10^{-7}$ cm/s to $2x10^{-4}$ cm/s. Based on the available information, the overall average hydraulic conductivity of the rock mass is 10^{-6} cm/s, except where specific values are given in Section 4 for inflow baselines.

3.2.4.12 Discontinuities

The bedrock contains discontinuities that include bedding planes (bedding plane partings/bedding plane joints), joints and shears. The results from recent acoustic televiewer (ATV) surveys are summarized on Figures 21A to 21C.

As part of the ACE/PE/APE investigation, in late August 2011, a review was made of the foundation excavation for the future Broad Museum, which is bounded by South Hope Street, South Grand Avenue, West 2nd Street, and GTK Way. This development exposed the bedrock in an excavation similar to that envisioned for the proposed cut-and-cover subway stations, and also because the RCTC alignment passes beneath a portion of that site. The foundation excavation primarily exposed Fernando Formation bedrock, part of which was exposed across the bottom of the excavation at the time of the field visit.

The exposed bedrock was predominantly a massive, gray, and slightly weathered to fresh, clayey siltstone, as shown in Figure 22, which shows a footing excavation in the bottom of the building excavation. Although the footing excavation depicted in Figure 22 is relatively shallow (on the order of three to five feet deep), the vertical walls are stable, with the exception of local overbreak (small wedge failures and spalling) that formed along joint surfaces. Figure 23 shows a closer view of the same excavation, pointing out the exposed joint surfaces. These joints are narrow to tight in aperture, approximately planar, and are variably coated with iron oxides.

Figure 24 shows the typical appearance of the moderately to highly weathered bedrock. As shown, where moderately to highly weathered, the bedrock is typically yellow brown to brown in color and the joints tend to be wider in aperture with more iron oxide accumulation. Because the more deeply weathered material is weaker in strength, with more pronounced joints,

excavations tend to experience a greater degree of small wedge failures (i.e. raveling and spalling).

As noted above, the bedrock is subject to slaking behavior due to changes in moisture content. Figure 25 shows a bedrock exposure (within the Broad Museum foundation excavation) that has begun to crack due to desiccation.

During observation of the Broad Museum foundation excavation, three to possibly four joint sets were apparent as indicated in Figure 21B. The joint surfaces were commonly coated with iron-oxides, appeared wavy and slightly rough, and had lateral persistence on the order of at least five to ten feet along strike. Bedding was not observed in the foundation excavations where the access was limited.

3.3 Groundwater Conditions

Perched groundwater generally exists within the lower portion of the alluvial deposits, due to the relatively low permeability of underlying Fernando formation. In addition, a regional water level is present within the Fernando Formation.

Perched and regional water levels measured during drilling or in piezometers are shown on Plate 1. Using those data points, the elevation of the perched and regional water levels were interpreted and are shown on Plate 1. These groundwater elevations are expected to vary due to seasonal rainfall, with elevations varying five feet above and below the levels shown on Plate 1.

3.4 Hazardous Gas

As presented in the GDR, the Regional Connector alignment crosses a portion of the Union Station Oil Field, which has been delineated as a Methane Zone by the City of Los Angeles Department of Public Works, Bureau of Engineering, and crosses a Methane Buffer Zone that has been delineated by the City of Los Angeles Department of Public Works along the south margin of the Los Angeles Oil Field. Field evidence for naturally occurring gas (i.e. methane and/or hydrogen sulfide) along the project alignment includes:

- Of a total of 11 field methane measurements taken during the ACE/PE/APE investigation, four measurements (MB2-10', MB2-35', MB9-50' and MG2-16-35') detected a methane concentration of 0.1 % by volume or 1,000 ppmv.
- Of a total of 9 field hydrogen sulfide measurements taken during the ACE/PE/APE investigation, three measurements from boring G2-16 (MG2-16) at depths of 15, 35 and 55 feet were detected with H_2S concentrations of 0.004, 0.004 and 0.003 ppmv, respectively.
- A total of 9 soil gas samples were tested in the laboratory for VOCs, methane and fixed gases, and methane was detected above the minimum detection limit (MDL) of 10 ppmv in four samples. The maximum concentration was 640 ppmv detected from the sample at MB9-50'.
- Boring E2-2: Strong sulfur odor in Fernando Formation between depths of 38 feet and 60 feet, and field readings of 1 to 5 ppm H_2S in bedrock down to 55 feet. The maximum field H_2S reading of 5 ppm was detected at 45 feet bgs.

Information regarding gas encountered with construction of the Red Line tunnels and with nearby buildings is available from the Construction History records as follows:

Construction Contract A-141 (Union Station to Pershing Square Station) included 5,122 feet for the AL tunnel and 5,190 feet for the AR tunnel, which were reportedly excavated through the Alluvium, Puente Formation, and Fernando Formation. In the AL tunnel, the gas tester registered 20% Lower Explosive Limit (LEL) methane at about 450 feet west of the Union Station which was accompanied by evacuating the tunnel and an order for no tunnel excavation for about following 10 days; hydrogen sulfide at a concentration of 4 ppm was detected at about 550 feet west of the Union Station; and gas (presumably methane) at concentrations of 1 to 3% LEL was reported at about 600 feet west of the Union Station and about 200 feet south of the Civic Center Station. These occurrences apparently resulted in delays of construction with down time.

For the AR tunnel, records indicate five locations where gas was encountered; two locations were methane, one location did not indicate the type of gas, and two locations were hydrogen sulfide. The locations where methane was reported at concentrations of 3% LEL and 0.5% methane were located approximately 500 feet west of the Union Station and approximately 300 feet south of the Civic Center Station, respectively. Where the methane concentration was reported at 0.5%, the tunnel was evacuated until no methane was detected. The location where the type of gas was not noted occurred approximately 600 feet south of the Civic Center Station. This encounter apparently required a shut down. For the two locations where hydrogen sulfide was encountered, one location occurred approximately 1,000 feet south of the Civic Center Station; the other occurred between approximately 1,250 and 1,350 feet south of the Civic Center Station. Within these two locations of hydrogen sulfide gas, records indicate strong odors and/or concentrations ranging from 5 to 27 ppm. Tunnel excavation was either slowed or temporarily shut down within these two locations for mitigations.

Construction Contract A-171 (7th/Metro Center Station to Westlake/MacArthur Park Station) included a total of 4,937 feet of twin bore tunnel, nearly all of which encountered the Fernando Formation. For the AR tunnel, neither the construction management team nor the construction team noted encountering methane or hydrogen sulfide gas. However, for the AL tunnel, the construction management team recorded hydrogen sulfide gas at four locations, located between approximately 400 and 700 feet west of the 7th/Metro Center Station. Three of these locations reported a hydrogen sulfide concentration of 6 ppm, whereas the fourth location reported a hydrogen sulfide odor.

Los Angeles Central Library Addition Project (5th Street between Grand Avenue and Hope Street) included demolition of the previous east wing, excavation of the new basement ranging from 50 to 70 feet below ground surface, and construction of the new three-story east wing addition to the existing building. During the site investigation phase, six borings were drilled encountering fill, natural overburden soils, and massive siltstone with cemented beds. According to the boring logs, hydrogen sulfide odor was noted in four of six borings at depths within the siltstone near the bedrock contact with overburden soil. The source of the odor was not established and no tests were performed to determine the quantity of hydrogen-sulfide in the soils. During the construction, gas investigation was conducted related to methane gas intrusion from the soil at the main library. During the gas investigation, combustible gas was monitored in the air space inside the basement of the library, in one auger hole at the new east wing excavation, and from five shallow probes constructed under the lower level slab by 4-inch coring and pre-fabricated soil gas monitoring probes. The air space monitoring measured 1 to 2 % LEL

methane in the southwest quadrant of the old library lower level; the auger hole gas monitoring found 70 % LEL methane; and the probe readings on October 2, 1989 were as high as 56 % combustible gas by volume (Sepich, 1989). The gas investigation concluded that gas control measures were needed to be implemented. In November 1989, canister samples of gas taken from probes were tested in the laboratory. The test data showed 33 % methane below the Goodhue (main) library slab and 87 % methane below the east wing site (Sepich, 1989). The west end of the main library building is located at about 290 feet east from the center of South Flower Street, and the west end of the east wing is located at about 520 feet east from the center of South Flower Street.

550 South Hope Street Project (Lincoln Property Company) is a 30-story tower constructed over a 45- to 60-ft deep basement structure. During the site investigation phase, three borings were drilled encountering fill, natural overburden soils, and siltstone. According to the boring logs, hydrogen sulfide odor was noted in two of three borings at depths within the siltstone. No further record of gas investigation was found. The west end of the tower is located at about 440 feet east from the center of South Flower Street.

3.5 Contaminated Soil and Groundwater

Contamination of soil and groundwater is locally evident, based on historic and recent boring information. Field evidence for contamination along the project alignment includes:

- Strong hydrocarbon odor that was detected in the alluvial soils at a depth of approximately 45 feet below the ground surface at the northwest corner of 1st and Alameda Streets (LeRoy Crandall and Associates, 1989).
- Petroliferous odors reported by LeRoy Crandall and Associates (1964) in several borings drilled north of 3rd Street between Flower Street and Grand Avenue.
- Boring E2-1: Petroleum odor was reported within fill at a depth of approximately 7 to 15 feet bgs. The maximum field VOCs reading was 2.2 parts per million (ppm) detected at 30 feet bgs (7 feet below the top of the Fernando Formation).
- Boring E2-2: The maximum field VOCs reading was 1.5 ppm detected at 90 feet bgs (in Fernando Formation). A sample of Fernando Formation from a depth of 65 feet bgs was tested for semi volatile organic compounds (SVOC) and benzopyrene was detected with a concentration of 480 micrograms per kilogram (µg/kg). This concentration is above the Environmental Protection Agency (US EPA) Region IX Regional Screening Levels (RSLs) of 210 µg/kg. A soil sample from a depth of 50 feet bgs was found to contain petroleum hydrocarbons.
- Boring E2-3: The maximum field VOCs measurement was 2.8 ppm detected at 10 feet bgs, in fill material. A soil sample from a depth of 35 feet bgs was found to contain petroleum hydrocarbons.
- Boring E2-4: The maximum field VOCs measurement was 2.2 ppm, detected at 15 feet bgs, in alluvium. Soil samples from depths of 35, 40, and 50 feet bgs were found to contain petroleum hydrocarbons.
- Boring E2-5: The maximum field VOC measurement was 1.0 ppm, detected at 25 feet bgs, in Fernando Formation.
- Boring E2-6: Petroleum odor was reported in an approximate 10 foot interval between 30 and 40 feet bgs. The maximum field VOC measurement was 24.2 ppm, detected at 30 feet

bgs, in fill. Soil samples from depths of 30, 35, and 45 feet bgs were found to contain petroleum hydrocarbons. A groundwater sample from boring E2-6 was analyzed for Title 22 Metals and all metals with concentrations above the laboratory PQL were below their respective PHGs for drinking water, except for mercury, which was detected with a concentration of 5.3 µg/L [or 5.3 parts per billion (ppb)], exceeding the PHG of 1.2 ppb.

- Boring E2-7: Petroleum odor was noted during water sampling. VOCs, SVOCs, and petroleum hydrocarbons were not detected in soil. A groundwater sample from a depth of 46 feet bgs were found to contain no petroleum hydrocarbons but found to contain 0.78 µg/L of benzene and 38 µg/L of toluene. All metals with concentrations above the laboratory PQL were below both the total threshold limit concentration and ten times the soluble threshold limit concentration.

These findings indicate that contaminated soil and groundwater is locally present and will be encountered sporadically. As a result, appropriate handling and disposal will be required, and will be dependent on the contaminant concentrations encountered. Volumes of soil that are expected to require special treatment/disposal are discussed in Section 4.

3.6 Soil Corrosivity

Based on the laboratory tests conducted on 23 soil/rock samples throughout the project site during ACE/PE/APE phases, the ground is classified as:

- Severely corrosive to ferrous metals
- Aggressive to copper
- Severe for sulfate attack on concrete
- Aggressive with respect to exposure of reinforcing steel to the migration of chloride
- Aggressive with respect to exposure of concrete to acid attack
- Subject metal to microbial induced corrosion

Table 3-3 is a summary of the laboratory test results. Also refer to the Soil Corrosivity Evaluation report included in the GDR Appendix B-1 for more details.

Table 3-3: Ground Corrosivity Summary

Geologic Unit	Lab Tests	Min.	Max.	Average	Unit
Alluvium	Resistivity as-received	2,200	4,400,000	450,000	Ohm-cm
	Resistivity minimum	840	15,680	6,792	Ohm-cm
	pH	6.3	8.5	7.7	-
	Electrical Conductivity	0.03	0.97	0.14	mS/cm
	Chloride Content	2.8	51.0	12.8	mg/kg
	Sulfate Content	12	1,840	188	mg/kg
Fernando Formation	Resistivity as-received	560	110,000	12,000	Ohm-cm
	Resistivity minimum	264	1,120	543	Ohm-cm
	pH	3.8	8.1	7.2	-
	Electrical Conductivity	0.29	3.02	1.72	mS/cm
	Chloride Content	9.1	413.0	99.1	mg/kg
	Sulfate Content	317	10,300	3,781	mg/kg

4.0 ANTICIPATED GROUND CONDITIONS

This section provides baseline conditions for the project elements identified in Section 2. Baselines are provided for ground, groundwater and gas/contamination conditions. For convenience, ground and groundwater conditions are depicted on Plate 1. Ground behaviors described in the Sub-sections are according to the descriptions provided in Table 4-1.

Table 4-1: Ground Behavior Terms

Ground Behavior Terms and Descriptions
Firm rock or soil is a material which will stand unsupported in a tunnel for several days or longer. The term includes a great variety of materials: sands and sand-gravels with clay binder, stiff unfissured clays at moderate depths, and massive rock.
Massive, moderately jointed rock contains joints and cracks, but the blocks between joints are locally grown together or are so intimately interlocked that vertical surfaces do not require lateral support.
Blocky and seamy rock consists of chemically intact or nearly intact rock fragments, separated from each other by joints or other discontinuities that are imperfectly interlocked. In such rock, vertical surfaces may require support. When individual blocks are larger than one foot, the rock is called moderately blocky; when blocks are smaller than one foot, the rock is called very blocky and seamy.
Crushed rock consists of chemically intact rock fragments that have the character of crusher run. Individual particles are of gravel size or smaller. This material behaves like gravel or sand.
Squeezing ground slowly advances into the tunnel without perceptible volume increases. Squeezing conditions are associated with a high percentage of microscopic and sub-microscopic particles of micaceous minerals or of clay minerals with a low swelling capacity. A prerequisite for squeeze is an overstress of the material close to the tunnel opening, hence, for a given material the overburden stress is an important parameter.
Swelling ground advances into the tunnel chiefly on account of expansion. The capacity to swell seems to be limited to those rocks which contain clay minerals such as montmorillonite, with a high swelling capacity.
Raveling ground is used to describe a material which gradually breaks up into chunks, flakes, or angular fragments after the ground has been exposed in the tunnel. The process is time dependent and materials may be classified by the rate of disintegration as fast or slow raveling. If the raveling process starts within a few minutes, the ground is fast raveling. Otherwise, it is referred to as slow raveling. Examples are fine moist sand, and gravels with some clay binder, stiff fissured clays, jointed rocks, and weak rocks.
Running ground indicates a material which will invade the tunnel until a stable slope is formed at the face. Stand-Up time is zero or nearly zero. Examples are clean medium to coarse sands and gravels above the groundwater level. If running ground has a trace of cohesion, then the run is preceded by a brief period of progressive raveling. Materials intermediate between running and raveling are described as cohesive-running.
Flowing ground acts as a thick liquid and differs from running ground in that it invades the tunnel not only from above and from the slides, but also through the bottom. If the flow is not arrested, it continues until the tunnel is completely filled.

Modified from Terzaghi in Proctor and White (1946), Heuer (1974), and Deere et al. (1969).

4.1 Anticipated Gas Condition

Methane and hydrogen sulfide gases are anticipated to be encountered during the tunnel drive and the open cut excavations. These gasses are expected to exist and seep through pore spaces and discontinuities, and will be generated from off-gassing of groundwater that flows into the excavation. Also the excavated material exposed to the underground environment will emit these gases during handling and hauling. The concentration, pressure, and volume of these gasses are expected to be sufficiently low that the inflow and off-gassing of these gasses can be mitigated within the open cut, crossover cavern, crosspassage, and bored tunnel excavations through adequate ventilation, proper shotcrete application, and pressurized-face TBM tunneling with a precast concrete segmental tunnel lining as described in the Project Requirements. The underground work has been classified as “potentially gassy” by the State of California, Department of Industrial Relations, Division of Occupational Safety and Health Administration (CAL/OSHA).

4.2 Mangrove Site – TBM Launch Area

Currently the site is a parking lot used by the City of Los Angeles. It was previously occupied by the Los Angeles Soap Company also known as White King, Inc. There were one- to five-story buildings that have been demolished sometime around 1990. The extent of demolition of the underground elements (basements and foundations) is unknown. As a result, it is assumed that abandoned shallow foundations and basement slabs/walls exist in the area, and that these building remnants will be encountered during excavation of the TBM launch pit and also in the TBM drive within the limits of the site.

According to a report by LeRoy Crandall Associates (1990), some of the building basements were used to collect "sludge", the characteristics of which are not well known at this time. Several holding tanks were present in a building on the site. These tanks reportedly contained wastewater generated during industrial processes on site. The basement of the building, below the tanks, contained an undetermined thickness of sludge, which is presumably residue from the wastewater operations. The LeRoy Crandall Associates report also indicates there were five underground storage tanks within the limits of the Mangrove site and that these tanks were removed. One of those underground tanks contained diesel oil, which is reported to have leaked into surrounding soils. The location of identified underground tanks and known extent of contamination is described in that report. The extent of site clean-up is not known. For the baseline purpose, 5% of the excavated material from this site will require special treatment/disposal of soil due to contamination.

An additional environmental site assessment was performed near an abandoned underground storage tank (UST) north of the anticipated TBM launch pit (southeast corner of Temple and Alameda Streets), and findings were presented in a report by LeRoy Crandall Associates (1991). Based on the assessment, no significant release of fuel hydrocarbons was detected in the vicinity of the abandoned UST.

Another investigation was performed in 1992 to assess the groundwater conditions at the Mangrove site, and confirmed the groundwater beneath the site generally contains elevated TDS and dewatering operations would require treatment prior to discharge into local storm drains, as presented in a report by LeRoy Crandall Associates (1992).

In addition, a site investigation consisting of a geophysical survey, one test boring (E2-7), and geotechnical and environmental laboratory testing was conducted during APE phase. A buried structure with at least two levels of reinforcement is identified at 2 to 4 feet below the ground surface by geophysical investigation, and it appears that orientation of this anomaly matches with the old Banning Street that used to traverse the site. The buried structure is interpreted as footings or other structural element related to former buildings. Findings from the environmental tests on Borehole E2-7 are summarized in Section 3.5. More details and geotechnical findings are presented in the Mangrove site investigation report by AMEC (2013).

4.3 East End "Wye"

This section of the project (described in Table 2-1) will be excavated in artificial fill and alluvium as shown on Plate 1. The artificial fill ranges from five to ten feet thick. Soil types in the fill and alluvium are variable but primarily include silty to gravelly, poorly graded sand and well graded sand. The upper 20% of the soils within the planned excavation have a loose consistency. The

underlying 80% is medium dense to very dense. The soils typically become more gravelly with depth.

Cobbles and boulders that are strong to very strong (based on the categories defined by ISRM, 1978) are common in the alluvium, and similar size fragments of construction debris are contained within the fill. On a volume basis, 5% cobbles and 2% boulders will make up both the fill and alluvium. The fill and alluvium soils will be moderately to highly abrasive.

The fill and alluvium will exhibit slow to fast raveling in unsupported vertical walls and poorly graded sands will run. As a result, these soils will require immediate support in excavation walls. Groundwater control or ground reinforcement will be required to mitigate fast raveling, running and/or flowing conditions.

The regional groundwater elevation is below the base of the excavation throughout this section. However, local perched groundwater will be present. As a result, minor (less than 5 gpm) inflows are expected to occur locally. These inflows will diminish to slow seeps with time. Sustained inflow in this section will range from drips to slow seeps.

Artificially occurring petroleum may be present in the groundwater in the area, but will be below the bottom of the proposed excavation. However on the past history of site use, for the baseline purpose, 5% of the excavated material from this section will require special treatment/disposal of soil due to contamination.

4.4 Flower Street Cut–and–Cover

As shown on Plate 1, this cut-and-cover excavation will encounter artificial fill, alluvium, and the Fernando Formation. The base of this excavation will encounter Fernando Formation throughout. Subsurface excavations for some of the adjacent buildings along this section are known to have been supported by tieback anchors. This is a primary reason for excavation by cut-and-cover construction methods for most of this section of the project. Based on existing as-built drawings included in the Project Reference Documents, several hundred tieback anchors are expected to be encountered in this cut-and-cover excavation.

The fill soils are dominantly (75% to 80%) low plasticity clays and silts, with 20% to 25% silty sands that range from poorly to well graded. The upper alluvium (Qal1) is comprised of 60% to 65% low plasticity clays and silts, 20% to 25% silty and clayey sands, and 10% to 15% poorly to well graded sand. The lower alluvium (Qal2) is comprised of 15% to 20% low plasticity clays and silts, 20% to 25% silty sand, 10% to 15% poorly graded sand, and 50% to 55% well graded sand. The soils are medium dense to dense sands with local intervals of loose or very dense sands or very soft clays and silts.

Cobbles and boulders that are strong to very strong (ISRM, 1978) are common in the alluvium. The fill contains a variety of construction debris, which ranges in size from gravel to boulders up to 4 feet across. It is expected that on a volume basis, the fill and alluvium will contain cobbles (5%) and boulders (2%). The alluvium and fill soils will be moderately to highly abrasive.

Above the groundwater level, the artificial fill and alluvium will exhibit slow raveling behavior in unsupported vertical cuts. Below groundwater, these materials will exhibit fast raveling to flowing behavior in unsupported vertical cuts. As a result, these materials will require immediate support in excavation walls below groundwater. Groundwater control measures or ground

stabilization will be required to prevent loss of ground due to fast raveling to flowing conditions below the groundwater level.

The characteristics of the bedrock are as described in Section 3.2.4. As discussed, concretions are common and they are significantly stronger than the typical bedrock. It is expected that 95 percent of the concretions are cemented with calcium carbonate and five percent are dolomitic. The distribution in thickness of these concretions is depicted on Figure 12. The lateral dimensions vary from 3 to 5 times the thickness. As shown on Plate 1, there is a higher frequency of cemented materials in the bedrock along this section, as compared to elsewhere along the alignment. These cemented materials will comprise 5% of the bedrock (by volume).

Where the Fernando Formation bedrock is encountered in excavation walls, it will exhibit firm to slow raveling conditions. Raveling will occur at joint intersections, as shown in the photographs of the foundation excavation for the Broad Museum in Figures 22 and 23. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets are present based on ATV surveys shown on Figure 21A. Randomly oriented joints will also be present:

- Joint Set 1 - Dipping 30 to 80 degrees with dip direction ranging from 150 to 190 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 350 to 10 degrees
- Joint Set 3 - Dipping 60 to 80 degrees with dip direction ranging from 220 to 260 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1 at about 30 to 60 degrees based on prior mapping by others in the area.

Groundwater is present in the alluvium in a perched condition above the top of the Fernando Formation. A regional groundwater level is also present. The perched and regional groundwater elevations are shown on Plate 1, and will vary by plus or minus five feet from the elevation shown. Where the excavation is below these groundwater elevations, inflows will occur as seeps and discrete flows from the fill and alluvium. Inflows will also occur from joints/shears in the bedrock and these will be limited to slow seeps. Total sustained inflows from this cut-and-cover section will not exceed 100 gpm.

Petroleum odors were reported in borings at the northeast end of this section, and there is evidence of Volatile Organic Compounds (VOC's) in the same area. As a result, it is expected that the groundwater will contain VOC's, SVOC's and/or petroleum hydrocarbons, and as such will require special treatment/disposal. 5% of the excavated material will require special handling, treatment and disposal.

4.5 Stations

4.5.1 1st/Central Station

The excavation will encounter artificial fill and alluvium. Fernando Formation bedrock is beneath the bottom of the excavation. At this location, the fill is comprised of 0% to 5% low plasticity clayey and silty soils, 40% to 45% silty sand, 5% to 10% poorly graded sand, and 40% to 45% well graded sand. The upper alluvium (Qal1) is comprised of 5% to 10% low plasticity silt and clay, 20% to 25% silty sand, 40% to 45% poorly graded sand, and 20% to 25% well graded sand. The lower alluvium (Qal2) is comprised of 10% to 15% silty sand, 25% to 35% poorly

graded sand, 10% to 15% well graded sand, 5% to 10% poorly graded gravel, and 30% to 35% well graded gravel.

Cobbles and boulders that are strong to very strong (ISRM, 1978) are contained in the alluvium, and cobble and boulder size obstructions are contained in the fill. The cobbles and boulders will comprise 3% and 1%, respectively, of the excavated volume both the fill and alluvium. The alluvium and fill soils will be moderately to highly abrasive.

As shown on Plate 1, the majority of this station will be above the groundwater level except the west end of the station. Above the groundwater elevation, the alluvium will exhibit slow raveling behavior in vertical cuts. Within the limited area (at the west end of the station) where the alluvium will be encountered below the groundwater elevation, these materials will exhibit fast raveling to flowing behavior in vertical cuts.

The groundwater level will range from below the base of the excavation to approximately 10 feet above the base at the western end of the station. Sustained inflows are expected not to exceed 30 gpm.

Artificially occurring petroleum may be present in the groundwater in the area, but will be below the bottom of the proposed excavation, except for the western portion where groundwater is above the bottom of the excavation. Therefore it is expected that special handling and treatment/disposal of groundwater (due to contamination) will be required, and that 5% of the excavated material will require special treatment/disposal of soil due to contamination.

4.5.2 2nd/Broadway Station

The excavation will encounter approximately 15 to 25 feet of artificial fill and alluvium, underlain by bedrock of the Fernando Formation. The depth of moderately to highly weathered bedrock is shown on Plate 1.

At this location, the fill is comprised of 40% to 45% low plasticity clayey and silty soils, 30% to 35% silty sand, 5% to 10% poorly graded sand, and 10% to 15% well graded sand. The alluvium is comprised of 80% to 85% silty sand and 15% to 20% well graded sand. Cobbles and boulders that are strong to very strong (ISRM, 1978) are contained in the alluvium and cobble- and boulder-size obstructions are expected in the fill. The fill and alluvium will contain cobble- and boulder-size materials at 5% and 2%, respectively, of the excavated volume of the fill and alluvium. The alluvium and fill soils will be moderately to highly abrasive.

The characteristics of the bedrock are as described in Section 3.2.4. As discussed, concretions are common and they are significantly stronger than the typical bedrock. It is expected that 95 percent of the concretions are cemented with calcium carbonate and five percent are dolomitic. The distribution in thickness of these concretions is depicted on Figure 12. The lateral dimensions vary from 3 to 5 times the thickness. As shown on Plate 1, there is a higher frequency of concretions in the bedrock along this section, as compared to elsewhere along the alignment. These concretions will comprise 3% of the bedrock (by volume). Above the groundwater level, the artificial fill and alluvium will exhibit slow raveling behavior in vertical cuts. Below groundwater elevation, these materials will exhibit fast raveling to flowing behavior in vertical cuts, and require immediate support in the excavation walls. Groundwater control or ground stabilization will be required to prevent ground loss due to fast raveling to flowing conditions below the groundwater level.

Where the Fernando Formation bedrock is encountered in the excavation walls, it will exhibit firm to slow raveling conditions. Raveling will occur at joint intersections, as shown in the photographs of the foundation excavation for the Broad Museum in Figures 22 and 23. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21B:

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater levels will be encountered at the elevations shown on Plate 1, plus or minus five feet. Local groundwater inflows from the fill and alluvium will be limited to slow to fast seeps. Inflows from the bedrock will occur from joints/shears and will be limited to slow seeps. Total sustained inflows in this section will not exceed 110 gpm.

Evidence for contaminated soils in this area includes a strong petroleum odor within the alluvium at a depth of 15 feet in historic boring No. 80. As a result, it is expected that groundwater inflows into the excavation will require special treatment/disposal, and 5% of the excavated material will require special treatment/disposal of soil due to contamination.

4.5.3 2nd/Hope Station

As shown on Plate 1, the excavation will encounter 10 to 30 feet of artificial fill and colluvium, and the Fernando Formation below. The upper moderately to highly weathered portion of the Fernando Formation extends deeper at this location than elsewhere along the alignment. As shown on Plate 1, slightly weathered to fresh bedrock will be exposed at the bottom 5 to 30 feet of the excavation.

At this location, the fill is comprised largely (85% to 90%) of low plasticity clayey and silty soils. The remainder of the fill is comprised of silty to clayey sand (5% to 10%) and well graded sand (<5%). The colluvium is comprised of low plasticity silt. Cobbles and boulders are not expected in the colluvium, however cobble and boulder size obstructions that are strong to very strong (ISRM, 1978) are expected in the fill and these will comprise 3% and 1% of the volume of the unit, respectively. The alluvium and fill soils will be moderately to highly abrasive to digging equipment.

Above the groundwater level, the artificial fill and colluvium will exhibit slow raveling behavior in vertical cuts. Where seeps occur, these materials will exhibit fast raveling to flowing behavior in vertical cuts, and will require immediate support in excavation walls. Groundwater control or ground stabilization will be required to mitigate ground loss due to fast raveling to flowing conditions below the groundwater level.

The characteristics of the bedrock are as described in Section 3.2.4. As discussed, concretions are common and they are significantly stronger than the typical bedrock. It is expected that 95 percent of the concretions are cemented with calcium carbonate and five percent are dolomitic. The distribution in thickness of these concretions is depicted on Figure 12. The lateral

dimensions vary from 3 to 5 times the thickness. As shown on Plate 1, there is a higher frequency of concretions in the bedrock along this section, as compared to elsewhere along the alignment. These concretions will comprise 5% of the bedrock (by volume).

Where the Fernando Formation bedrock is encountered in the excavation walls, it will exhibit firm to slow raveling conditions. Raveling will occur at joint intersections, as shown in the photographs of the foundation excavation for the Broad Museum in Figures 22 and 23. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figure 21B:

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet. Local groundwater inflows from the fill and colluvium will be limited to drips and slow seeps. Inflows from the bedrock will occur from joints/shears and will be limited to slow seeps. Total sustained inflows in this section will not exceed 100 gpm.

Evidence for contaminated soils was observed as petroleum odors in the fill encountered in historic boring No.48, and as low concentrations of VOC's in the upper portion of recent boring G2-3. As a result, it is expected that groundwater inflows into the excavation will require special treatment/disposal, and that 5% of the excavated material will require special treatment/disposal of soil due to contamination.

4.6 Crossover Cavern

The excavation for the crossover cavern will encounter Fernando Formation bedrock, with the same characteristics as described below for Reach 1B, except that the rock will range from slightly weathered to fresh and the strength of this rock will vary in unconfined compressive strength from 100 to 300 psi.

The bedrock will exhibit firm to slow raveling conditions, and based on the material strength and ground cover, will exhibit a tendency toward stress slabbing. Raveling will occur at joint intersections and bedding planes. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21B.

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1.

The perched and regional groundwater level at this location will be as shown on Plate 1, plus or minus five feet. This will lead to minor inflows (drips and slow seeps) along joints and/or shears in the bedrock. Total unrestricted sustained inflows in this section will not exceed 80 gpm.

Contamination is expected to be in alluvium sediments above the cavern. Groundwater within the bedrock joints might have been impacted by contamination in the overlying alluvium, and as such, inflows to the cavern from the bedrock will require special treatment/disposal. For the baseline purpose, 5% of the excavated material from the cavern will require special handling and treatment/disposal due to contamination.

4.7 Bored Tunnels

4.7.1 Reach 1: Station R 76+45 to R 53+72 (1st/Central Avenue to 2nd/Broadway Station)

Based on subsurface conditions, this reach is divided into two sub-reaches: Reach 1A and 1B. The boundary between these reaches is approximate and is to be anticipated to vary plus or minus 50 feet from the indicated station.

4.7.1.1 Reach 1A

From Station R 76+45 to R 70+50 the tunnels will encounter a mixed face condition of alluvium over Fernando Formation bedrock. The alluvium includes a wide variety of sandy and gravely soils, ranging from poorly graded to well graded sands and gravels. As described in Sections 3.2.2, overall, the upper Qal1 alluvium contains a greater percentage of fine grained soils and is less dense than the lower Qal2 alluvium. Both alluvium units contain cobbles and boulders. Within the tunnel excavation the Qal1 and Qal2 alluvium in this reach are expected to include a total of 30% to 35% poorly graded sand, which occurs in layers that range in thickness from 3 feet to 25 feet. The remainder of the alluvium includes well graded sand, silty sand, and clayey sand. A total of 100 cobbles and 10 boulders up to 4 feet in maximum dimension are expected within this reach of alluvium. The cobbles and boulders are expected to be strong to very strong (ISRM, 1978).

Within Reach 1A, the Fernando Formation bedrock is expected to range from highly weathered to fresh. The characteristics of the bedrock are as described in Section 3.2.4. In this reach the bedrock will range in unconfined compressive strength from 25 psi to 300 psi. As discussed in Section 3.2.4, concretions are common and they are significantly stronger than the typical bedrock. It is expected that 95 percent of the concretions are cemented with calcium carbonate and five percent are dolomitic. The distribution in thickness of these concretions is depicted on Figure 12. The lateral dimensions vary from 3 to 5 times the thickness. These concretions will comprise 2% of the bedrock (by volume).

Where the Fernando Formation bedrock is encountered it will exhibit firm to slow raveling conditions. Raveling will occur at joint intersections, as shown in the photographs of the foundation excavation for the Broad Museum in Figures 22 and 23.

Conditions in this reach will be influenced by perched and regional groundwater elevations, which occur as shown on Plate 1, plus or minus five feet.

Contamination in the form of VOC's, SVOC's, and/or petroleum hydrocarbons has also been detected and therefore it is expected that groundwater inflows will require special

treatment/disposal. In addition, for the two tunnel bores, 5% of the excavated material in this Reach is expected to require special handling and treatment/disposal.

4.7.1.2 Reach 1B

From Station R 70+50 to R 53+72 the tunnels will encounter a full face of Fernando Formation bedrock, which will vary from highly weathered to fresh. The characteristics of the bedrock in Reach 1B are the same as described above for Reach 1A.

The perched and regional groundwater level along this reach will be as shown on Plate 1, plus or minus five feet.

If unsupported, the bedrock will exhibit firm to slow raveling behavior in the slightly weathered to fresh bedrock and slow to fast raveling behavior in moderately to highly weathered bedrock. The bedrock will also exhibit a tendency for stress slabbing where blocks and wedges of unstable rock fall out of the crown or sidewalls. Local wedge failures are expected along joints, bedding planes, and/or shears. Raveling will occur at joint intersections and bedding planes. If allowed to desiccate, the bedrock will slake, and if the invert is not protected, construction equipment traffic and water will cause the bedrock to breakdown and become soft and muddy.

Contamination is expected to be in alluvium sediments above the tunnel. Groundwater within the bedrock joints might have been impacted by contamination in the overlying alluvium, and as such, inflows to the tunnel from the bedrock will require special treatment/disposal. For the baseline purpose, 5% of the excavated material from this reach will require special handling and treatment/disposal due to contamination.

4.7.2 Reach 2: Station R 49+11 to R 32+81 (2nd/Broadway Station to 2nd/Hope Street)

The entire length of the tunnels in Reach 2 will encounter slightly weathered to fresh bedrock of the Fernando Formation. The characteristics of the bedrock are as described in Section 3.2.4. However, bedrock in the Reach will range in unconfined compressive strength from 100 psi to 300 psi. As discussed in Section 3.2.4, concretions are common and they are significantly stronger than the typical bedrock. It is expected that 95 percent of the concretions are cemented with calcium carbonate and five percent are dolomitic. The distribution in thickness of these concretions is depicted on Figure 12. The lateral dimensions vary from 3 to 5 times the thickness. These concretions will comprise 3% of the bedrock (by volume).

The perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet.

In an unsupported excavation, the bedrock will exhibit firm to slow raveling behavior, with local wedge failures along joints, bedding planes, and/or shears. Raveling will occur at joint intersections, as shown in the photographs of the foundation excavation for the Broad Museum in Figures 22 and 23.

Indications of petroleum contamination are present near the top of the Fernando Formation, and such contamination is considered to be restricted to within the overlying alluvium. Therefore, it is not expected that petroleum contamination will be encountered in the tunnels within this reach. However, if groundwater inflows to the tunnel are allowed, it is expected that the water will be

impacted by contamination within the alluvium, and thus special treatment/disposal will be required.

4.7.3 Reach 3: Station R 29+37 to R 19+02 (2nd/Hope Street to 4th/Flower Street)

Based on subsurface conditions, this reach is divided into three sub-reaches: Reach 3A, 3B, and 3C. The boundaries of these reaches are approximate and are to be anticipated to vary plus or minus 50 feet from the indicated stations.

4.7.3.1 Reach 3A

The tunnels will encounter a full face of Fernando Formation bedrock from Station R 29+37 to R 26+80. Within Reach 3A the bedrock will vary from highly weathered to fresh. The characteristics of the bedrock are as described for Reach 2, except that the concretions will be more frequent, and will comprise 5% of the excavated material, by volume.

The perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet.

In an unsupported condition, the bedrock will exhibit firm to fast raveling behavior, with local wedge failures along joints, adversely oriented intersections of bedding planes, and/or shears. The ground will also exhibit a tendency for stress slabbing.

Indications of petroleum contamination have been identified within the bedrock and above the tunnel crown. The source of this contamination is from the overlying fill/alluvium. It is expected that groundwater that inflows into this reach will require special treatment/disposal, and approximately 5% of the volume of tunnel spoil from the two tunnel bores in this reach will require special handling and treatment/disposal.

4.7.3.2 Reach 3B

From Station R 26+80 to R 21+50 the tunnels will encounter a mixed face condition of alluvium and/or artificial fill over Fernando Formation bedrock. The fill/alluvium will be present in the upper portion of the tunnel face and consist of a wide range of soil types, including: silt, clay, and silty sand (70% to 80%); poorly graded sand (10% to 15%); and well graded sand (10% to 15%). Where fill is present, it will contain cobble and boulder size fragments of construction debris. These fragments are expected to be strong to very strong (ISRM, 1978). A total of 20 cobble size objects and five boulder size objects are expected in this reach. The bedrock will vary from highly to moderately weathered. The characteristics of the bedrock are as described for Reach 3A.

Perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet.

In an unsupported condition, the bedrock will present firm to slow raveling behavior in the slightly weathered to fresh bedrock and slow to fast raveling behavior in the moderately to highly weathered bedrock. Local wedge failures along joints, adversely oriented intersections of bedding planes, and/or shears are expected, as well as a tendency for stress slabbing. The fill/alluvium will exhibit fast raveling to flowing behavior.

Petroleum contamination is expected within the fill/alluvium and to a lesser degree within fractures in the bedrock. Therefore, groundwater that inflows into this sub-reach will require

special treatment/disposal, and approximately 5% of the excavated material from the two tunnels in this reach will require special handling and treatment/disposal.

4.7.3.3 Reach 3C

The tunnels will encounter a full face of Fernando Formation from Station R 21+50 to R 19+00 (end of tunnel drive). Within this sub-reach, the upper portion of the face will expose moderately to highly weathered bedrock, and slightly weathered to fresh bedrock below. The characteristics of the bedrock are as described for Reach 3A.

Perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet.

In an unsupported condition, the bedrock will present firm to slow raveling behavior in the slightly weathered to fresh bedrock and slow to fast raveling behavior in the moderately to highly weathered bedrock. Local wedge failures will occur along joints, adversely oriented intersections of bedding planes, and/or shears.

Indications of petroleum contamination have been identified within the alluvium and at shallow depth into the bedrock. It is expected that the source of this contamination is from the overlying fill/alluvium. As a result, groundwater that inflows into this reach will require special treatment/disposal, and approximately 5% of the volume of tunnel spoils from the two tunnel bores in this reach will require special handling and treatment/disposal.

4.8 Cross Passages

A total of four cross passages will be constructed using Sequential Excavation Method (SEM). Ground and groundwater conditions for each of these cross passages are expected as follows.

4.8.1 Cross Passage at Station R 69+00

This cross passage will be mostly in the Fernando Formation bedrock, and expected to encounter moderately to highly weathered and weaker bedrock in the crown. The characteristics of the bedrock are described above for Reach 1B. Concretions are expected in the cross passage excavation, with the same characteristics as described for Reach 1B. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21B:

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater levels are shown on Plate 1, plus or minus five feet. Unrestricted inflows from the bedrock will be limited to drips and slow seeps that will occur along joints, shears, and/or bedding planes.

Slightly weathered to fresh bedrock will exhibit firm to slow raveling and a tendency for stress slabbing behavior with local unstable wedges along joints, bedding planes, and/or shears. Moderately to highly weathered bedrock will exhibit slow raveling and/or slabbing behavior.

4.8.2 Cross Passage at Station R 62+50

This cross passage will be completely in unweathered bedrock of the Fernando Formation. The characteristics of the Fernando Formation bedrock are described above for Reach 1B. Concretions are expected in the cross passage excavation, with the same characteristics as described for Reach 1B. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21B:

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater elevations are as shown on Plate 1. Unrestricted inflows from the bedrock will occur as drips to slow seeps that will occur along joints, shears, and/or bedding planes.

The slightly weathered to fresh bedrock will exhibit firm to slow raveling behavior with stress slabbing in the crown. Local unstable wedges will form along random joints, bedding planes, and/or shears in the walls and crown.

4.8.3 Cross Passage at Station R 41+15

This cross passage will be completely in unweathered bedrock of the Fernando Formation. The characteristics of the Fernando Formation bedrock are described above for Reach 2. Concretions are expected in the cross passage excavation, with the same characteristics as described for Reach 2. Local wedge failures are expected to occur along adversely oriented intersections of joints, bedding planes, and/or shears. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21B:

- Joint Set 1 - Dipping 65 to 80 degrees with dip direction ranging from 160 to 220 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 245 to 295 degrees
- Joint Set 3 - Dipping 80 to 90 degrees with dip direction ranging from 70 to 110 degrees

In addition to three joint sets, there will be some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater elevations will be as shown on Plate 1, plus or minus five feet. Inflows from the bedrock will occur as drips to fast seeps that will occur along joints, shears, and/or bedding planes.

The slightly weathered to fresh bedrock will exhibit firm to slow raveling behavior with a tendency for stress slabbing. Local unstable wedges will form along random joints, bedding planes, and/or shears in the walls and crown.

4.8.4 Cross Passage at Station R 24+00

This cross passage will be mostly in the Fernando Formation, but will encounter artificial fill and/or alluvium in the crown. The bedrock will range from highly weathered to fresh and its characteristics are as described above in Reach 3B. Concretions are expected in the cross passage excavation, with the same characteristics as described for Reach 3B. Three joint sets with scattered random joints are present as discussed below and shown on Figures 21A:

- Joint Set 1 - Dipping 30 to 80 degrees with dip direction ranging from 150 to 190 degrees
- Joint Set 2 - Dipping 55 to 80 degrees with dip direction 350 to 10 degrees
- Joint Set 3 - Dipping 60 to 80 degrees with dip direction ranging from 220 to 260 degrees

In addition to three joint sets, there will some poorly developed bedding that will dip subparallel to Joint Set 1.

Perched and regional groundwater elevations are as shown on Plate 1, plus or minus five feet. Inflows from the bedrock will be limited to drips and slow seeps that will occur along joints, shears, and/or bedding planes. Inflows from artificial fill/alluvium will occur as a maximum of 25 gpm flush flows that will subside to maximum sustained flows of 10 gpm. Pre-tunneling mitigation measures to control groundwater inflow will be required to meet the project requirements.

Slightly weathered to fresh bedrock will exhibit firm to slow raveling behavior with tendency for stress slabbing, and local unstable wedges will form along joints, bedding planes and/or shears. Moderately to highly weathered bedrock will exhibit slow to fast raveling and/or a tendency for slabbing behavior. Where artificial fill/alluvium is encountered, it will contain variable amounts of construction debris and cobbles, and because it will contain groundwater it will exhibit fast raveling to flowing behavior.

Groundwater that inflows into this crosspassage will require special treatment/disposal, and approximately 5% of the excavated material in this section will require special handling and treatment/disposal.

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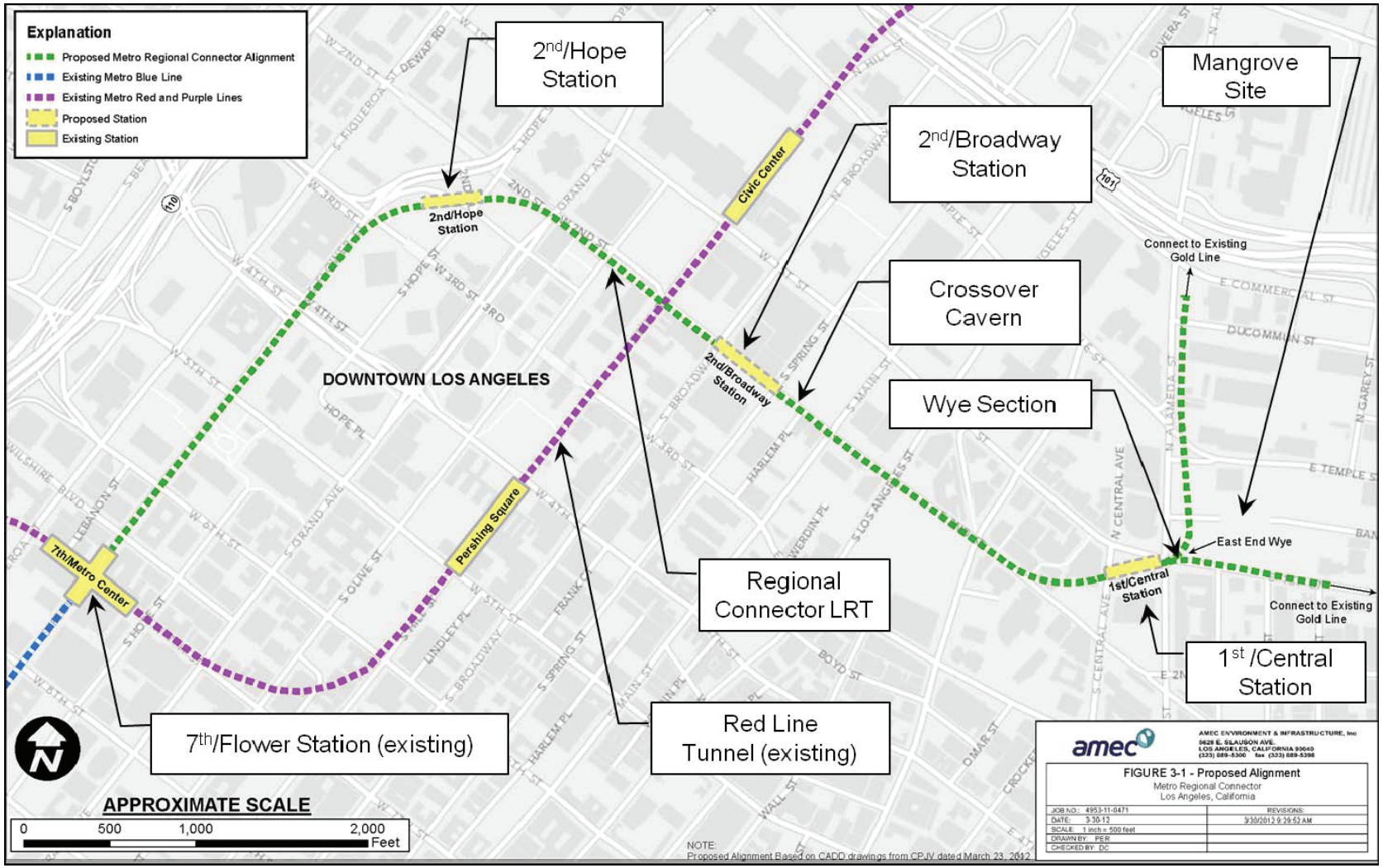
Figures

Figure 1: Project Location Map



REGIONAL CONNECTOR TRANSIT CORRIDOR PROJECT

Figure 2: Regional Geology Map

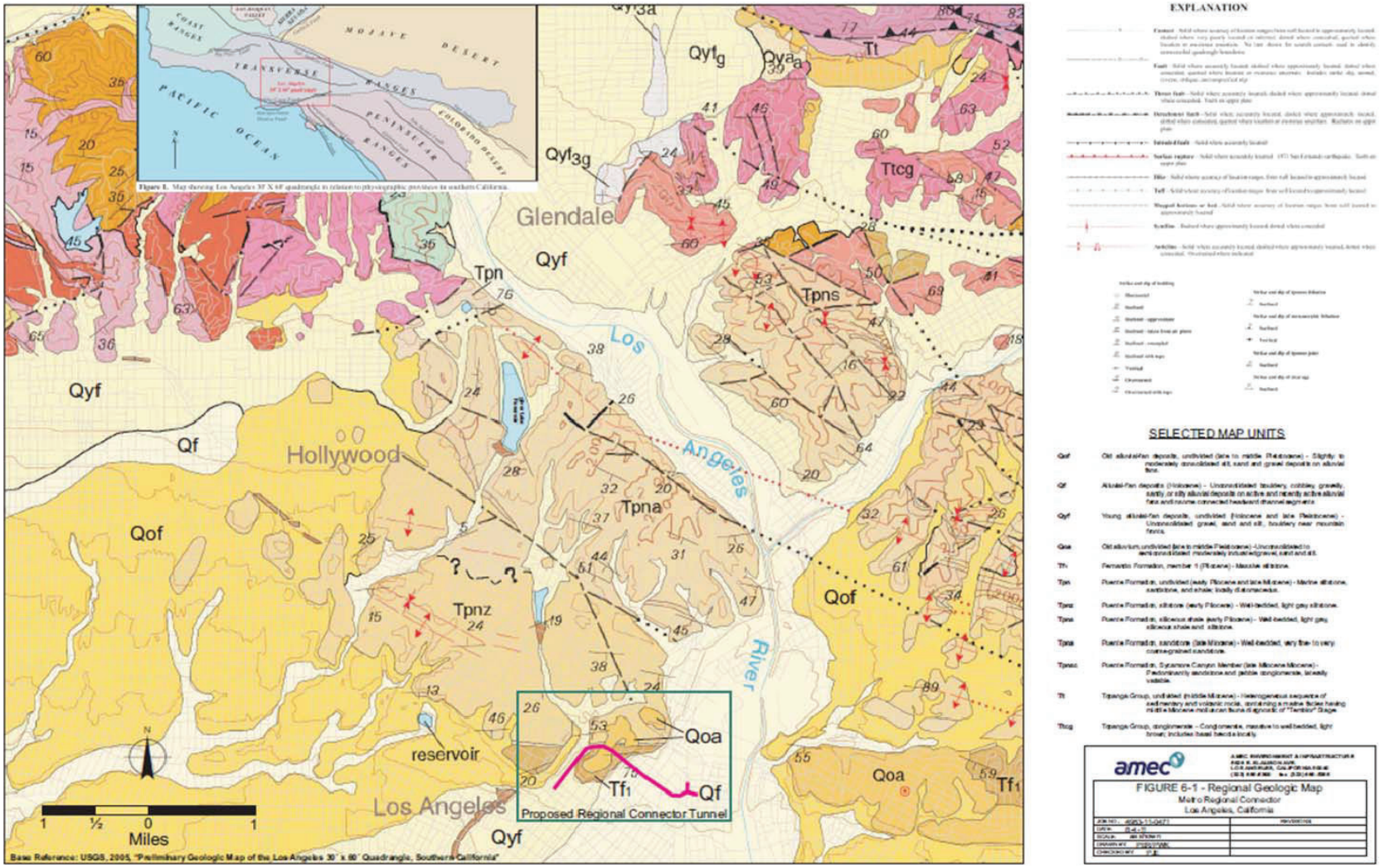
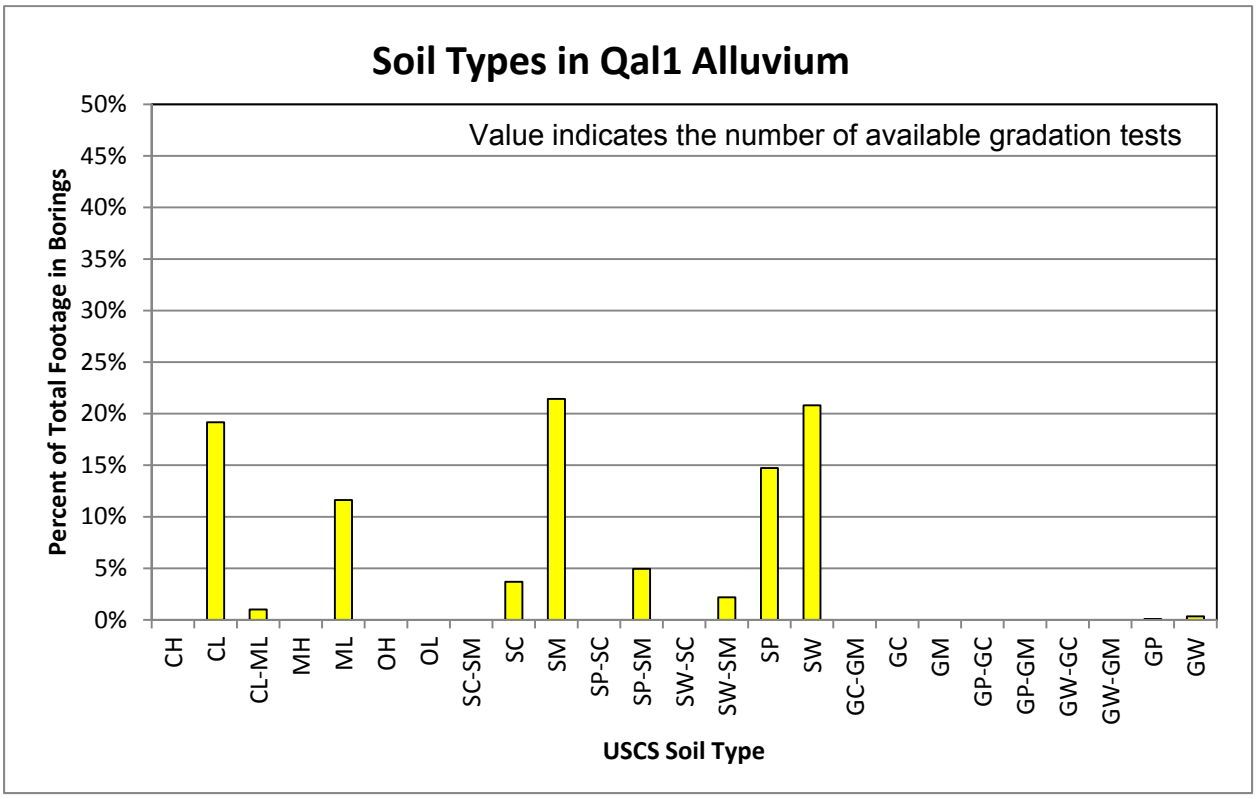


Figure 3: Distribution of Soil Types in Qal1 Alluvium



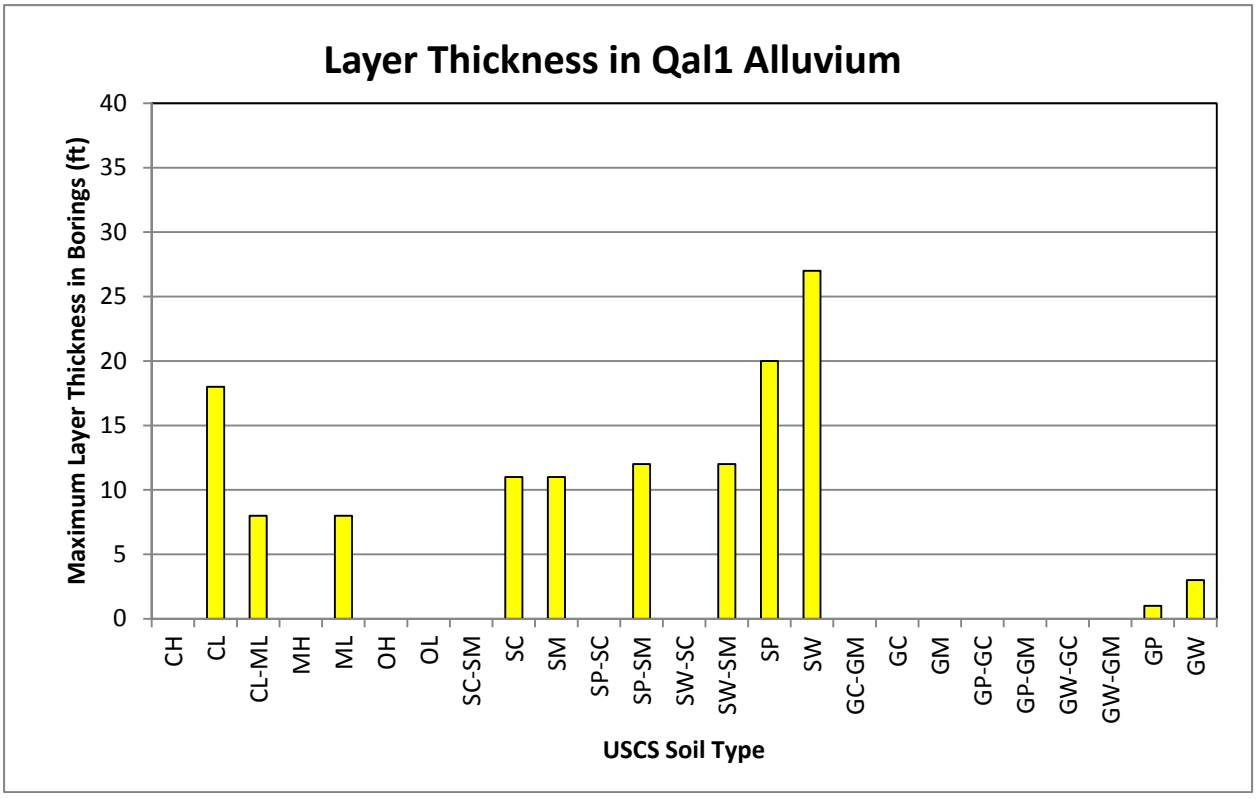


Figure 4: Summary of Dry Density

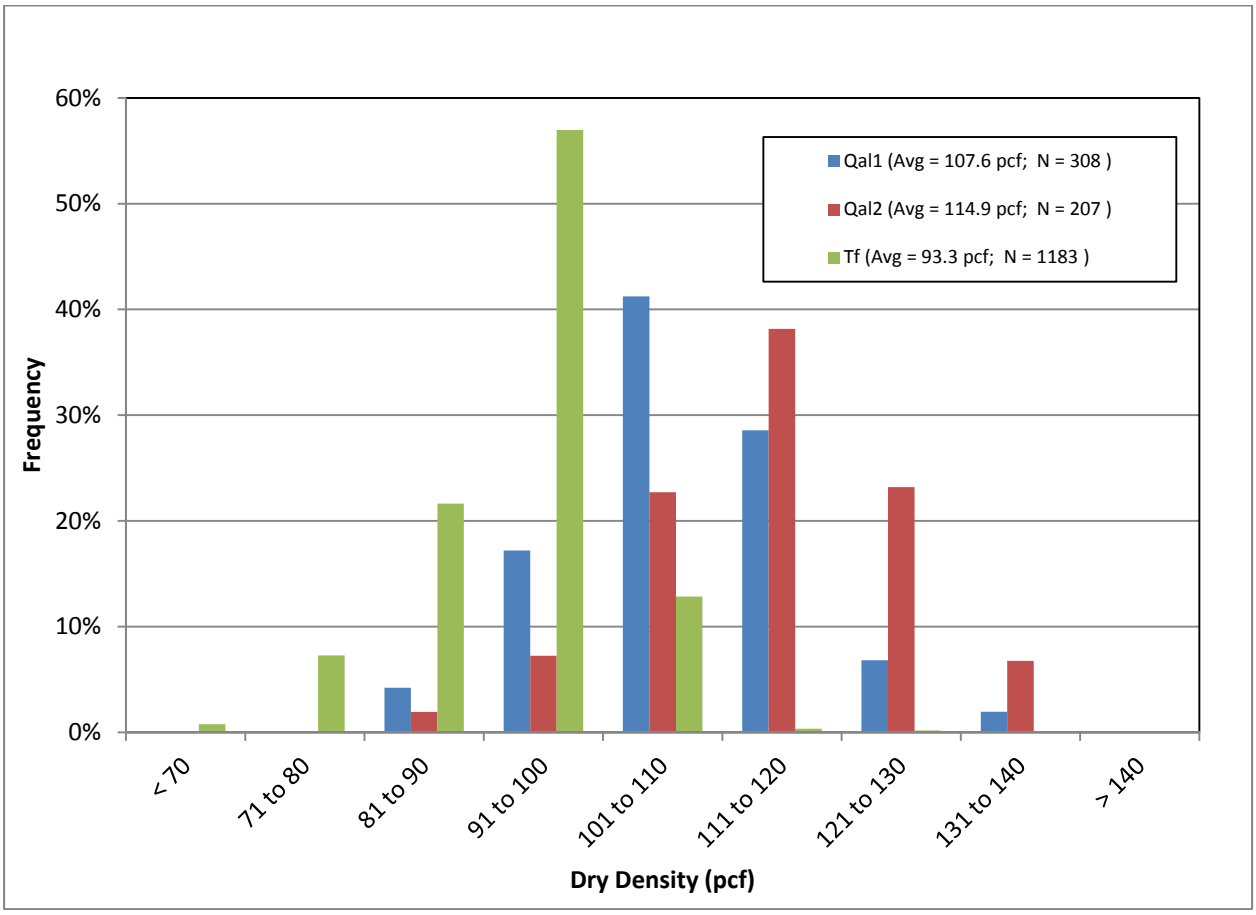


Figure 5: Summary of Moisture Content

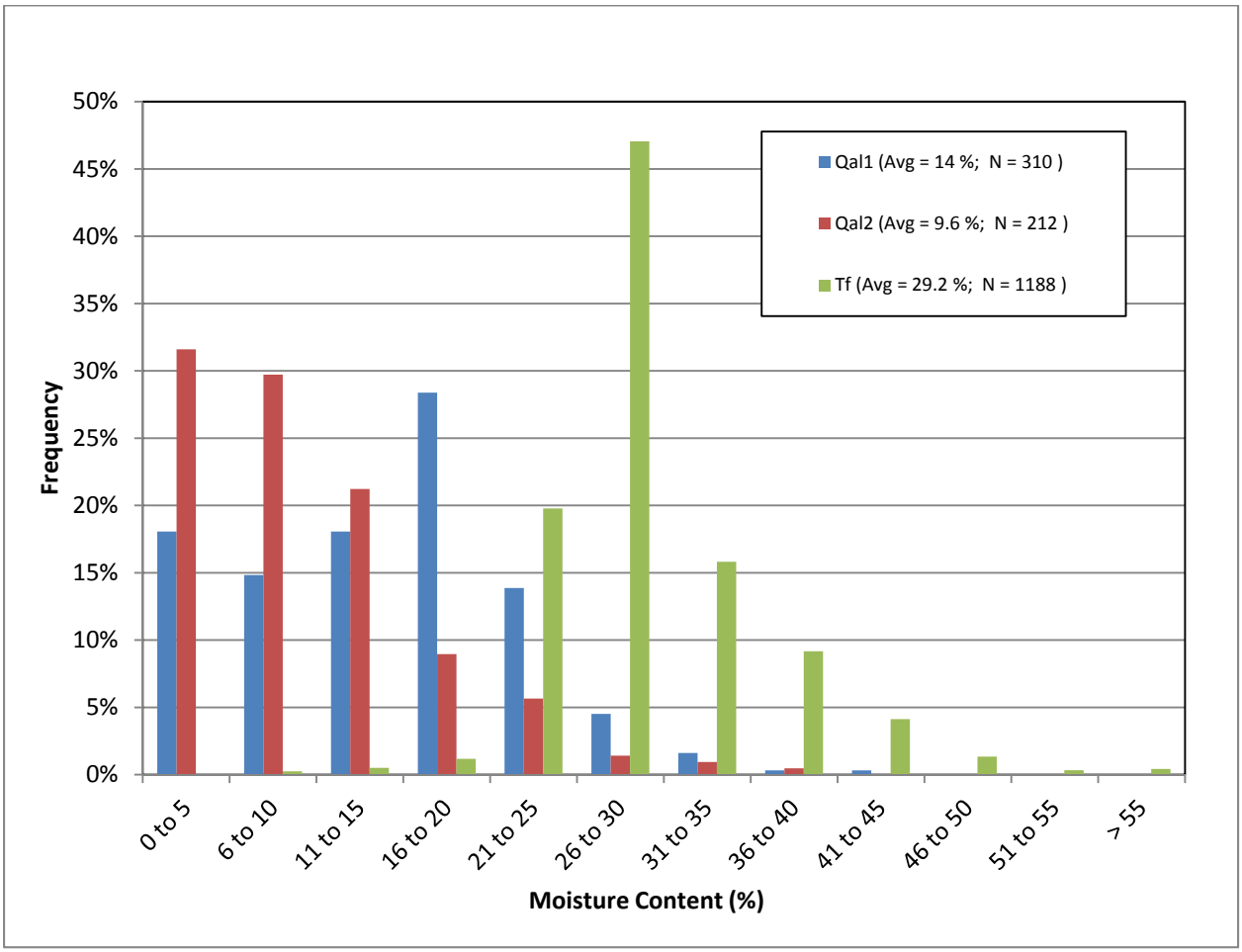


Figure 6: Summary of Wet Density

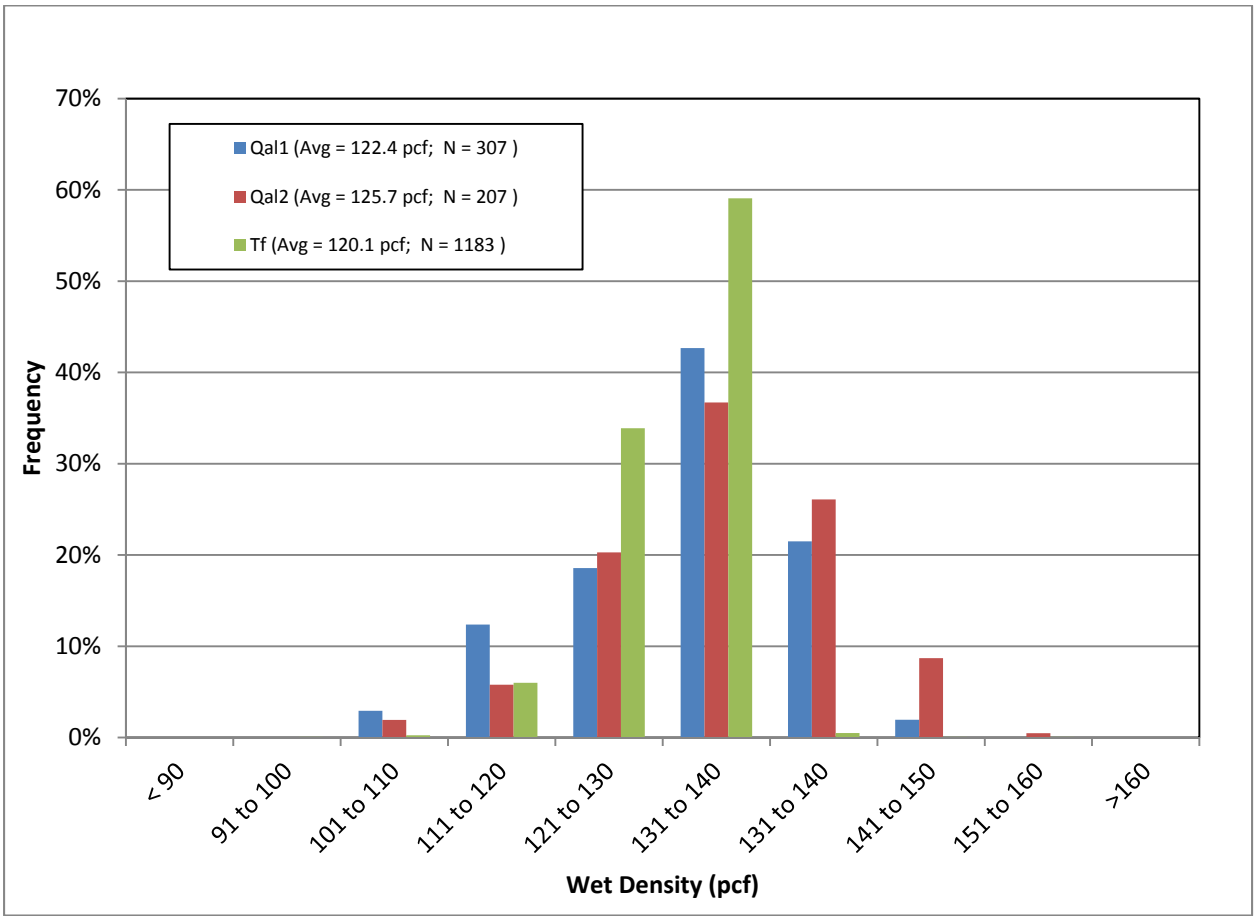


Figure 7: Particle-Size Distribution Curves for Qal1 Alluvium

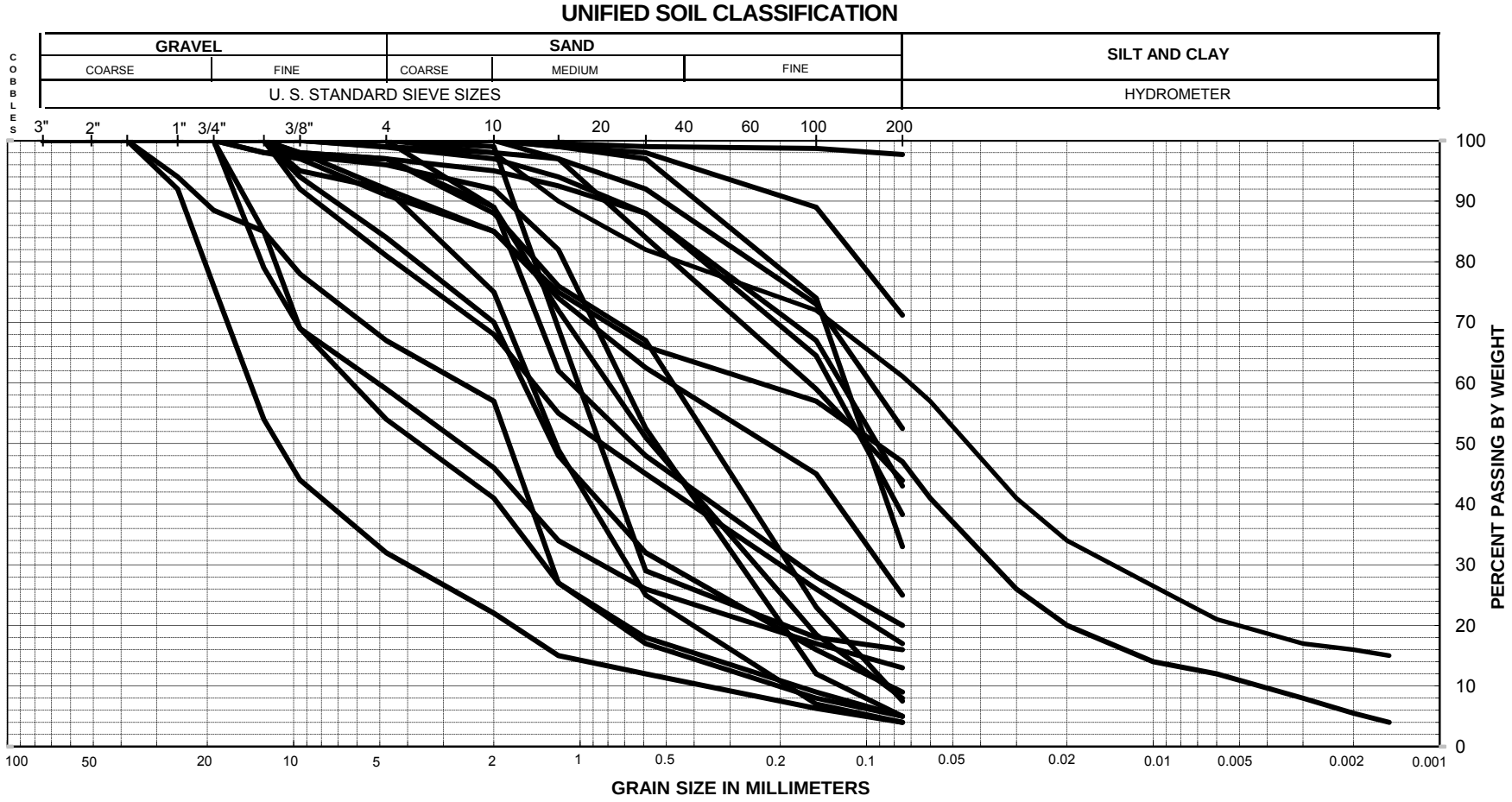
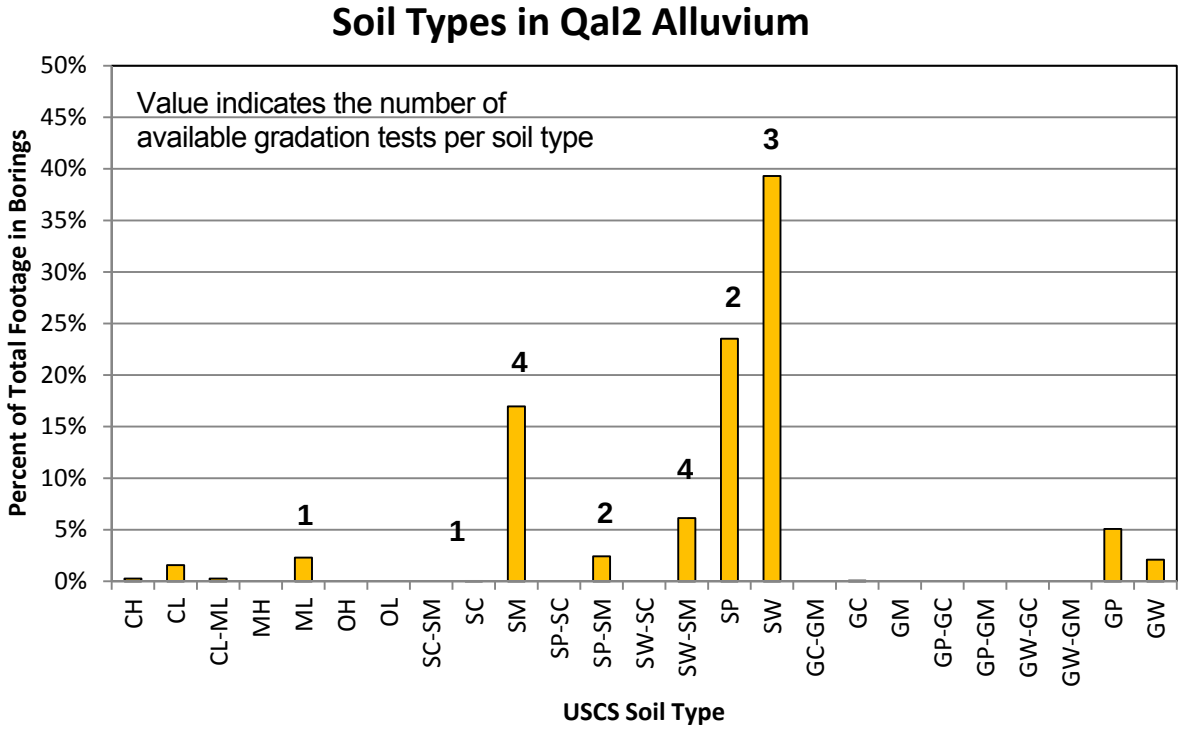


Figure 8: Distribution of Soil Types in Qal2 Alluvium



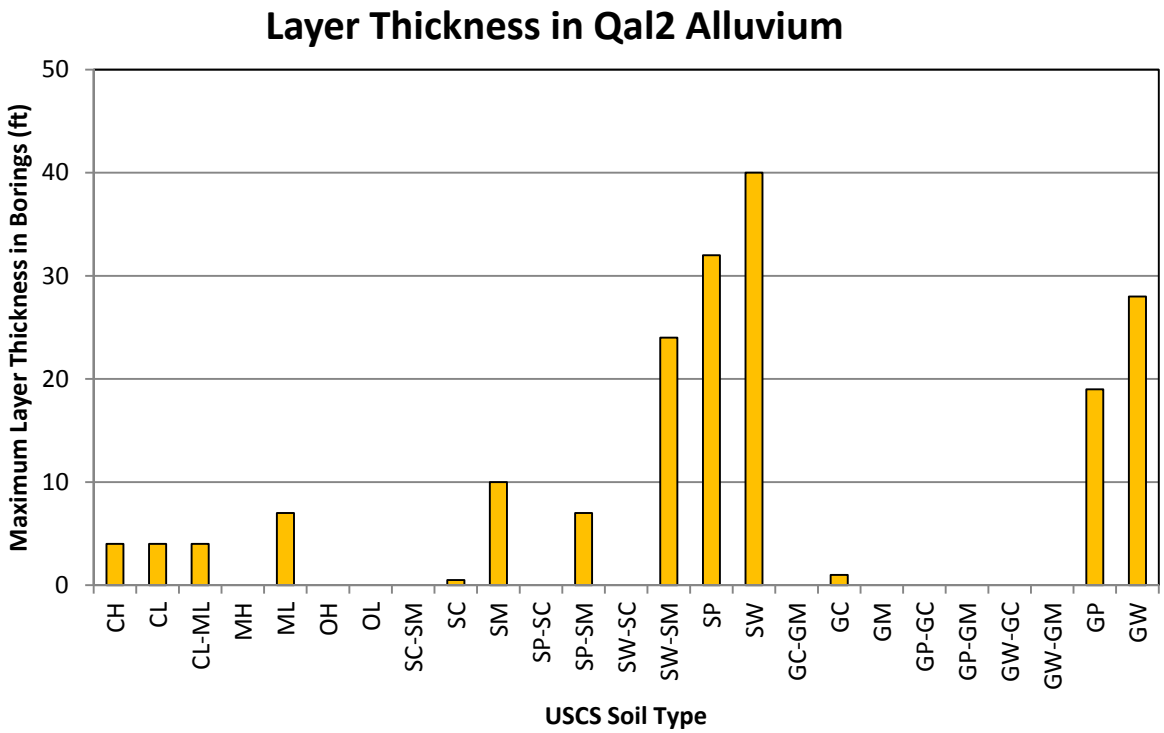


Figure 9: Particle-Size Distribution Curves for Qal2 Alluvium

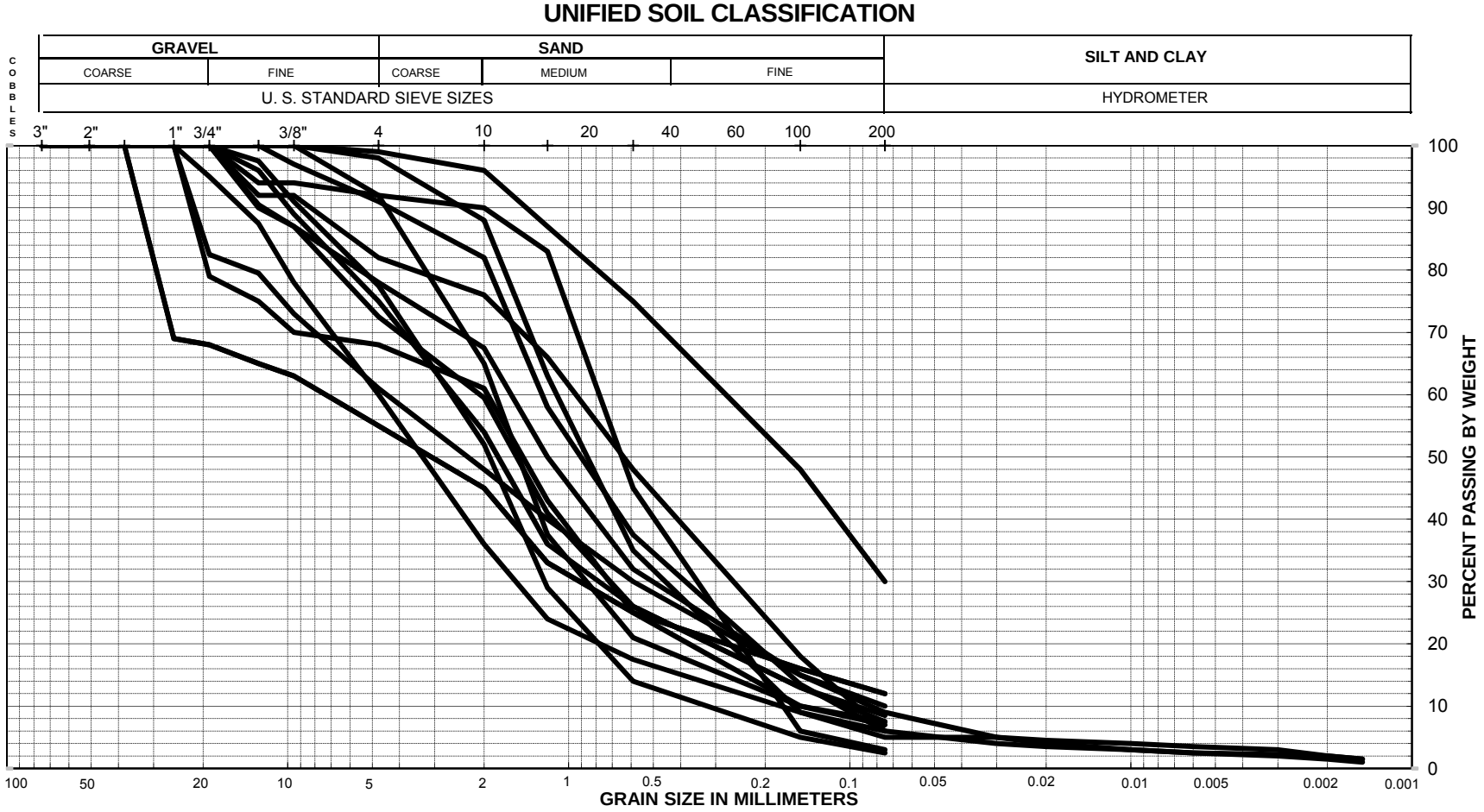
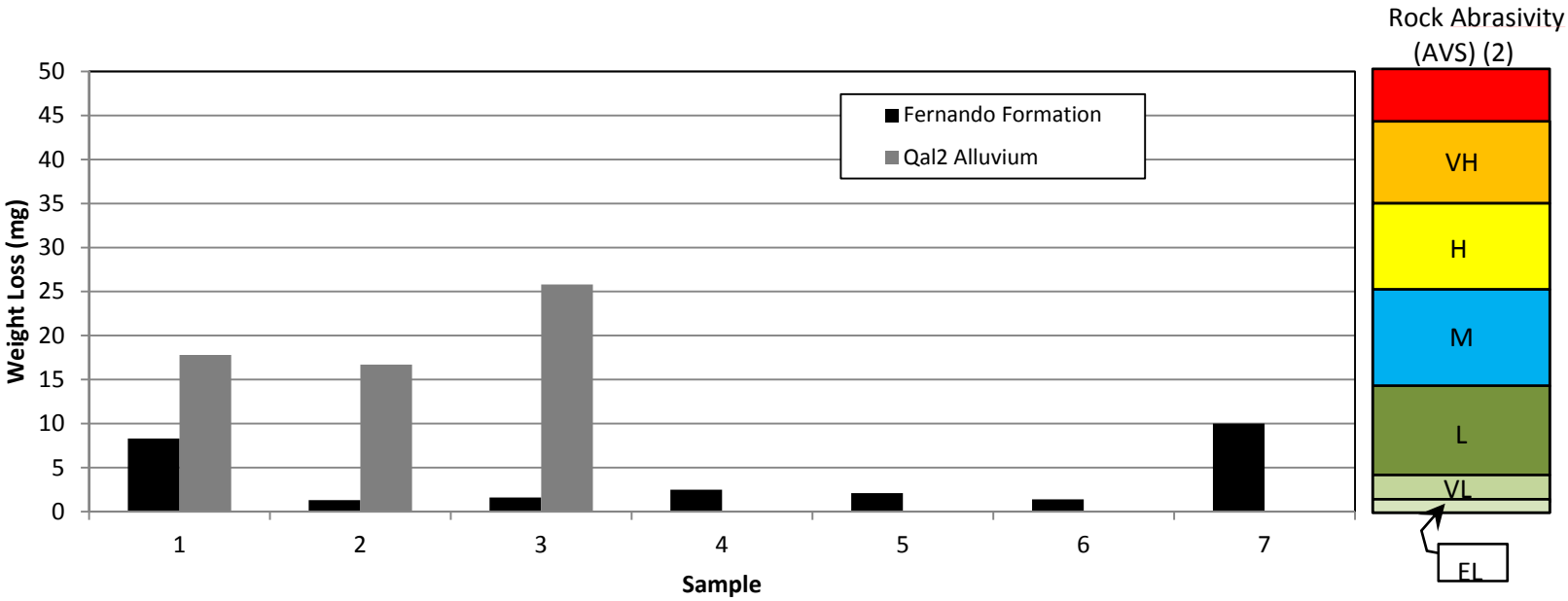


Figure 10: Summary of Soil Abrasion Test (SAT) Results



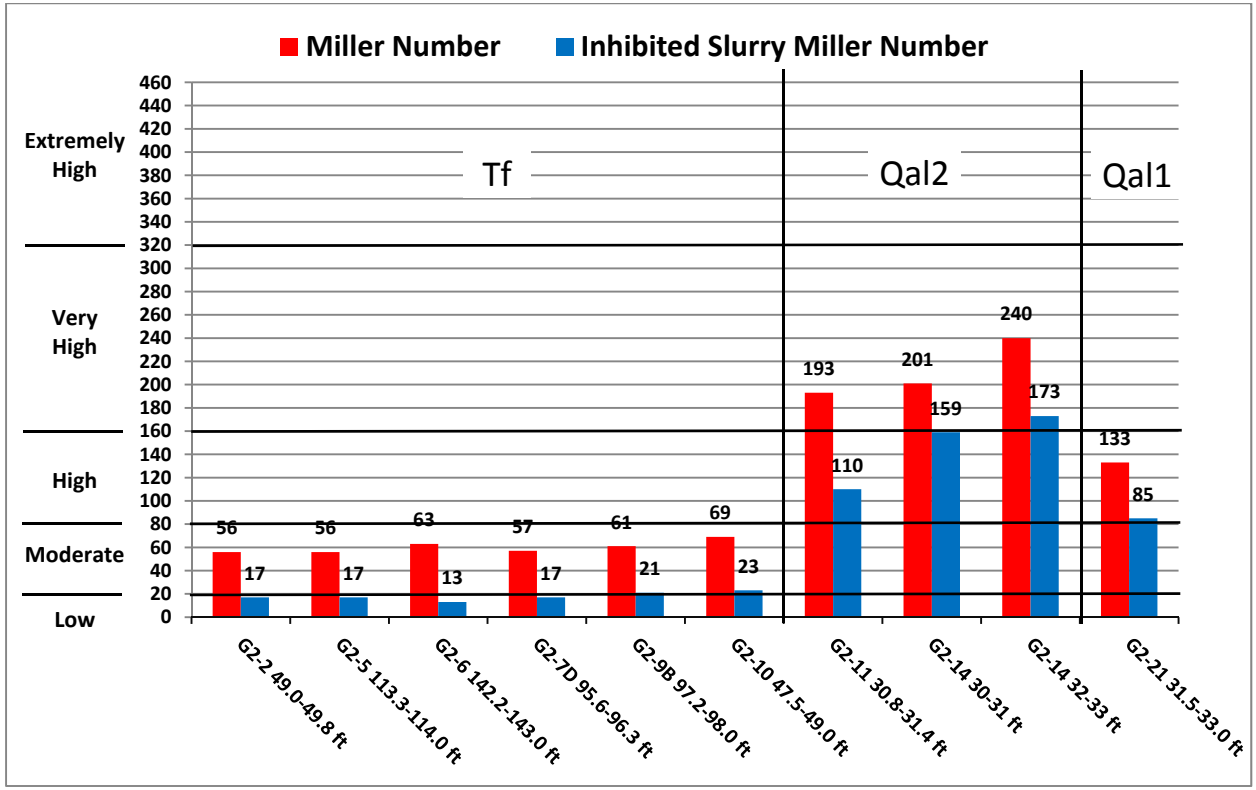
No.	Sample Location (Depth)	Formation	Soil Type	SAT Result (1)
1	G2-10 (66.7 to 67.4 ft)	Tf	Siltstone	8.3
2	G2-2 (63.3 to 64.0 ft)	Tf	Siltstone	1.3
3	G2-5 (95.1 to 95.8 ft)	Tf	Siltstone	1.6
4	G2-6 (108.1 to 108.8 ft)	Tf	Siltstone	2.5
5	G2-7D (101.3 to 102.0 ft)	Tf	Siltstone	2.1
6	G2-9B (65.8 to 66.6 ft)	Tf	Siltstone	1.4
7	G2-21 (59.7 to 60.7 ft)	Tf	Siltstone	10

No.	Sample Location (Depth)	Formation	Soil Type	SAT Result (1)
1	G2-11 (31.3 to 32.0 ft)	Qal2	GP & SP	17.8
2	G2-14 (30.0 to 31.0 ft)	Qal2	SP	16.7
3	G2-14 (36.2 to 37.0 ft)	Qal2	SP - SM	25.8
4				
5				
6				
7				

(1) Weight loss in mg

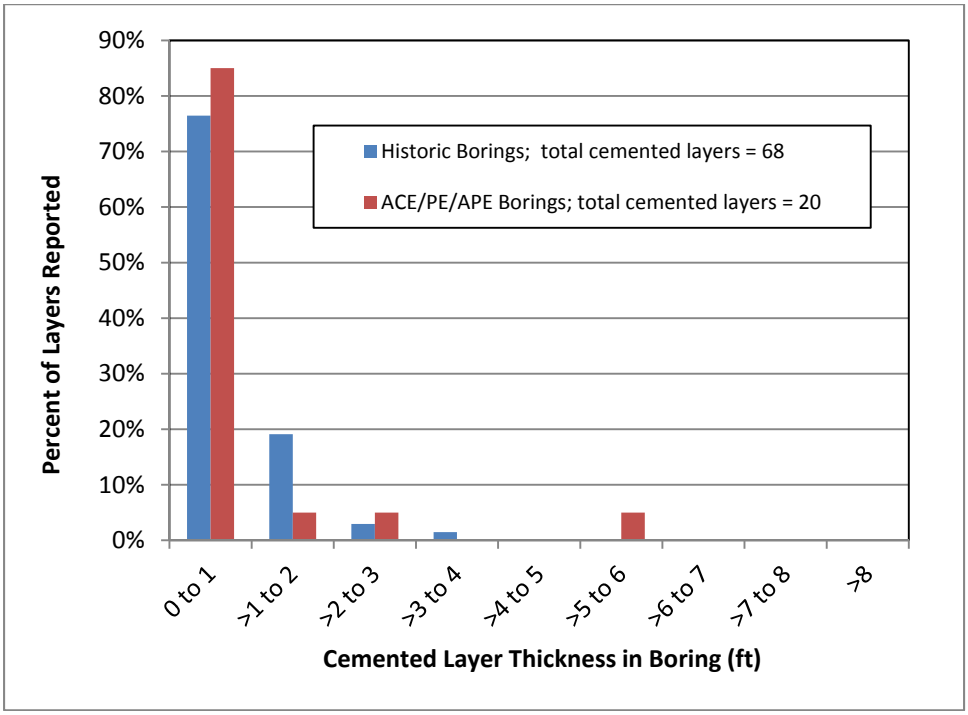
(2) EL = extremely low; VL = very low; L = low; M = medium; H = high; VH = very high; EH = extremely high

Figure 11: Summary of Miller Abrasion Test Results



Sample	Date	Boring	Depth (ft)	Formation	Soil Type	- 1000 micron	Solid Mass	pH Low	pH High	Abrasivity	Departure	Ca(OH) 2 mg	pH Low	pH High	Abrasivity	Departure
M1671	9/26/11	G2-2	49.0-49.8	Tf	Siltstone	100%	46%	8.0	8.0	56	-8%	2	11.7	12.4	17	1%
M1673	9/27/11	G2-5	113.3-114.0	Tf	Siltstone	100%	50%	7.4	7.7	56	-9%	2	11.5	12.7	17	7%
M1674	9/27/11	G2-6	142.2-143.0	Tf	Siltstone	100%	50%	7.5	7.7	63	-4%	2	10.6	11.9	13	-23%
M1675	9/28/11	G2-7D	95.6-96.3	Tf	Siltstone	100%	50%	7.3	7.8	57	-5%	2	10.9	12.0	17	-2%
M1676	9/28/11	G2-9B	97.2-98.0	Tf	Siltstone	100%	50%	7.8	8.0	61	-3%	1	10.5	12.0	21	24%
M1677	9/28/11	G2-10	47.5-49.0	Tf	Siltstone	100%	50%	7.4	7.9	69	-3%	1	11.0	11.8	23	8%
M1690	9/29/11	G2-11	30.8-31.4	Qal2	GP	57%	50%	7.4	7.8	193	-9%	1	11.2	12.1	110	-7%
M1691	9/29/11	G2-14	30-31	Qal2	SM/ML & SP	50%	45%	8.1	8.4	201	-7%	1	11.7	12.4	159	-5%
M1692	9/29/11	G2-14	32-33	Qal2	SP-SM & SW	48%	50%	8.2	8.3	240	-12%	1	11.6	12.4	173	-14%
M1793	8/30/12	G2-21	31.5-33.0	Qal1	SP-SM	88%	50%	8.2	8.3	133	-14%	2	12.0	12.7	85	-16%

Figure 12: Summary of Cemented Layers in Fernando Formation



Some intervals in the Fernando Formation are notably stronger than typical for the formation. These materials have been described in boring logs in a variety of ways, including:

Carbonate cemented siltstone; carbonate cemented siltstone; carbonate cemented zone; cemented layer; cemented layer of limestone; cemented lens; cemented lumps; cemented nodules; cemented zone; concretion; hard layer; hard cemented layer; hard layer; hard lens; highly cemented layer; layer of cemented lumps; layer of limestone; layer of limestone gravel; limestone nodule; siltstone concretion; trace cemented shell fragments; very hard cemented lens; well cemented siltstone; calcium carbonated-cemented zone; cemented siltstone zone; carbonate cemented siltstone; cemented siltstone lens; dolomitic/cemented zone; cemented siltstone layer; calcareous cemented siltstone; cemented layer of limestone; cemented limestone nodules.

Field observations of outcrops and excavations indicate the above materials, with rare exceptions, are concretions.

Figure 13: Particle-Size Distribution Curves for Fernando Formation

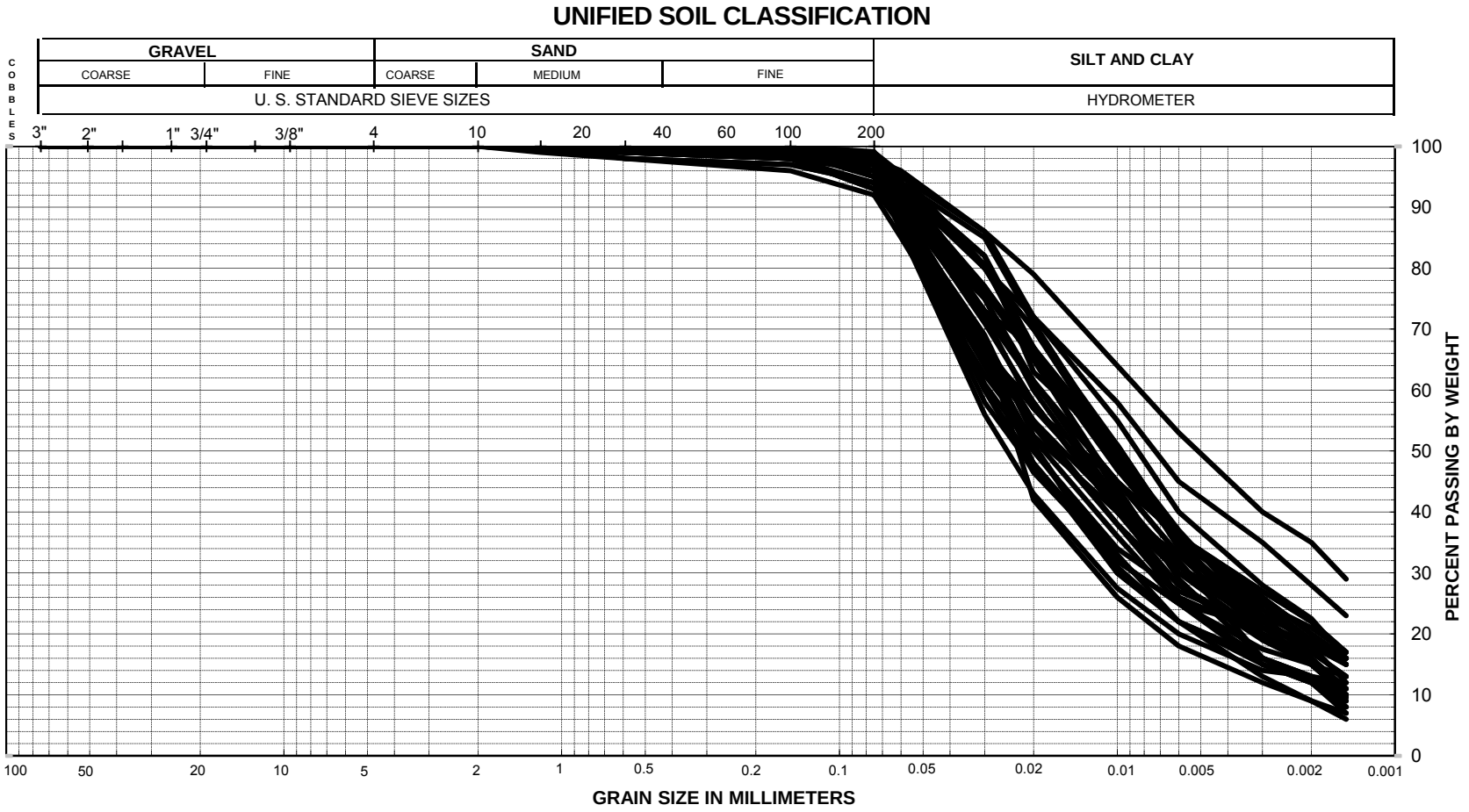
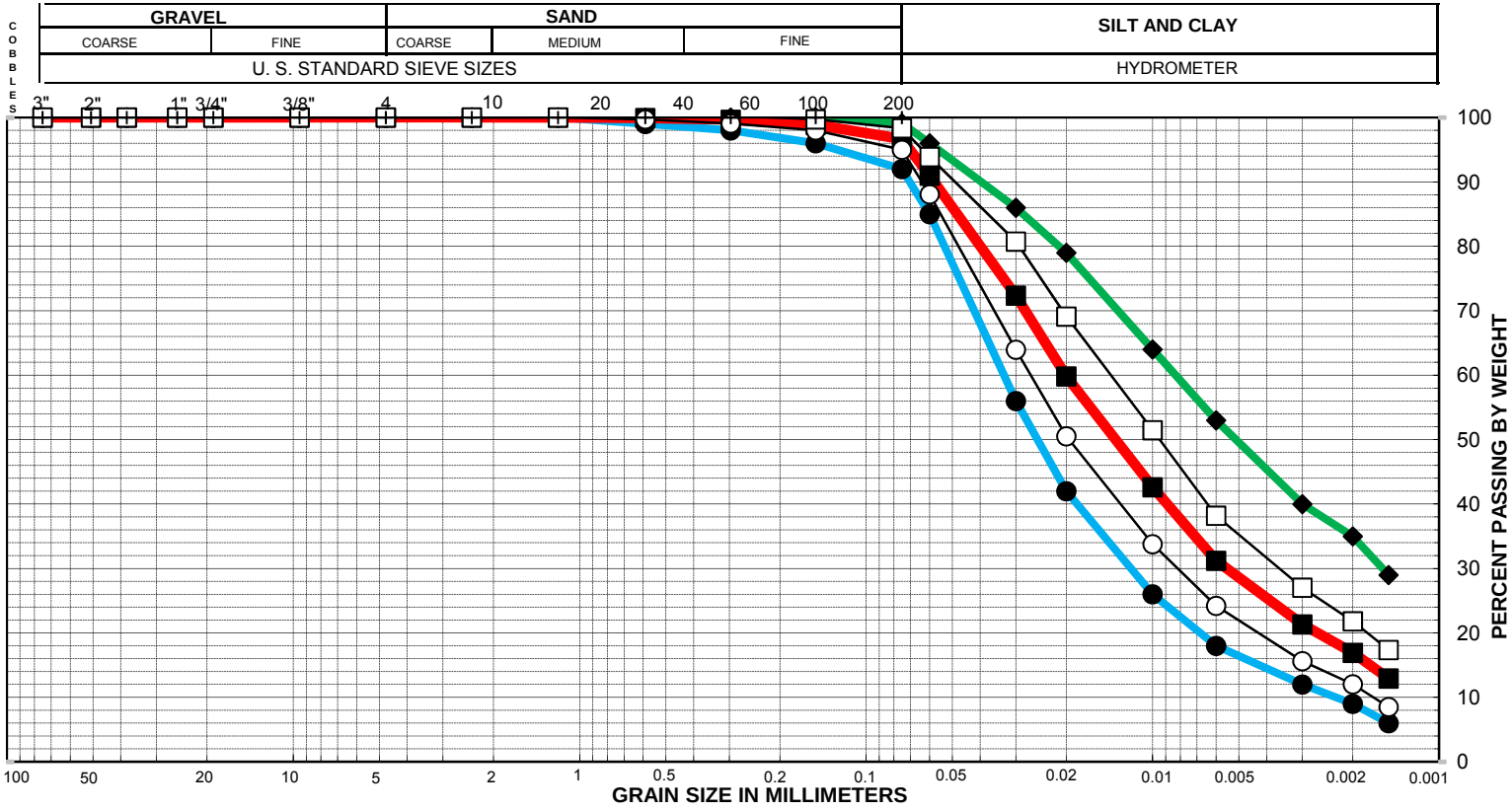


Figure 14: Gradation Summary – Fernando Formation



Symbol	Description
	Upper Bound Gradation
	Lower Bound Gradation
	Average Gradation
	Average Gradation minus 1 sigma
	Average Gradation plus 1 sigma

Figure 15: Soil Plasticity - Fernando Formation

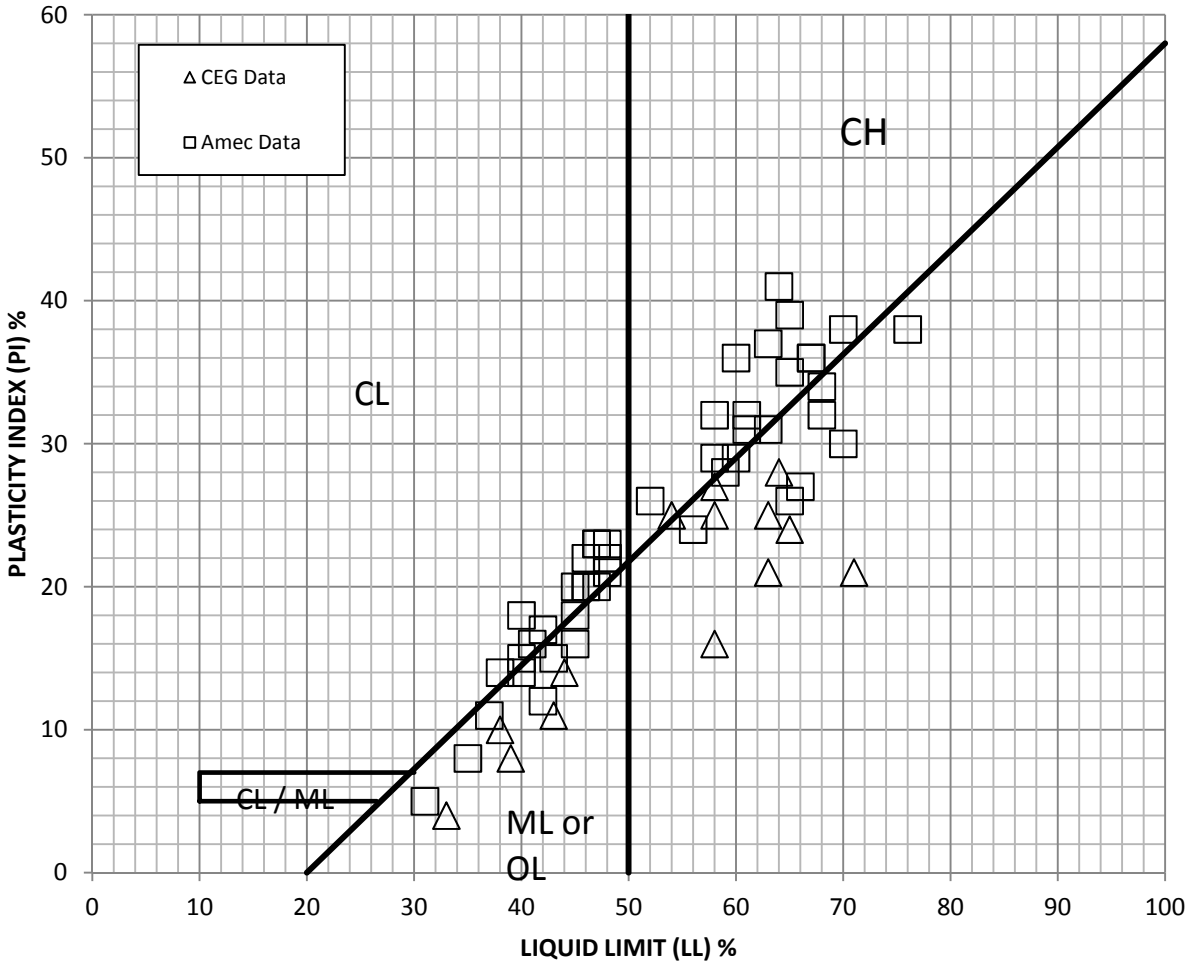
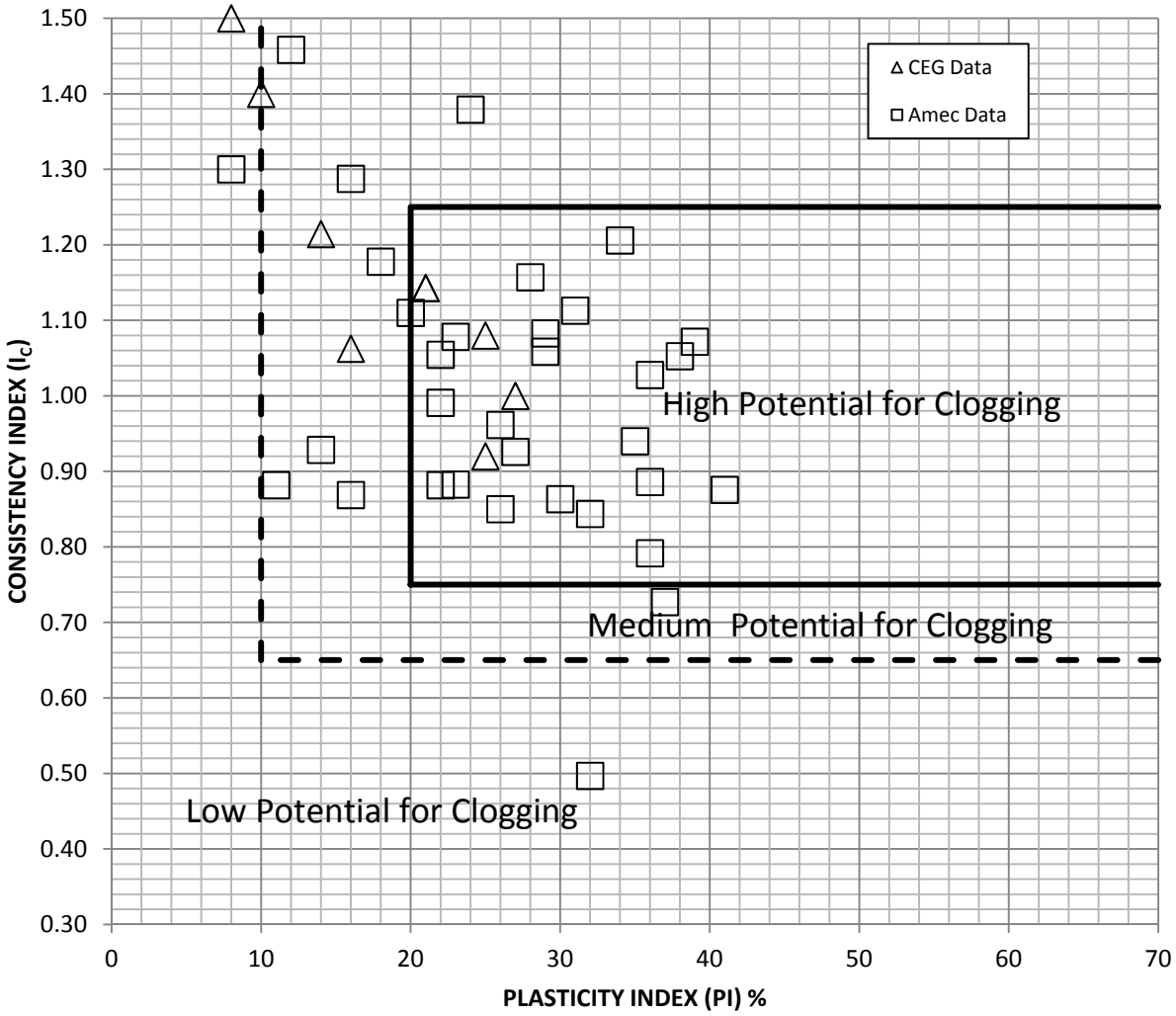


Figure 16: Potential for Clogging - Fernando Formation



Clogging potential categories are based on Thewes and Burger (2005)

Figure 17: Unconfined Compression Strength vs. Depth – Fernando Formation

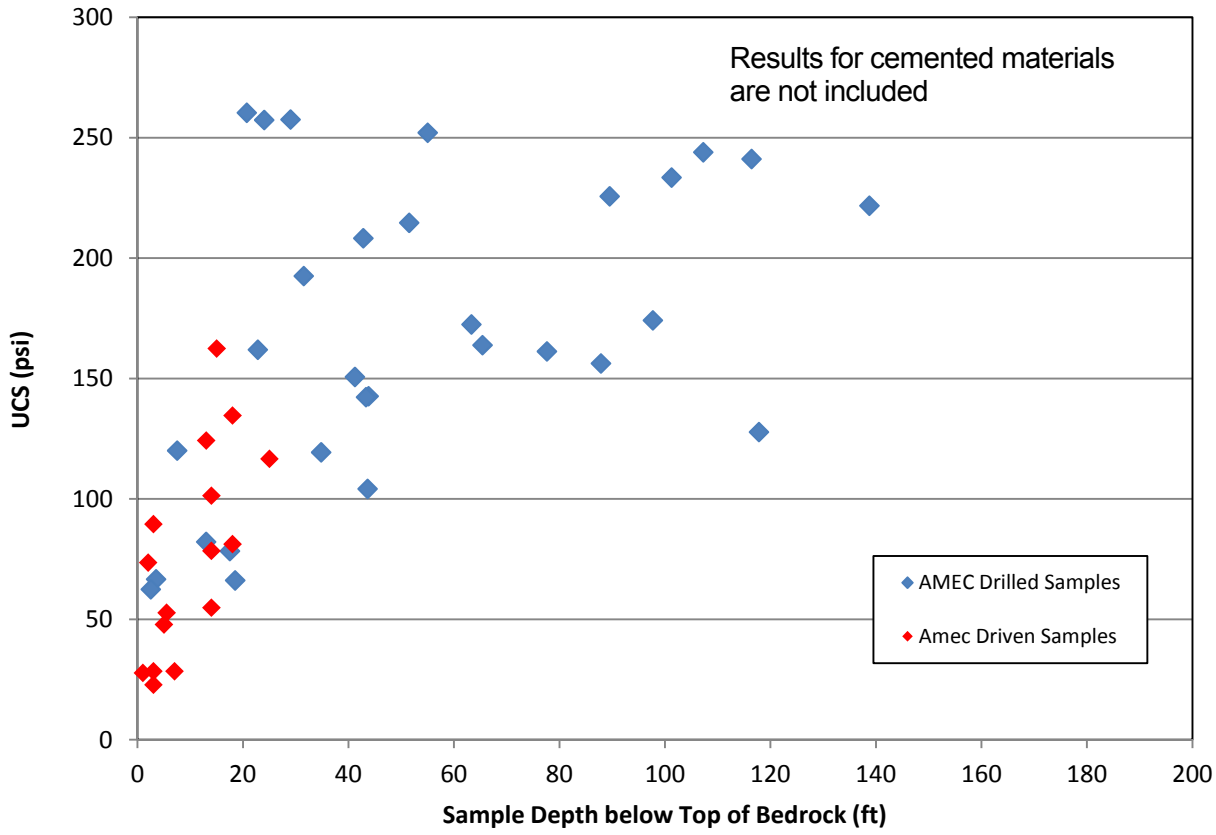
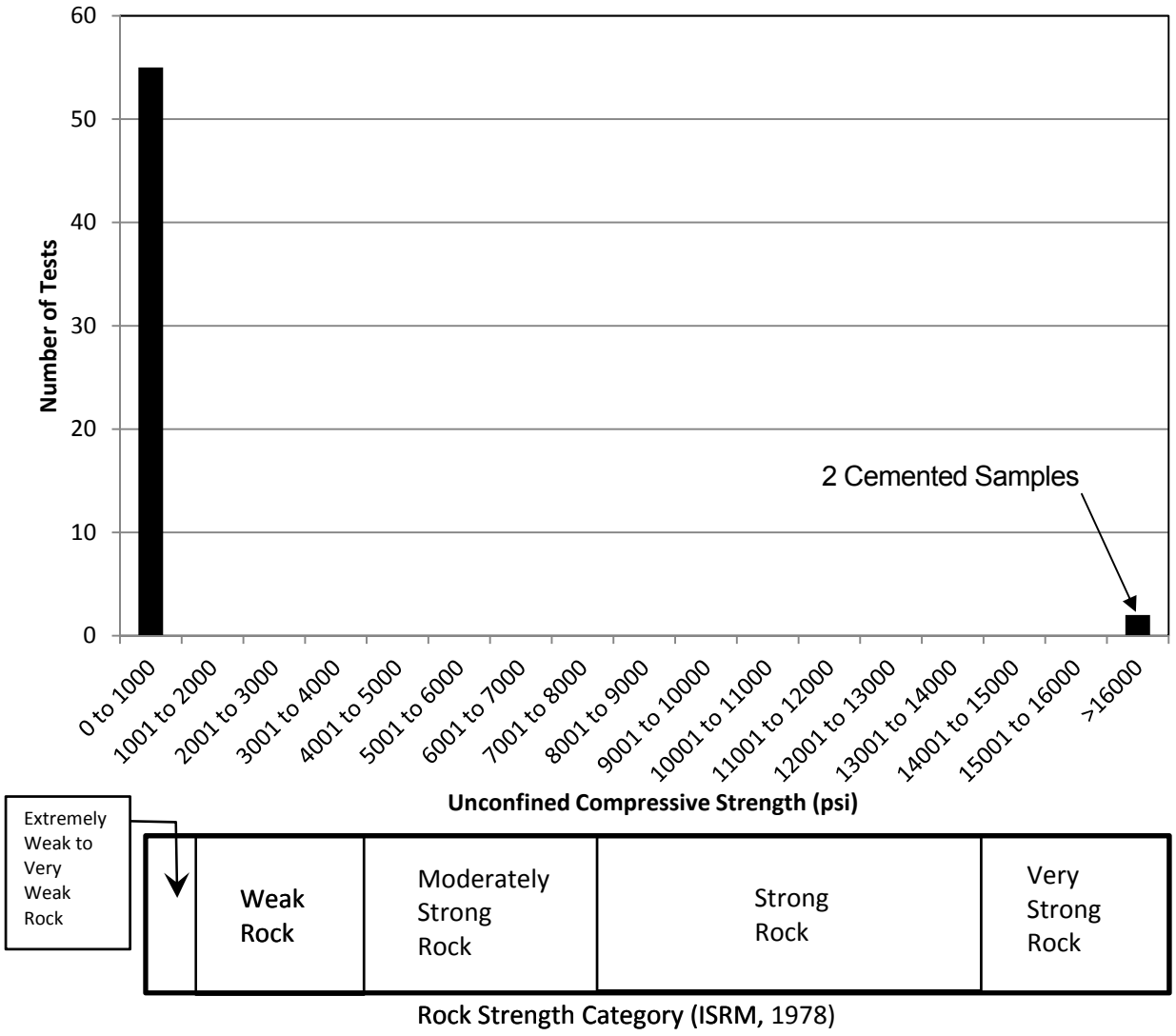
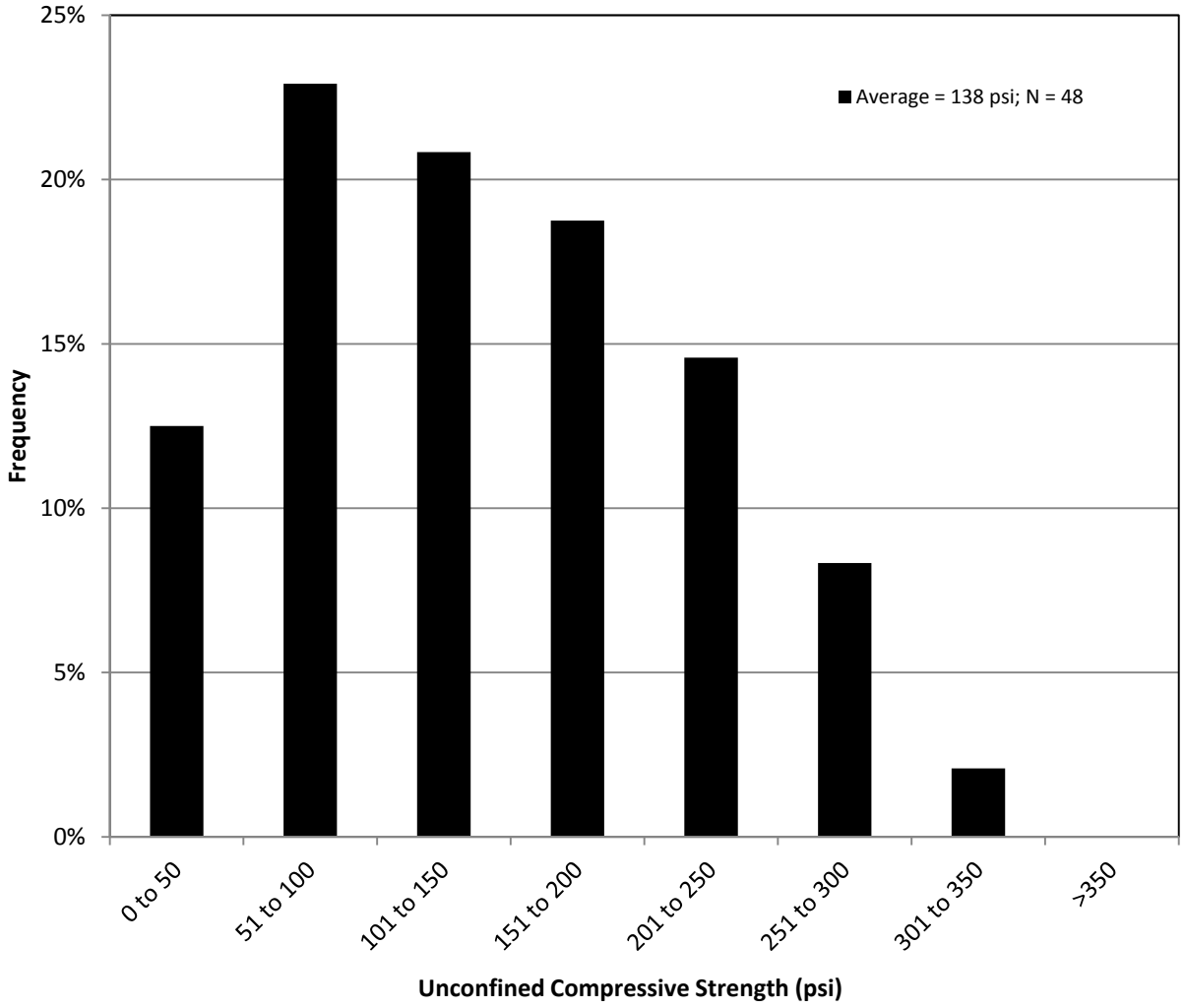


Figure 18: Summary of UCS Distribution – Fernando Formation; All Samples



Includes 48 UCS tests and 7 Point Load tests performed on "typical" samples of Fernando Formation, and 2 Point Load tests performed on cemented samples.

Figure 19: Summary of UCS Distribution – Fernando Formation; Excluding Cemented Materials



Includes 48 UCS tests performed on typical samples of Fernando Formation. Tests for cemented samples are not included.

Figure 20: Slake Durability – Fernando Formation

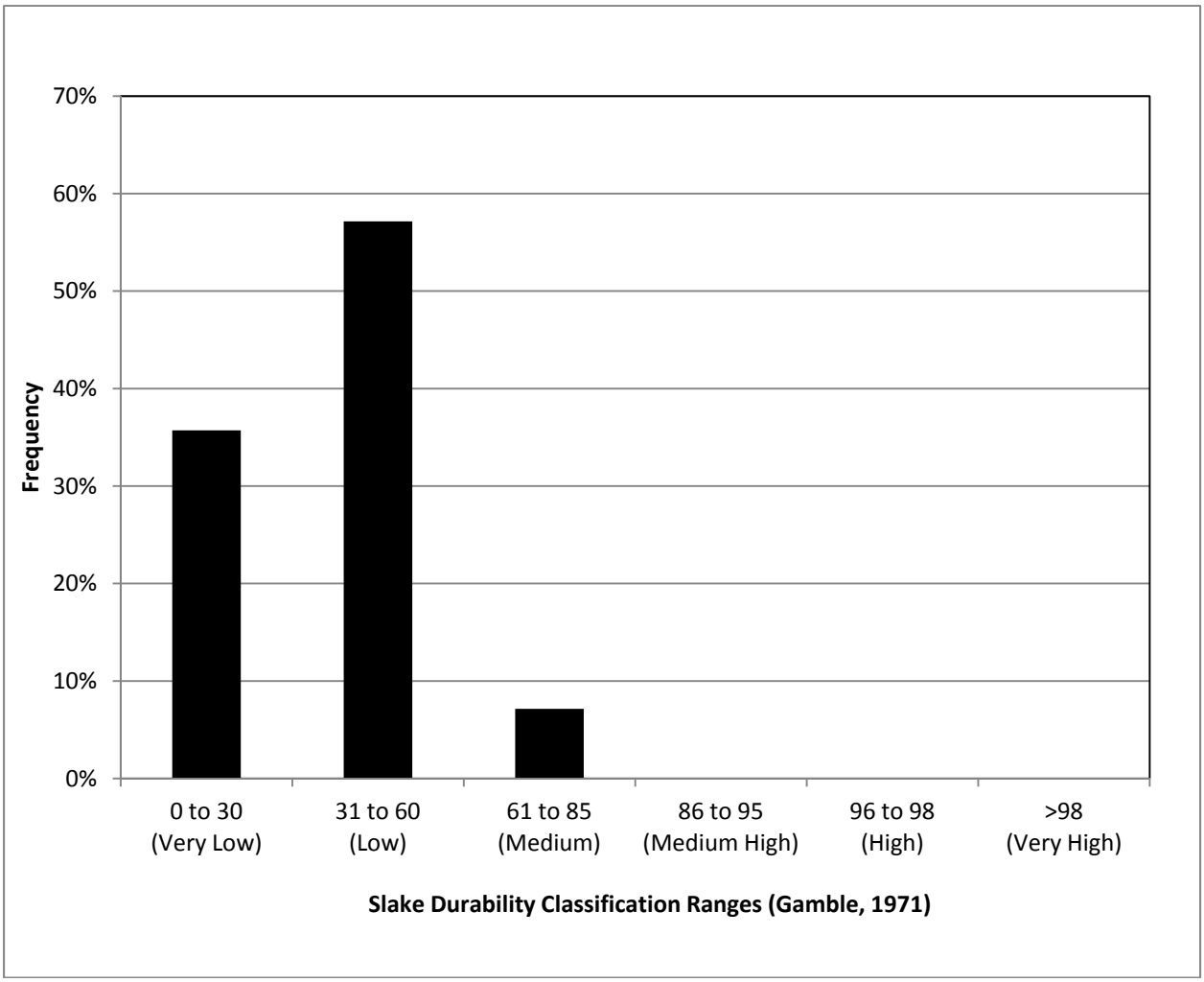


Figure 21A: Fernando Formation – Discontinuity Orientations from ATV Surveys in Boring G2-20 and G2-21

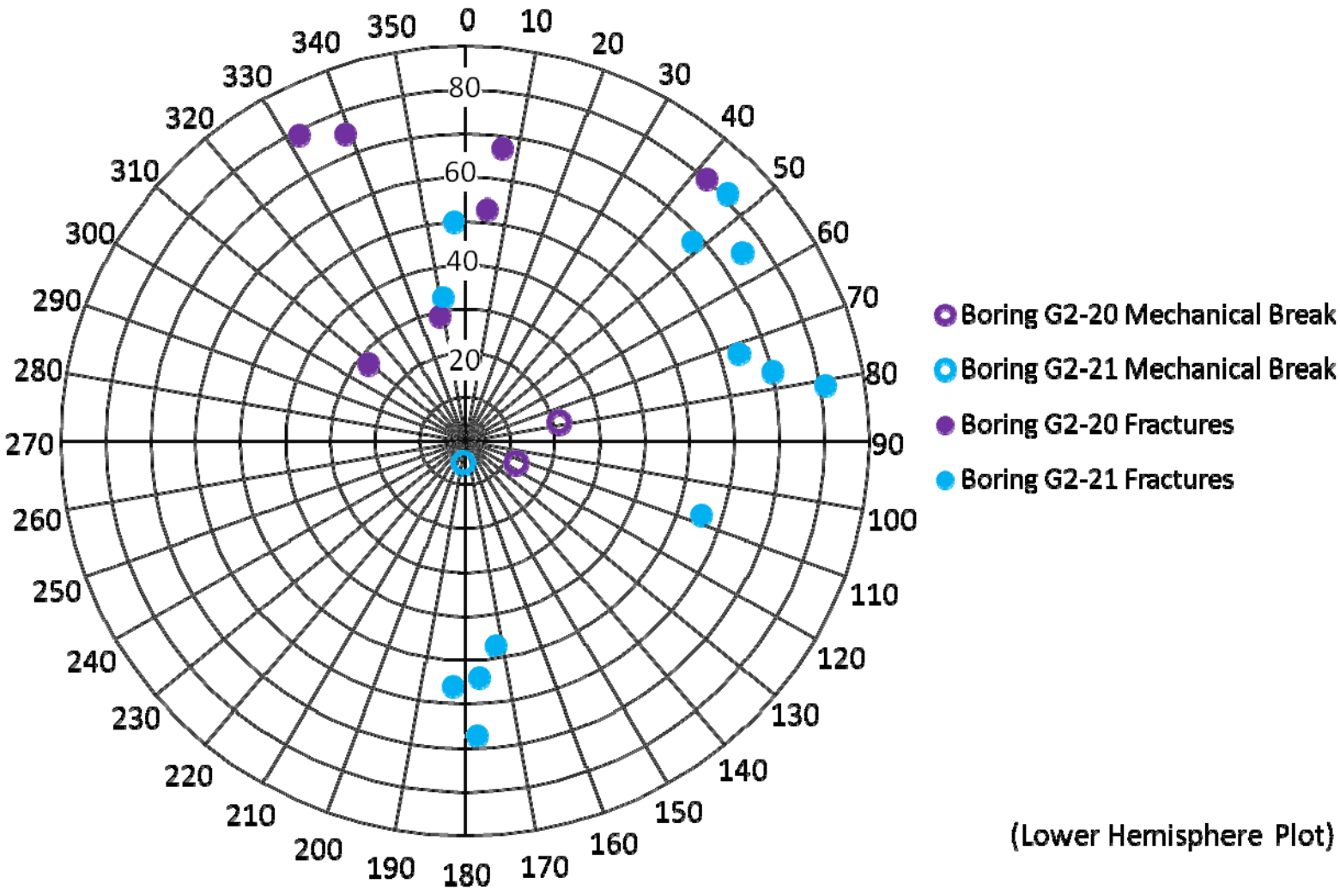


Figure 21B: Fernando Formation – Discontinuity Orientations from ATV Surveys in Boring G2-5, G2-7D, and Discontinuities Observed at Broad Museum Excavation

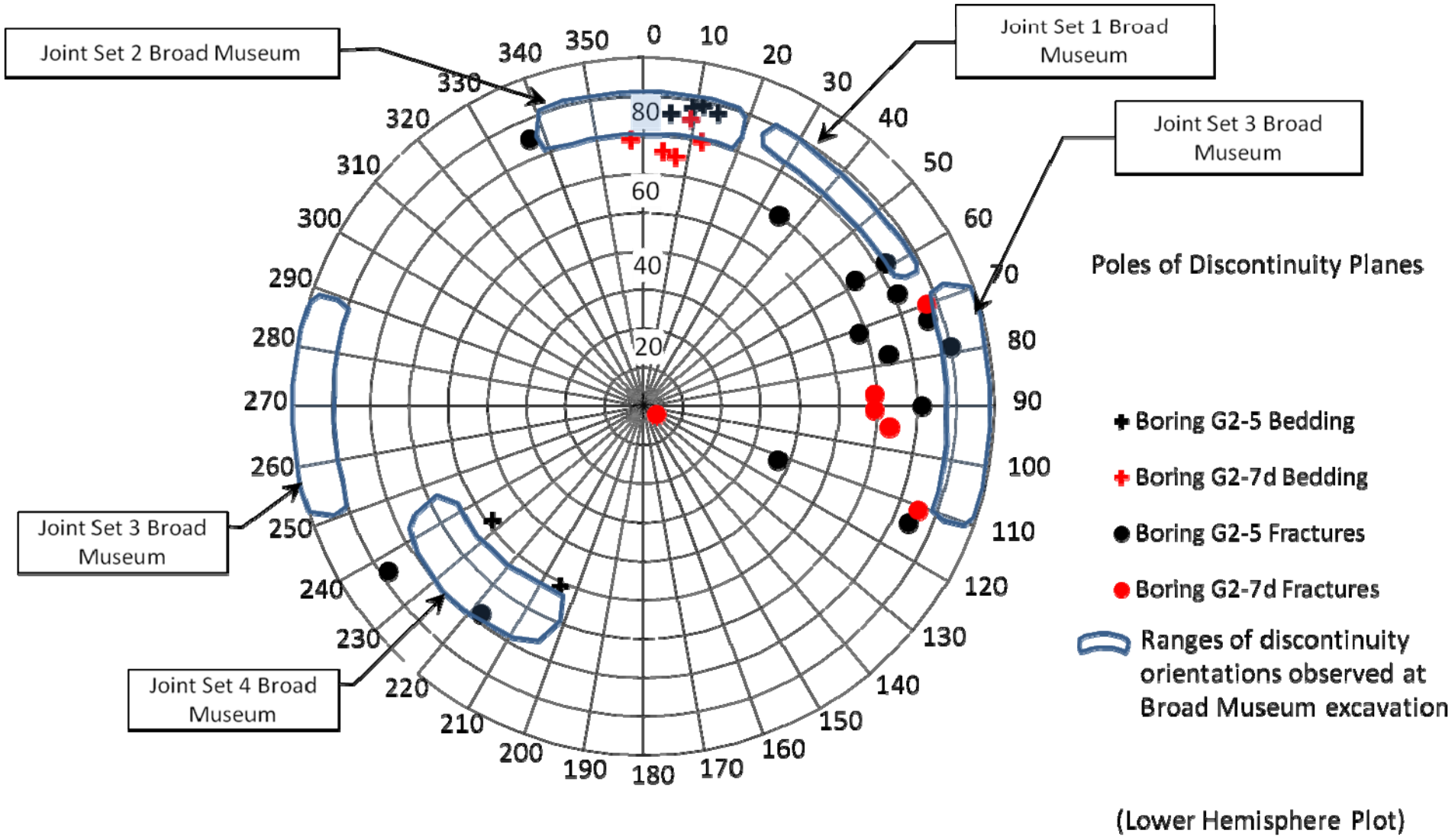


Figure 21C: Fernando Formation – Discontinuity Orientations from ATV Surveys in Boring G3-1, G3-2, and G3-4

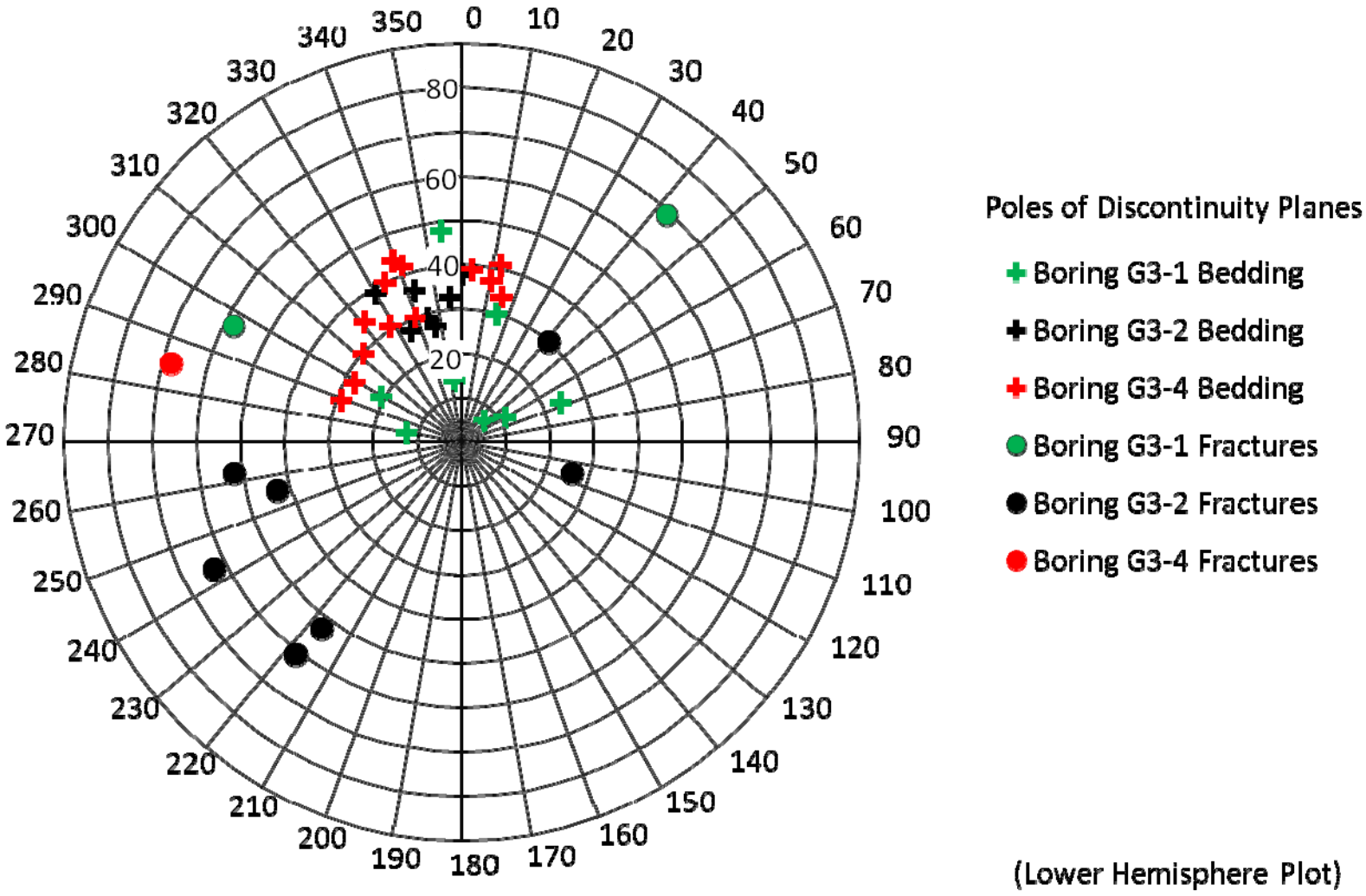


Figure 22: Foundation Excavation in Fernando Formation – Slightly Weathered to Fresh Condition



Figure 23: Foundation Excavation in Fernando Formation – Joint Surface



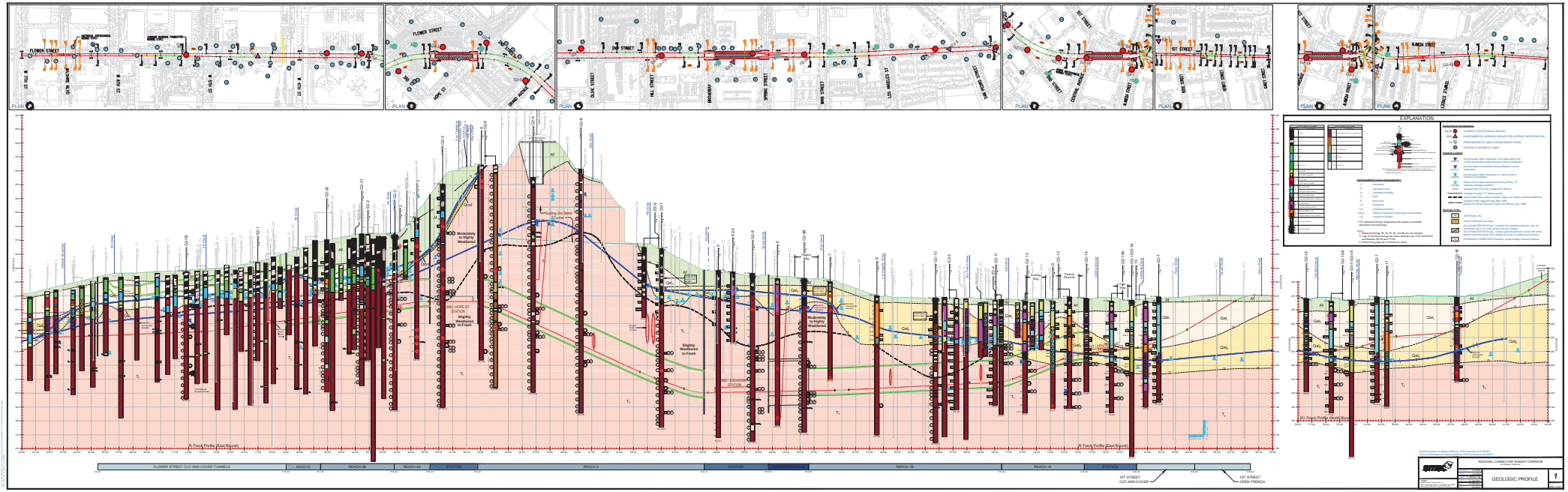
Figure 24: Foundation Excavation in Fernando Formation – Moderately to Highly Weathered Condition



Figure 25: Foundation Excavation in Fernando Formation – Desiccation/Slaking Behavior



Plates



REGIONAL CONNECTOR TRANSIT CORRIDOR

GEOLOGIC PROFILE

1

APPENDIX F

Greenhouse Gas Emission Technical Report

ESA

TIMES MIRROR SQUARE PROJECT

Greenhouse Gas Emissions Technical Report

Prepared for
ONNI Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

January 2019

ESA

TIMES MIRROR SQUARE PROJECT

Greenhouse Gas Emissions Technical Report

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January 2019

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Acronyms and Abbreviations

AB 32	California Global Warming Solutions Act of 2006
Basin	South Coast Air Basin
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen Code	California Green Building Standards Code
CAFE	Corporate Average Fuel Economy
CAPCOA	California Air Pollution Control Officer's Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCAT	California Climate Action Team
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEUS	Commercial End-Use Survey
CH_4	Methane
City	City of Los Angeles
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
CPUC	California Public Utilities Commission
DPM	Diesel Particulate Matter
GHG	Greenhouse Gas
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
HVAC	Heating, Ventilating and Air Conditioning
IPCC	Intergovernmental Panel on Climate Change
LADWP	Los Angeles Department of Water and Power
LAGBC	Los Angeles Green Building Code
LCFS	Low Carbon Fuel Standard
$MTCO_2e$	Metric ton of carbon dioxide equivalent
$MMTCO_2e$	Million metric tons of carbon dioxide equivalent
NAT	No-Action-Taken
N_2O	Nitrous Oxide
PFCs	Perfluorocarbons
RPS	Renewable Portfolio Standard

SF_6	Sulfur Hexafluoride
OPR	California Office of Planning and Research
USGBC	United States Green Building Code
VMT	Vehicle miles travelled
EMFAC	on-road vehicle emissions factor model
Hp	horsepower
LOS	Level of Service
MPO	Metropolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
ppm	parts per million
RTIP	Regional Transportation Improvement Program
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

The ONNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project) which would include construction of two new mixed-use towers along with rehabilitation of three existing buildings, including an eight-story building (Times Building), a four-story building (Plant Building) and a 10-story building (Mirror Building) within the Times Mirror Square site. The Times Mirror Square site (Project Site) comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. The Project Site totals approximately 160,578 square feet of lot area or approximately 3.6 acres.

The proposed rehabilitated buildings, the Times, Plant, and Mirror Buildings, which have a total existing floor area of approximately 376,105 square feet, are located in the east sector of theblock aligned with S. Spring Street. The existing Executive Building at the corner of W. 1st Streetand S. Broadway and the parking structure at the corner of W. 2nd Street and S. Broadway wouldbe demolished to allow for the development of the Project towers. The North and South Towers, which would be constructed above a five-story parking podium (Podium). The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park.

In accordance with the requirements under the California Environmental Quality Act (CEQA), this Greenhouse Gas Emissions (GHG) Technical Report provides an estimate of GHG emissions for the proposed project and predicts the potential impacts from construction and operation activities. The report includes the categories and types of emission sources resulting from the Project, the calculation procedures used in the analysis, and any assumptions or limitations. The Project would introduce short-term and temporary GHG emissions from construction and long-term GHG emissions from operation. The following emission sources, associated with the Project, have been evaluated:

- *Construction* – Activities associated with construction of the Project, such as combustion of fossil fuels for demolition, grading, building erection, paving and painting, would result in temporary and incremental increases in GHG emissions.

- *Operation* – Operation of the Project would cause the emission of GHGs from activities such as heating, cooling, and electricity, lawn care and maintenance activities, the treatment and

conveyance of water; and combustion of fossil fuels for transportation and power. However, the Project would implement Project Design Features that would be consistent with State and City recommended GHG reduction strategies and are predicted to lessen emissions of GHGs.

This report summarizes the potential for the Project to generate GHG emissions that may have a significant impact on the environment and its potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. The findings of the analyses are as follows:

- Greenhouse gas emissions associated with the Project would be consistent with the applicable portions of City of Los Angeles Green LA Plan, Sustainable City pLAn, and Green Building Ordinance. In addition, the Project would be consistent with applicable Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) policies intended to meet the region's GHG reduction targets as assigned by the California Air Resources Board (CARB). Thus, the Project's GHG emissions would be consistent with regulatory schemes intended to reduce GHG emissions. Therefore, the Project would result in less than significant GHG emissions based on applicable thresholds of significance as evaluated in this GHG Technical Report.

- The Project would be consistent with the HSC Division 25.5 goals and CARB guidelines for assessing GHG emissions. Further, the Project would include land use characteristics and design features that would be consistent with State, Regional, and Local Regulations for reducing GHG emissions. Therefore, as the Project would be consistent with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions, impacts regarding GHG reduction plans would be less than significant.

- Furthermore, the Project would implement green building measures that would reduce the Project's direct and indirect GHG emissions. With the implementation of the Project's green building measures, the Project would achieve substantial GHG reductions as compared to a comparable No-Action-Taken (NAT) scenario.

SECTION 1
Introduction

1.1 Existing Conditions

The ONNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project) which would include construction of two new mixed-use residential and commercial towers along with rehabilitation of three existing buildings at 202 West 1st Street on an approximately 3.6- that comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway (Project Site).[1] The Project Site location is shown in **Figure 1**, *Vicinity Location Map.*

The Project Site is currently developed with five structurally distinct, but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to ten stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the ten-story Mirror Building, the six-story parking structure, and the six-story Executive Building. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, an approximately 11,250 square-foot cafeteria in the Plant Building. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. GHG emissions are currently associated with vehicle trips to and from the existing Project Site (on-road mobile sources), on-site combustion of natural gas for heating and cooking, on-site combustion emissions from landscaping equipment (area source), off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition, water conveyance, and wastewater treatment.

1.2 Project Description

The Project would demolish the Executive Building and parking structure and develop two high-rise mixed-use towers, the North Tower and South Tower, that would replace these structures along the S. Broadway frontage, while the Times, Plant, and Mirror Buildings would be renovated and preserved. The proposed Paseo would separate the existing Times, Plant, and Mirror Buildings from the new towers and intersect the Project Site between the W. 1st Street and W. 2nd Street sidewalks.

The North and South Towers, which would be constructed above a five-story parking podium (Podium). The North Tower would contain 450 residential units and the South Tower would contain 677 residential units, for a total of 1,127 residential units and approximately 34,572

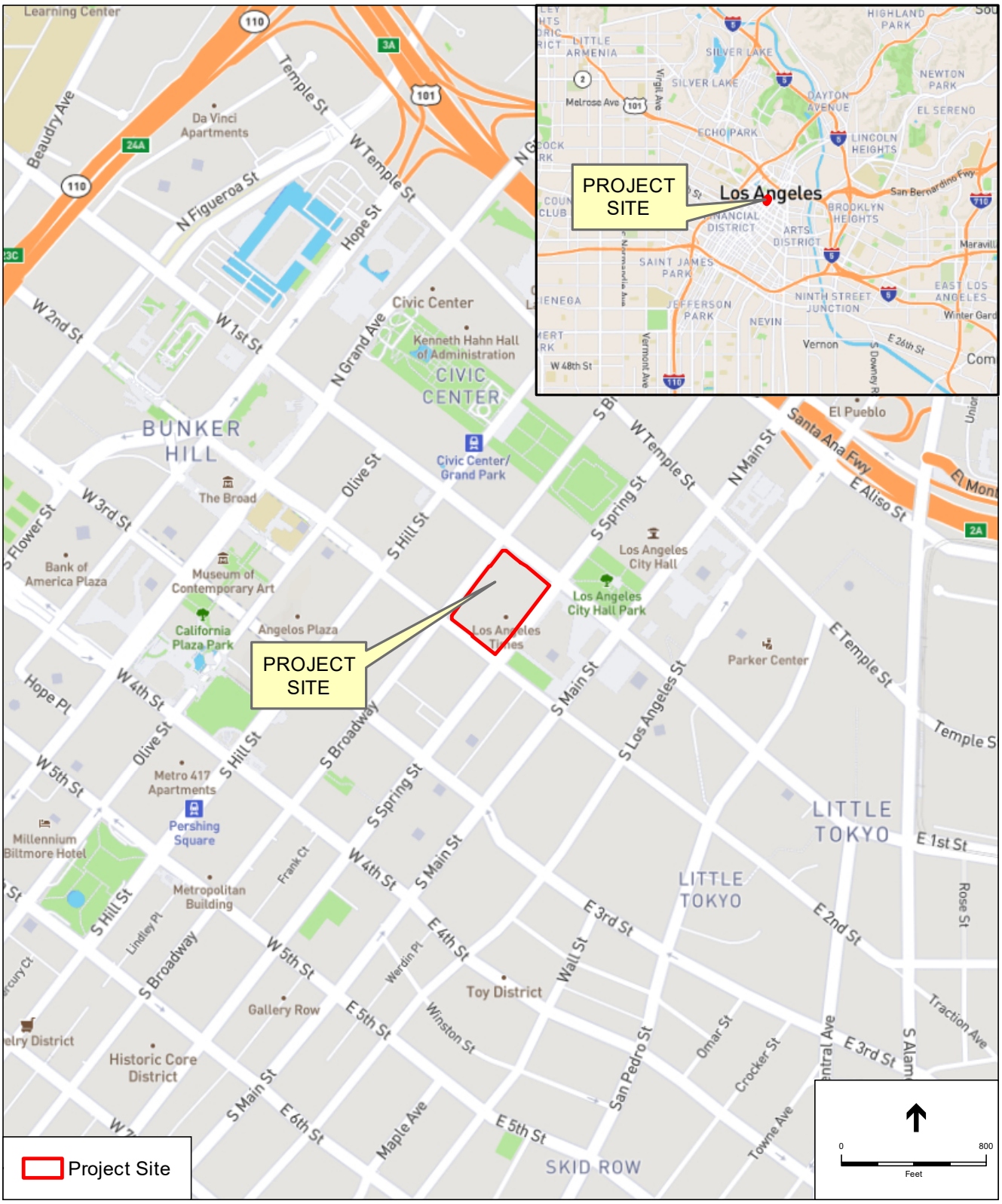
[1] The Project Site is zoned Commercial (C2-4D-SN), which permits general commercial and multi-family residential uses.

square feet of commercial floor area. Total residential floor area within the two towers would be approximately 1,071,692 square feet. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 square feet. Open space amenities available to residents of the North and South Towers include an approximately 28,777-square-foot residential terrace (Residential Terrace) on the rooftop of the five-story Podium (Level 6). The Residential Terrace, which is located on the rooftop of the Podium between the North and South Towers, would be open to sky and provide approximately 7,700 square feet of landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and other amenities such as dining tables and fire-side seating. The Project would provide other amenities at the 6th floor level, as well as ground-floor lounges in each of the tower buildings. These amenity areas are expected to include a gym, club rooms, meeting rooms, film screening room, private dining, and potentially other common areas to serve residents.

Approximately 73,128 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. Of the common open space, only the Paseo is available for public access. The remaining 57,420 square feet are provided as common use for the Project's residents. With the addition of approximately 56,349 square feet of private balconies, combined private and common open space would be approximately 129,477 square feet.

The Podium would be a five-story above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. The Project is designed for approximately 1,744 vehicle parking spaces in the five-level above-ground Podium and nine-level subterranean parking structure. The Project would also provide 1,240 bicycle parking spaces for the residential uses and 34 bicycle parking spaces for the commercial uses.

The existing buildings to remain approximately total 376,105 square feet. Under the Project, there would be approximately 307,288 square feet of commercial office uses, approximately 18,817 square feet of commercial restaurant uses, an approximately 50,000 square-foot grocery store,and an Office Terrace (Level 6 of the Plant Building). Although the total floor area of 376,105 square feet and the proportional mix of commercial uses would not change, the Project would allow flexibility in how the uses are allocated among the three existing buildings. The interiors of all three historic buildings have been heavily altered over time. The two original and architecturally distinctive interior spaces, the lobbies of the Times Building and Mirror Building, would be preserved. The upper floors contain little if any historic fabric, as it was removed as a result of past structural improvements and office modernizations. The upper floors would be reconfigured for office tenants, if required. The exteriors of all three buildings would be cleaned and repaired as necessary. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. The Project Site area and vicinity is provided in **Figure 2**, *Aerial Photograph of Project Site and Vicinity*.



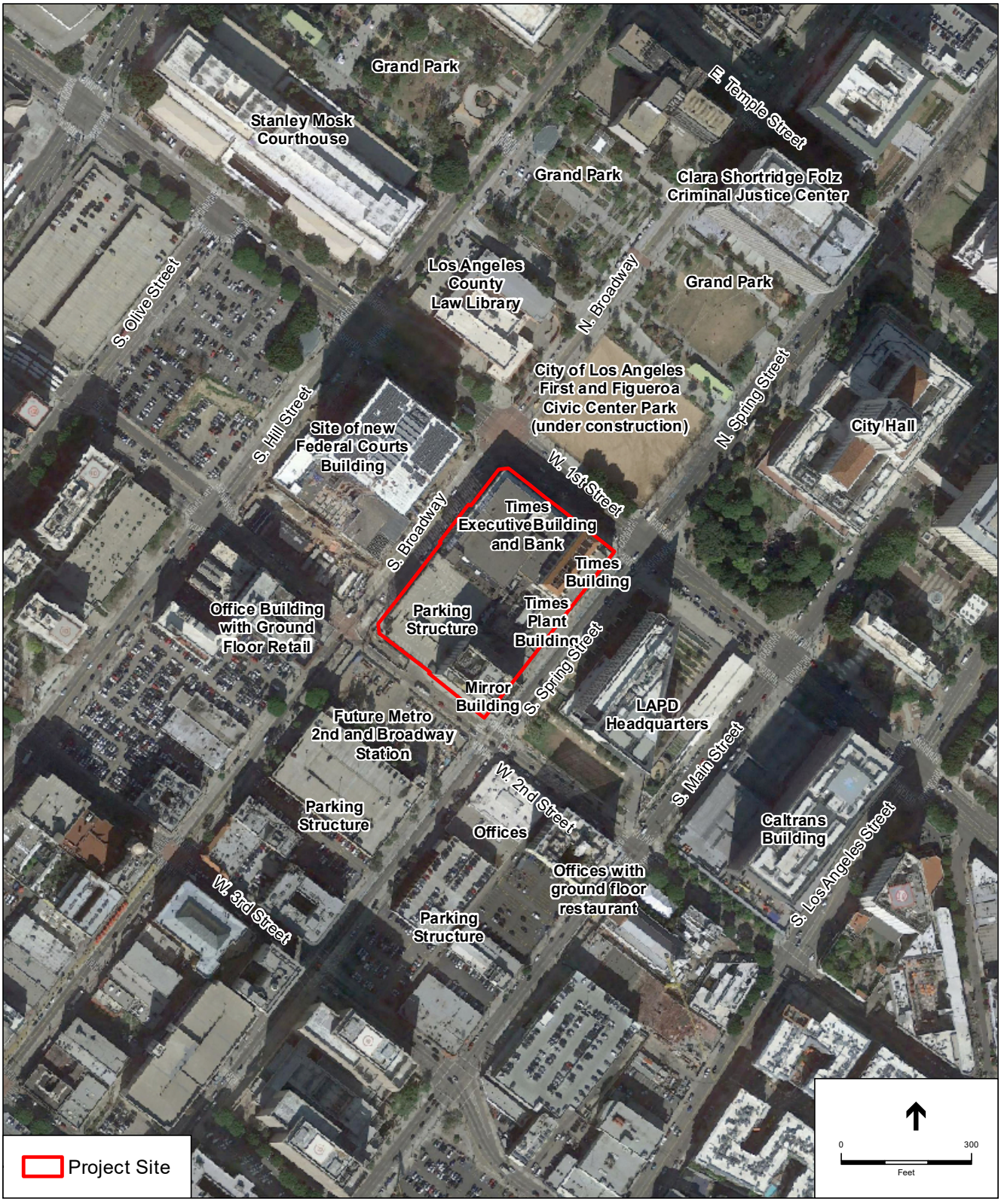
SOURCE: Open Street Map, 2016.

Times Mirror Square

Figure 1

Vicinity Location Map

ESA



SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square

Figure 2

Aerial Photograph of Project Site and Vicinity

ESA

Demolition activities on the subject property would include the removal of two of the five existing buildings. Approximately 35,000 tons of debris would be exported from the Project site. The Project would require the excavation of approximately 364,000 cubic yards of earth for the proposed nine levels of parking, four of which would be constructed above grade in the Podium and five of which would be constructed below grade.

1.3 Anticipated Construction Schedule

Construction of the Project is anticipated to begin in 2019, pending Project consideration and approval, and would be completed in late 2023. Construction of the Project is estimated to require 48 months, starting as early as the first quarter of 2019.Construction activities would include demolition of the Executive Building and existing parking structure, excavation, foundations and concrete pouring, building construction, and architectural coatings. Heavy-duty equipment, vendor supply trucks and concrete trucks would be used during construction of foundations, parking structures, and buildings. Landscaping and architectural coating would occur during the finishing activities. The maximum daily regional emissions from these activities are estimated by construction phase and compared to the South Coast Air Quality Management District (SCAQMD) significance thresholds. The maximum daily regional emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of Project construction. The Project would comply with SCAQMD Rule 403 during demolition and grading activities which would limit fugitive dust emissions. A complete listing of the construction equipment by phase and construction phase duration assumptions used in this analysis is included within the California Emissions Estimator Model (CalEEMod) printout sheets that are provided in **Appendix F-2** of this Technical Report.

1.4 Existing Greenhouse Gas Environment

1.4.1 Greenhouse Gases

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation and storms. Historical records indicate that global climate changes have occurred in the past due to natural phenomena; however, current data increasingly indicate that the current global conditions differ from past climate changes in rate and magnitude. Global climate change attributable to anthropogenic (human) GHG emissions is currently one of the most important and widely debated scientific, economic and political issues in the United States and the world. The extent to which increased concentrations of GHGs have caused or will cause climate change and the appropriate actions to limit and/or respond to climate change are the subject of significant and rapidly evolving regulatory efforts at the federal and state levels of government.

GHGs are compounds in the Earth's atmosphere which play a critical role in determining temperature near the Earth's surface. More specifically, these gases allow high-frequency shortwave solar radiation to enter the Earth's atmosphere, but retain some of the low frequency infrared energy which is radiated back from the Earth towards space, resulting in a warming of the atmosphere. Not all GHGs possess the same ability to induce climate change; as a result,

GHG contributions are commonly quantified in the units of equivalent mass of carbon dioxide (CO_2e). Mass emissions are calculated by converting pollutant specific emissions to CO_2e emissions by applying the proper global warming potential (GWP) value.[2] These GWP ratios are provided by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4).[3] By applying the GWP ratios, project-related CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The CO_2e values are calculated for construction years as well as existing and project build-out conditions in order to generate a net change in GHG emissions for construction and operation. Compounds that are regulated as GHGs are discussed below.

- **Carbon Dioxide (CO_2):** CO_2 is the most abundant anthropogenic GHG in the atmosphere and is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the reference gas (GWP of 1) for determining the GWPs of other GHGs.

- **Methane (CH_4):** CH_4 is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, anaerobic decomposition of organic matter in landfills, manure management, and leaks in natural gas pipelines. The GWP of CH_4 is 21 in the IPCC SAR and 25 in the IPCC AR4.

- **Nitrous Oxide (N_2O):** N_2O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of N_2O is 310 in the IPCC SAR and 298 in the IPCC AR4.

- **Hydrofluorocarbons (HFCs):** HFCs are fluorinated compounds consisting of hydrogen, carbon, and fluorine. They are typically used as refrigerants in both stationary refrigeration and mobile air conditioning systems. The GWPs of HFCs range from 140 for HFC-152a to 11,700 for HFC-23 in the IPCC SAR and 124 for HFC-152a to 14,800 for HFC-23 in the IPCC AR4.

- **Perfluorocarbons (PFCs):** PFCs are fluorinated compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 6,500 to 9,200 in the IPCC SAR and 7,390 to 17,700 in the IPCC AR4.

- **Sulfur Hexafluoride (SF_6):** SF_6 is a fluorinated compound consisting of sulfur and fluoride. It is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. SF_6 has a GWP of 23,900 in the IPCC SAR and 22,800 in the IPCC AR4.

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2 GWPs and associated CO_2e values were developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) in 1996. Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's SAR. The IPCC updated the GWP values based on the latest science in its Fourth Assessment Report (AR4). The California Air Resources Board (CARB) reports GHG emission inventories for California using the GWP values from the IPCC AR4. Therefore, the analysis below reflected the GWP values from IPCC AR4. Although the IPCC has released AR5 with updated GWPs, CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards.

3 Intergovernmental Panel on Climate Change, Fourth Assessment Report, The Physical Science Basis, Table 2.14, (2007), https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html. Accessed December 2018.

1.4.2 Existing Conditions

Existing Site Greenhouse Gas Emissions

The Project Site is located within Downtown Los Angeles, and is currently developed with five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings range from four to ten stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the ten-story Mirror Building, the six-story parking structure, and the six-story Executive Building. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, an approximately 11,250 square-foot cafeteria in the Plant Building. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. GHG emissions are currently associated with vehicle trips to and from the existing Project Site (on-road mobile sources), on-site combustion of natural gas for heating and cooking, on-site combustion emissions from landscaping equipment (area source), off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition, water conveyance, and wastewater treatment.

Existing Project Site emissions were estimated using the California Emissions Estimator Model (CalEEMod) software version 2016.3.2. The existing Project Site emissions are summarized in **Table 1,** *Estimated Existing Site Greenhouse Gas Emissions*. As shown, the primary sources of emissions are from transportation and energy demand (electricity and natural gas). Detailed emissions calculations are provided in **Appendix F-1** of this Technical Report.

TABLE 1
ESTIMATED EXISTING SITE GREENHOUSE GAS EMISSIONS

Emissions Sources	CO_2e (Metric Tons per Year) [a]
Existing Site	
On Road Mobile Sources	4,016
Area (landscaping)	<1
Electricity	2,671
Natural Gas	324
Water Conveyance and Wastewater Treatment	61
Solid Waste	53
Subtotal	**7,125**

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] CO_2e emissions are calculated using the global warming potential values from the IPCC AR4. Although the IPCC has released AR5 with updated GWPs, CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards.

Source: ESA, 2018.

Existing Statewide Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2016 GHG inventory data (i.e., the latest year for which data are available from CARB) prepared by CARB in 2018, California emitted 429.4 million metric tons of CO_2e ($MMTCO_2e$) including emissions resulting from imported electrical power.[4] Between 1990 and 2016, the population of California grew by approximately 9.5 million (from 29.8 to 39.3 million).[5,6] This represents an increase of approximately 32 percent from 1990 population levels. In addition, the California economy, measured as gross state product, grew from $773 billion in 1990 to $2.62 trillion in 2016 representing an increase of approximately three times the 1990 gross state product).[7] Despite the population and economic growth, California's net GHG emissions were reduced to below 1990 levels in 2016. According to CARB, the declining trend coupled with the state's GHG reduction programs (such as the Renewables Portfolio Standard, Low Carbon Fuel Standard, vehicle efficiency standards, and declining caps under the Cap and Trade Program) demonstrate that California is on track to meet the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32).[8] **Table 2**, *State of California Greenhouse Gas Emissions,* identifies and quantifies statewide anthropogenic GHG emissions and sinks (e.g., carbon sequestration due to forest growth) in 1990 and 2016. As shown in the table, the transportation sector is the largest contributor to statewide GHG emissions at approximately 39 percent in 2016.

4 California Air Resources Board, California Greenhouse Gas Inventory for 2000-2016– by Category as Defined in the 2008 Scoping Plan, https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_sum_2000-16.pdf. Accessed August 2018.

5 U.S. Census Bureau, National and State Population Estimates: 1990-1994 (1995), https://www.census.gov/content/dam/Census/library/publications/1995/demo/p25-1127.pdf. Accessed December 2018.

6 California Department of Finance, American Community Survey, 2016, http://www.dof.ca.gov/Reports/Demographic_Reports/American_Community_Survey/documents/Web_ACS2016_Pop-Race.xlsx. Accessed August 2018.

7 California Department of Finance, Gross State Product. Available at: http://www.dof.ca.gov/Forecasting/Economics/Indicators/Gross_State_Product/documents/BBStateGDP_000.xls. Accessed August 2018. Amounts are based on current dollars as of the date of the report (May 2018).

8 California Air Resources Board, Frequently Asked Questions for the 2016 Edition California Greenhouse Gas Emission Inventory, (2016). Available at: https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_faq_20160617.pdf. Accessed December 2018.

TABLE 2
STATE OF CALIFORNIA GREENHOUSE GAS EMISSIONS

Category	Total 1990 Emissions using IPCC SAR ($MMTCO_2e$)	Percent of Total 1990 Emissions	Total 2016 Emissions using IPCC AR4 ($MMTCO_2e$)	Percent of Total 2016 Emissions
Transportation	150.7	35%	169.4	39%
Electric Power	110.6	26%	68.6	16%
Commercial	14.4	3%	15.2	4%
Residential	29.7	7%	24.2	6%
Industrial	103.0	24%	89.6	21%
Recycling and Waste [a]	–	–	8.8	2%
High GWP/Non-Specified [b]	1.3	<1%	19.8	5%
Agriculture/Forestry	23.6	6%	33.8	8%
Forestry Sinks	-6.7		-- [c]	--
Net Total (IPCC SAR)	**426.6**	**100%**	--	--
Net Total (IPCC AR4) [d]	**431**	**100%**	**429.4**	**100%**

[a] Included in other categories for the 1990 emissions inventory.
[b] High GWP gases are not specifically called out in the 1990 emissions inventory.
[c] Revised methodology under development (not reported for 2012).
[d] CARB revised the State's 1990 level GHG emissions using GWPs from the IPCC AR4.

Sources: California Air Resources Board, Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, (2007); California Air Resources Board, California Greenhouse Gas Inventory for 2000-2016– by Category as Defined in the 2008 Scoping Plan. Available at: https://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_sum_2000-16.pdf. Accessed December 2018.

Effects of Global Climate Change

The scientific community's understanding of the fundamental processes responsible for global climate change has improved over the past decade, and its predictive capabilities are advancing. However, there remain significant scientific uncertainties in, for example, predictions of local effects of climate change, occurrence, frequency, and magnitude of extreme weather events, effects of aerosols, changes in clouds, shifts in the intensity and distribution of precipitation, and changes in oceanic circulation. Due to the complexity of the Earth's climate system and inability to accurately model it, the uncertainty surrounding climate change may never be completely eliminated. Nonetheless, the IPCC's *Fifth Assessment Report, Summary for Policy Makers* states that, "it is *extremely likely* that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in greenhouse gas concentrations and other anthropogenic forc[es [*sic*] together."[9] A report from the National Academy of Sciences concluded that 97 to 98 percent of the climate researchers most actively

9 Intergovernmental Panel on Climate Change, Fifth Assessment Report, Summary for Policy Makers, page 5, 2013, http://ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf. Accessed September 27, 2018.

publishing in the field support the tenets of the IPCC in that climate change is very likely caused by human (i.e., anthropogenic) activity.[10]

According to CARB, the potential impacts in California due to global climate change may include: loss in snow pack; sea level rise; more extreme heat days per year; more high ozone days; more large forest fires; more drought years; increased erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Deltas and associated levee systems; and increased pest infestation.[11] Below is a summary of some of the potential effects that could be experienced in California as a result of global warming and climate change.

Air Quality

Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state.[12] However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy* as a response to the Governor's Executive Order S-13-2008.[13] The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a website on climate change scenarios and impacts that would be beneficial for local decision makers.[14] The website, known as Cal-Adapt, became operational in 2011.[15] The information provided on the Cal-Adapt website represents a projection of potential future climate scenarios. The data are comprised of the average values (i.e., temperature, sea-level rise, snowpack) from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors. According to the Cal-Adapt website, the portion of the city

10 Anderegg, William R. L., J.W. Prall, J. Harold, S.H., Schneider, Expert Credibility in Climate Change, Proceedings of the National Academy of Sciences of the United States of America. 2010;107:12107-12109.

11 California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2006, http://climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF. Accessed December 2018.

12 California Environmental Protection Agency, Preparing California for Extreme Heat: Guidance and Recommendations, October 2013, http://www.climatechange.ca.gov/climate_action_team/reports/Preparing_California_for_Extreme_Heat.pdf. Accessed December 2018.

13 California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 2009.

14 California Natural Resources Agency, Climate Action Team, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 2009.

15 The Cal-Adapt website address is: http://cal-adapt.org.

in which the Project Site is located could result in an average increase in temperature of approximately 5.4 to 8.0°F by 2070–2099, compared to the baseline 1961–1990 period.

Water Supply

Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. Studies have found that, "Considerable uncertainty about precise impacts of climate change on California hydrology and water resources will remain until we have more precise and consistent information about how precipitation patterns, timing, and intensity will change."[16] For example, some studies identify little change in total annual precipitation in projections for California while others show significantly more precipitation.[17] Warmer, wetter winters would increase the amount of runoff available for groundwater recharge; however, this additional runoff would occur at a time when some basins are either being recharged at their maximum capacity or are already full. Conversely, reductions in spring runoff and higher evapotranspiration because of higher temperatures could reduce the amount of water available for recharge.[18]

The California Department of Water Resources report on climate change and effects on the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta, concludes that "climate change will likely have a significant effect on California's future water resources…[and] future water demand." It also reports that "much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain."[19] It also reports that the relationship between climate change and its potential effect on water demand is not well understood, but "[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future." Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in inflows.[20] In its *Fifth Assessment Report*, the IPCC states "Changes in the global water cycle in response to the warming over the 21st

16 Pacific Institute for Studies in Development, Environment and Security, Climate Change and California Water Resources: A Survey and Summary of the Literature, July 2003, page 5, http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed December 2018.

17 Pacific Institute for Studies in Development, Environment and Security, Climate Change and California Water Resources: A Survey and Summary of the Literature, July 2003, http://www.pacinst.org/reports/climate_change_and_california_water_resources.pdf. Accessed December 2018.

18 California Natural Resources Agency, Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy, 2014, http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf. Accessed December 2018.

19 California Department of Water Resources Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California's Water Resources, July 2006, page 2-54, https://water.ca.gov/LegacyFiles/floodmgmt/hafoo/csc/docs/DWRClimateChangeJuly06.pdf. Accessed December 2018.

20 California Department of Water Resources Climate Change Report, Progress on Incorporating Climate Change into Planning and Management of California's Water Resources, July 2006, page 2-75, http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06_update8-2-07.pdf. Accessed December 2018.

century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions."[21]

Hydrology and Sea Level Rise

As discussed above, climate change could potentially affect: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could jeopardize California's water supply. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.

Agriculture

California has a $30 billion agricultural industry that produces half the country's fruits and vegetables. Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.[22]

Ecosystems and Wildlife

Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. Increasing concentrations of GHGs are likely to accelerate the rate of climate change. Scientists expect that the average global surface temperature could rise by 2-11.5°F (1.1-6.4°C) by 2100, with significant regional variation.[23] Soil moisture is likely to decline in many regions, and intense rainstorms are likely to become more frequent. Sea level could rise as much as 2 feet along most of the United States coastline. Rising temperatures could have four major impacts on plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.[24]

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21 Intergovernmental Panel on Climate Change, Fifth Assessment Report, Summary for Policy Makers, 2013, page 20.

22 California Climate Change Center, Our Changing Climate: Assessing the Risks to California, 2006, http://meteora.ucsd.edu/cap/pdffiles/CA_climate_Scenarios.pdf. Accessed December 2018.

23 National Research Council, Advancing the Science of Climate Change, 2010, http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/Science-Report-Brief-final.pdf. Accessed December 2018.

24 Parmesan, C., and H. Galbraith, Observed Impacts of Global Climate Change in the U.S., Prepared for the Pew Center on Global Climate Change, November 2004, https://www.c2es.org/site/assets/uploads/2004/11/observed-impacts-climate-change-united-states.pdf. Accessed December 2018.

SECTION 2
Regulatory Setting

2.1 Federal

The United States Environmental Protection Agency (USEPA) is responsible for implementing federal policy to address GHGs. The federal government administers a wide array of public-private partnerships to reduce the GHG intensity generated in the United States. These programs focus on energy efficiency, renewable energy, methane and other non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions. The USEPA implements numerous voluntary programs that contribute to the reduction of GHG emissions. These programs (e.g., the ENERGY STAR labeling system for energy-efficient products) play a significant role in encouraging voluntary reductions from large corporations, consumers, industrial and commercial buildings, and many major industrial sectors.

2.1.1 Clean Air Act

In *Massachusetts v. Environmental Protection Agency* (Docket No. 05–1120), the U.S. Supreme Court held in April of 2007 that the USEPA has statutory authority under Section 202 of the federal Clean Air Act (CAA) to regulate GHGs. The court did not hold that the USEPA was required to regulate GHG emissions; however, it indicated that the agency must decide whether GHGs cause or contribute to air pollution that is reasonably anticipated to endanger public health or welfare. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA. The USEPA adopted a Final Endangerment Finding for the six defined GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) on December 7, 2009. The Endangerment Finding is required before USEPA can regulate GHG emissions under Section 202(a)(1) of the CAA consistently with the United States Supreme Court decision. The USEPA also adopted a Cause or Contribute Finding in which the USEPA Administrator found that GHG emissions from new motor vehicle and motor vehicle engines are contributing to air pollution, which is endangering public health and welfare. These findings do not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

2.1.2 Energy Independence and Security Act

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard (RFS) that requires fuel producers to use at least 36 billion gallons of biofuel in 2022;

- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances;

- Requiring approximately 25 percent greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014; requiring approximately 200 percent greater efficiency for light bulbs, or similar energy savings, by 2020; and

- While superseded by the USEPA and NHTSA actions described above, (i) establishing miles per gallon targets for cars and light trucks and (ii) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.[25]

2.1.3 Executive Order 13432

In response to the Massachusetts v. Environmental Protection Agency ruling, the President signed Executive Order 13432 on May 14, 2007, directing the USEPA, along with the Departments of Transportation, Energy, and Agriculture, to initiate a regulatory process that responds to the Supreme Court's decision. Executive Order 13432 was codified into law by the 2009 Omnibus Appropriations Law signed on February 17, 2009. The order sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics reductions, recycling, sustainable buildings, electronics stewardship, fleets, and water conservation. Light-Duty Vehicle Greenhouse Gas and Corporate Average Fuel Economy Standards

On May 19, 2009, President Obama announced a national policy for fuel efficiency and emissions standards in the United States auto industry. The adopted federal standard applies to passenger cars and light-duty trucks for model years 2012 through 2016. The rule surpasses the prior Corporate Average Fuel Economy standards (CAFE)26 and requires an average fuel economy standard of 35.5 miles per gallon (mpg) and 250 grams of CO2 per mile by model year 2016, based on USEPA calculation methods. These standards were formally adopted on April 1, 2010. In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions

25 A green job, as defined by the United States Department of Labor, is a job in business that produces goods or provides services that benefit the environment or conserve natural resources.

26 The Corporate Average Fuel Economy standards are regulations in the United States, first enacted by Congress in 1975, to improve the average fuel economy of cars and light trucks. The U.S Department of Trasnportation has delegated the National Highway Traffic Safety Administration as the regulatory agency for the Corporate Average Fuel Economy standards.

from a model year 2010 vehicle.27 In 2017, the USEPA recommended no change to the GHG standards for light-duty vehicles for model years 2022-2025.

In August 2018, the USEPA and NHTSA proposed the Safer Affordable Fuel-Efficient Vehicles Rule that would, if adopted, maintain the CAFE and CO_2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO_2 standards for model year 2020 are 43.7 mpg and 204 grams of CO_2 per mile for passenger cars and 31.3 mpg and 284 grams of CO_2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. The proposal, if adopted, would also exclude CO_2-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[28]

2.2 State of California

2.2.1 California Air Resources Board

CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In 2004, the California Air Resources Board (CARB) adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure generally does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as

27 United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, August 2012, https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF. Accessed December 2018.

28 National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf. Accessed December 2018.

well as many other self-propelled off-road diesel vehicles. The regulation, adopted by the CARB on July 26, 2007, aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models. Refer to Section IV.B, *Air Quality*, of this Draft EIR for additional details regarding these regulations. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

2.2.2 California Greenhouse Gas Reduction Targets

Executive Order S-3-05

Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05,[29] the following GHG emission reduction targets:

- By 2010, California shall reduce GHG emissions to 2000 levels;
- By 2020, California shall reduce GHG emissions to 1990 levels; and
- By 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

In accordance with Executive Order S-3-05, the Secretary of CalEPA is required to coordinate efforts of various agencies, which comprise the California Climate Action Team (CAT), in order to collectively and efficiently reduce GHGs. These agencies include CARB, the Secretary of the Business, Transportation and Housing Agency, Department of Food and Agriculture, the Resources Agency, the California Energy Commission, and the Public Utilities Commission. The CAT provides periodic reports to the Governor and Legislature on the state of GHG reductions in the state as well as strategies for mitigating and adapting to climate change. The first CAT Report to the Governor and the Legislature, in 2006, contained recommendations and strategies to help meet the targets in Executive Order S-3-05. The 2010 CAT Report, finalized in December 2010, expands on the policies in the 2006 assessment.[30] The new information detailed in the CAT Report includes development of revised climate and sea-level projections using new information and tools that became available and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts.

Executive Order B-30-15

On April 29, 2015, Governor Brown issued Executive Order B-30-15. Therein, the Governor directed the following:

- Established a new interim statewide reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030.

29 Center for Climate Strategies, Executive Order S-3-05, http://www.climatestrategies.us/library/library/download/294. Accessed December 2018.

30 California Environmental Protection Agency, Climate Action Team, Climate Action Team Report to Governor Schwarzenegger and the Legislature, 2010, http://www.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF. Accessed December 2018.

- Ordered all state agencies with jurisdiction over sources of GHG emissions to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 reduction targets.

- Directed CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent.

2.2.3 California Health and Safety Code, Division 25.5 – California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California Health and Safety Code [HSC], Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. HSC Division 25.5 defines GHGs as CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 and represents the first enforceable statewide program to limit emissions of these GHGs from all major industries with penalties for noncompliance. The law further requires that reduction measures be technologically feasible and cost effective. Under HSC Division 25.5, CARB has the primary responsibility for reducing GHG emissions. CARB is required to adopt rules and regulations directing state actions that would achieve GHG emissions reductions equivalent to 1990 statewide levels by 2020.

Senate Bill 32 and Assembly Bill 197

In 2016, the California State Legislature adopted Senate Bill (SB) 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 and AB 197 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030 and includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

Climate Change Scoping Plan (2008)

A specific requirement of AB 32 was to prepare a Climate Change Scoping Plan for achieving the maximum technologically feasible and cost-effective GHG emission reduction by 2020 (Health and Safety Code section 38561 (h)). CARB developed an AB 32 Scoping Plan that contains strategies to achieve the 2020 emissions cap.[31] The initial Scoping Plan was approved in 2008, and contains a mix of recommended strategies that combined direct regulations, market-based approaches, voluntary measures, policies, and other emission reduction programs calculated to meet the 2020 statewide GHG emission limit and initiate the transformations needed to achieve the State's long-range climate objectives.[32]

In its Climate Change Scoping Plan, CARB has acknowledged that land use-driven emissions are highly complex: "While it is possible to illustrate the [GHG] inventory many different ways, no chart or graph can fully display how diverse economic sectors fit together. California's economy

31 California Air Resources Board, Initial AB 32 Climate Change Scoping Plan Document, https://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm. Accessed December 2018.

32 California Air Resources Board, Initial AB 32 Climate Change Scoping Plan Document.

is a web of activity where seemingly independent sectors and subsectors operate interdependently and often synergistically."[33] GHG emissions and reductions in the land use sector are complicated to assess given that emissions are influenced by reduction measures separate from the land use sector, such as the Low Carbon Fuel Standard (LCFS)[34], vehicle emissions standards, and entities regulated under the Cap-and-Trade program[35] including refineries and utility providers. These measures will affect other sectors of the economy and will also impact existing development in addition to new land use development.

As required by HSC Division 25.5, CARB approved the 1990 GHG emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was originally set at 427 $MMTCO_2e$ using the GWP values from the IPCC SAR. CARB also projected the state's 2020 GHG emissions under no-action-taken (NAT) conditions – that is, emissions that would occur without any plans, policies, or regulations to reduce GHG emissions. CARB originally used an average of the state's GHG emissions from 2002 through 2004 and projected the 2020 levels at approximately 596 $MMTCO_2e$ (using GWP values from the IPCC SAR). Therefore, under the original projections, the state must reduce its 2020 NAT emissions by 28.4 percent in order to meet the 1990 target of 427 $MMTCO_2e$.

First Update to the Climate Change Scoping Plan (2014)

The First Update to the Scoping Plan was approved by CARB in May 2014 and builds upon the initial Scoping Plan with new strategies and recommendations.[36] In 2014, CARB revised the target using the GWP values from the IPCC AR4 and determined that the 1990 GHG emissions inventory and 2020 GHG emissions limit is 431 $MMTCO_2e$. CARB also updated the State's 2020 NAT emissions estimate to account for the effect of the 2007–2009 economic recession, new estimates for future fuel and energy demand, and the reductions required by regulation that were recently adopted for motor vehicles and renewable energy. CARB's projected statewide 2020 emissions estimate using the GWP values from the IPCC AR4 is 509.4 $MMTCO_2e$.

Therefore, the emission reductions necessary to achieve the 2020 emissions target of 431 $MMTCO_2e$ would be 78.4 $MMTCO_2e$, or a reduction of GHG emissions by approximately 15.4 percent. In the 2017 Climate Change Scoping Plan, CARB provides the estimated projected statewide 2030 emissions and the level of reductions necessary to achieve the 2030 target of 40 percent below 1990 levels. CARB's projected statewide 2030 emissions takes into account 2020 GHG reduction policies and programs.

33 California Air Resources Board, Climate Change Scoping Plan, December 2008, https://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed December 2018.

34 Refer to subsection 2.2.5 of this Technical Report for additional details.

35 Refer to subsection 2.2.8 of this Technical Report for additional details.

36 California Air Resources Board, First Update to the AB 32 Scoping Plan, https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed December 2018.

2017 Climate Change Scoping Plan

In response to the 2030 GHG reduction target, CARB adopted the 2017 Climate Change Scoping Plan at a public meeting held in December 2017.[37] The 2017 Scoping Plan outlines the strategies the State will implement to achieve the 2030 GHG reduction target of 40 percent below 1990 levels, which build on the Cap-and-Trade Regulation,[38] the LCFS,[39] improved vehicle, truck and freight movement emissions standards, increasing renewable energy, and strategies to reduce methane emissions from agricultural and other wastes by using it to meet our energy needs. The 2017 Scoping Plan also addresses GHG emissions from natural and working lands of California, including the agriculture and forestry sectors. The 2017 Scoping Plan considered the Scoping Plan Scenario and four alternatives for achieving the required GHG reductions but ultimately selected the Scoping Plan Scenario.

CARB states that the Scoping Plan Scenario "is the best choice to achieve the State's climate and clean air goals."[40] Under the Scoping Plan Scenario, the majority of the reductions would result from the continuation of the Cap-and-Trade regulation. Additional reductions are achieved from electricity sector standards (i.e., utility providers to supply at least 50 percent renewable electricity by 2030), doubling the energy efficiency savings at end uses, additional reductions from the LCFS, implementing the short-lived GHG strategy (e.g., hydrofluorocarbons), and implementing the mobile source strategy and sustainable freight action plan. The alternatives were designed to consider various combinations of these programs, as well as consideration of a carbon tax in the event the Cap-and-Trade regulation is not continued. However, in July 2017, the California Legislature voted to extend the Cap-and-Trade regulation to 2030.

A summary of the GHG emissions reductions required under HSC Division 25.5 is provided in **Table 3**, *Estimated Greenhouse Gas Emissions Reductions Required by HSC Division 25.5*.

TABLE 3
ESTIMATED GREENHOUSE GAS EMISSIONS REDUCTIONS REQUIRED BY HSC DIVISION 25.5

Emissions Scenario	GHG Emissions ($MMTCO_2e$)
2008 Scoping Plan (IPCC SAR)	
2020 NAT Forecast (CARB 2008 Scoping Plan Estimate)	596
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	427
Reduction below NAT Necessary to Achieve 1990 Levels by 2020	169 (28.4%) [a]
2011 Scoping Plan (GHG Estimates Updated in 2014 to Reflect IPCC AR4 GWPs)	
2020 NAT Forecast (CARB 2011 Scoping Plan Estimate)	509.4
2020 Emissions Target Set by HSC Division 25.5 (i.e., 1990 Level)	431
Reduction Necessary to Achieve 1990 Levels by 2020	78.4 (15.4%) [b]

37 California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed December 2018.

38 Refer to subsection 2.2.8 of this section for additional details.

39 Refer to subsection 2.2.5 of this section Report for additional details.

40 California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed December 2018.

Draft 2017 Scoping Plan Update	
2030 NAT Forecast ("Reference Scenario" which includes 2020 GHG reduction policies and programs)	389
2030 Emissions Target Set by HSC Division 25.5 (i.e., 40% below 1990 Level)	260
Reduction Necessary to Achieve 40% below 1990 Level by 2030	129 (33.2%) [c]

[a] 596 – 427 = 169 / 596 = 28.4%

[b] 509.4 – 431 = 78.4 / 509.4 = 15.4%

[c] 389 – 260 = 129 / 389 = 33.2%

SOURCEs: California Air Resources Board, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document (FED), Attachment D, August 19, 2011; California Air Resources Board, 2020 No-Action-Taken (NAT) Emissions Projection, 2014 Edition. Available: http://www.arb.ca.gov/cc/inventory/data/bau.htm; California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed December 2018.

Land Use Sector

In its report, *California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance*, the Bay Area Air Quality Management District (BAAQMD) evaluated the reduction in land use emissions needed in order to be consistent with AB 32.[41] CARB included the following sectors for land use emissions: Transportation (on-road passenger vehicles; on-road heavy-duty), electric power (electricity; cogeneration), commercial and residential (residential fuel use; commercial fuel use) and recycling and waste (domestic wastewater treatment). [42] Table 2 of the BAAQMD document present the results of this analysis, which shows that a 26.2 percent reduction from statewide land-use driven GHG emissions would be necessary to meet the AB 32 goal of returning to the 1990 emission levels by 2020, which is lower than the statewide reduction of 28.4 percent required based on the original 2008 Climate Change Scoping Plan projections.

2.2.4 Land Use and Transportation Planning

SB 375 (Chapter 728, Statutes of 2008), which establishes mechanisms for the development of regional targets for reducing passenger vehicle greenhouse gas emissions, was adopted by the State on September 30, 2008. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035. In February 2011, CARB adopted the final GHG emissions reduction targets for the State's Metropolitan Planning Organizations, including a reduction target of 8 percent by 2020 and 13 percent by 2035 relative to 2005 GHG emissions for SCAG, which is the Metropolitan Planning Organization for the region in which the City is located.[43] Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations.

41 Bay Area Air Quality Management District, California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance, May 2010, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed_thresholds_report_-may_3_2010_final.pdf?la=en. Accessed December 2018.

42 Bay Area Air Quality Management District, California Environmental Quality Act Guidelines Update Proposed Thresholds of Significance, page 14, May 2010, http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/proposed_thresholds_report_-may_3_2010_final.pdf?la=en. Accessed May 2017.

43 California Air Resources Board, Sustainable Communities, Final Regional GHG Emissions Reduction Targets Adopted by ARB, https://ww3.arb.ca.gov/cc/sb375/final_targets.pdf. Accessed December 2018.

Under SB 375, the reduction target must be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., general plan) are not required to be consistent with either the RTP or SCS.

In addition, on April 7, 2016, SCAG adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is an update to the previous 2012-2035 RTP/SCS. Using growth forecasts and economic trends, the 2016-2040 RTP/SCS provides a vision for transportation throughout the region for the next 25 years. The 2016-2040 RTP/SCS successfully achieves and exceeds the GHG emission-reduction targets set by CARB.

2.2.5 Transportation Sector

In response to the transportation sector accounting for a large percentage of California's CO_2 emissions, AB 1493 (HSC Section 42823 and 43018.5) (also referred to as the Pavley standards), enacted on July 22, 2002, required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal CAA ordinarily preempts state regulation of motor vehicle emission standards; however, California is allowed to set its own standards with a federal CAA waiver from the USEPA. In June 2009, the USEPA granted California the waiver.

However, as discussed previously, the USEPA and United States Department of Transportation (USDOT) adopted federal standards for model year 2012 through 2016 light-duty vehicles, which corresponds to the vehicle model years regulated under the State's Pavley Phase I standards. In addition, the USEPA and USDOT have adopted GHG emission standards for model year 2017 through 2025 vehicles, which corresponds to the vehicle model years regulated under the State's Pavley Phase II standards. These standards are slightly different from the State's model year 2017 through 2025 standards, but the State of California has agreed not to contest these standards, in part due to the fact that while the national standard would achieve slightly less reductions in California, it would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals. In 2012, CARB adopted regulations that allow manufacturers to comply with the 2017 through 2025 national standards to meet State law (i.e., the State's Pavley Phase II standards still apply by law; however, meeting the national standards for model year 2017 through 2025 also meets State law).

In January 2007, Governor Brown enacted Executive Order S-01-07, which mandates the following: (1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and (2) adopt an LCFS for transportation fuels in California. CARB identified the LCFS as one of the nine discrete early actions in the Climate Change Scoping Plan. The LCFS regulations were approved by CARB in 2009 and established a reduction in the carbon intensity of transportation fuels by 10 percent by 2020 with implementation beginning on January 1, 2011. In September 2015, CARB approved the re-

adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB has completed this analysis. On March 6, 2018 CARB issued its *Draft Supplemental Disclosure Discussion of Oxides of Nitrogen Potentially Caused by the Low Carbon Fuel Standard Regulation*.[44] CARB posted modifications to the amendments on August 13, 2018, with a public comment period through August 30, 2018. The hearing date for final approval of regulatory changes from CARB's analysis of nitrogen dioxide impacts from biodiesel fuels had not yet been announced.[45] The 2017 Climate Change Scoping Plan also calls for increasing the mandatory reduction in carbon intensity of transportation fuels from 10 percent to 18 percent by 2030.

2.2.6 Energy Sector and CEQA Guidelines Appendix F

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically (typically every three years) to allow for the consideration and inclusion of new energy efficiency technologies and methods. The 2016 update to the Energy Efficiency Standards for Residential and Nonresidential Buildings focuses on several key areas to improve the energy efficiency of renovations and addition to existing buildings as well as newly constructed buildings and renovations and additions to existing buildings. The major efficiency improvements to the residential Standards involve improvements for attics, walls, water heating, and lighting, whereas the major efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 90.1-2013 national standards. Furthermore, the 2016 update requires that enforcement agencies determine compliance with CCR, Title 24, Part 6 before issuing building permits for any construction.[46]

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and

44 California Air Resources Board, Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation 2018, https://www.arb.ca.gov/regact/2018/lcfs18/lcfs18.htm. Accessed August 2018.

45 California Air Resources Board, Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation 2018, https://www.arb.ca.gov/regact/2018/lcfs18/lcfs18.htm. Accessed August 2018.

46 California Energy Commission, 2016 Building Energy Efficiency Standards, June 2015, http://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf. Accessed December 2018.

design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[47] As of January 1, 2011, the CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and non-residential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential and nonresidential uses; the new measures took effect on January 1, 2017.[48]

The State has adopted regulations to increase the proportion of electricity from renewable sources. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08,[49] which expands the State's Renewables Portfolio Standard to 33 percent renewable power by 2020. On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's Renewables Portfolio Standard and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030, and that CARB should plan for 100 percent eligible renewable energy resources and zero-carbon resources by December 31, 2045.

2.2.7 Senate Bill 97

SB 97, enacted in 2007, directed the State Office of Planning and Research (OPR) to develop California Environmental Quality Act (CEQA) Guidelines (*CEQA Guidelines*) "for the mitigation of GHG emissions or the effects of GHG emissions." In December 2009, OPR adopted amendments to the *CEQA Guidelines*, (Guidelines Amendments), Appendix G, Environmental Checklist, which created a new resource section for GHG emissions and indicated criteria that may be used to establish significance of GHG emissions.

However, neither a threshold of significance nor any specific mitigation measures are included or provided in the Guidelines Amendments. The Guidelines Amendments require a lead agency to make a sincere effort, based on scientific and factual data to the extent possible, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The Guidelines Amendments give discretion to the lead agency, and allow the lead agency to choose whether to: (1) use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use; or (2) rely on a qualitative analysis or performance-

47 California Building Standards Commission, 2010 California Green Building Standards Code, (2010).

48 California Building Standards Commission, 2016 CALGreen (Part 11 of Title 24), http://www.bsc.ca.gov/Home/CALGreen.aspx. Accessed December 2018.

49 Center for Climate Strategies, Executive Order S-14-08. Downloaded From: http://www.climatestrategies.us/library/library/download/292. Accessed December 2018.

based standards. Furthermore, the Guidelines Amendments identify three factors that should be considered in the evaluation of the significance of GHG emissions:

1. The extent to which a project may increase or reduce GHG emissions as compared to the existing environmental setting;

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and

3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The administrative record for the Guidelines Amendments also clarifies "that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of California Environmental Quality Act's requirements for cumulative impact analysis."[50]

Appendix F of the *CEQA Guidelines* states that, in order to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F of the *CEQA Guidelines* further states that a project's energy consumption and proposed conservation measures should be addressed, as relevant and applicable, in the Project Description, Environmental Setting, and Impact Analysis portions of technical sections, as well as through mitigation measures and alternatives. In accordance with Appendix F of the *CEQA Guidelines*, relevant information that addresses the energy implications of the Project is provided in Section IV.U, *Energy*, of the Project's Draft EIR.

2.2.8 Cap-and-Trade Program

The Climate Change Scoping Plan identifies a Cap-and-Trade Program as a key strategy CARB will employ to help California meet its GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020.[51] Under Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 metric tons CO_2e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program's duration.[52] On

50 Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, dated April 13, 2009, http://www.opr.ca.gov/docs/Transmittal_Letter.pdf. Accessed December 2018.

51 17 CCR §§ 95800 to 96023.

52 See generally 17 CCR §§ 95811, 95812.

July 17, 2017 the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through 2030.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis.

If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory framework adopted by CARB, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.

2.3 Regional

2.3.1 South Coast Air Quality Management District

The Project Site is located in the South Coast Air Basin (Air Basin), which consists of Orange County, Los Angeles County (excluding the Antelope Valley portion), and the western, non-desert portions of San Bernardino and Riverside Counties, in addition to the San Gorgonio Pass area in Riverside County. The SCAQMD is responsible for air quality planning in the Air Basin and developing rules and regulations to bring the area into attainment of the ambient air quality standards. This is accomplished though air quality monitoring, evaluation, education, implementation of control measures to reduce emissions from stationary sources, permitting and inspection of pollution sources, enforcement of air quality regulations, and by supporting and implementing measures to reduce emissions from motor vehicles.

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:[53]

- Phase out the use and corresponding emissions of chlorofluorocarbons, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;

- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons by the year 2000;

53 South Coast Air Quality Management District, CEQA Air Quality Handbook, April 1993, p. 3-7.

- Develop recycling regulations for hydrochlorofluorocarbons (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and
- Support the adoption of a California GHG emission reduction goal.

In 2008, SCAQMD released draft guidance regarding interim CEQA GHG significance thresholds.[54,55] On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold of 10,000 $MTCO_2e$ per year for stationary source/industrial projects where the SCAQMD is Lead Agency. However, the SCAQMD has not adopted a GHG significance threshold for land use development projects (e.g., mixed-use/commercial projects). A GHG Significance Threshold Working Group was formed to further evaluate potential GHG significance thresholds.[56] The aforementioned Working Group has been inactive since 2011 and the SCAQMD has not formally adopted any GHG significance threshold for land use development projects.

2.3.2 SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

In February 2011, CARB adopted the final GHG emissions reduction targets for the SCAG, which is the Metropolitan Planning Organization for the region in which the City of Los Angeles is located.[57] The target includes a per capita reduction of 8 percent for 2020 and 13 percent for 2035 compared to the 2005 baseline. On April 7, 2016, SCAG adopted the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which is an update to the previous 2012 RTP/SCS.[58] Using growth forecasts and economic trends, the 2016 RTP/SCS provides a vision for transportation throughout the region for the next 25 years. It considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The 2016 RTP/SCS describes how the region can attain the GHG emission-reduction targets set by CARB by achieving an 8 percent reduction by 2020, 18 percent reduction by 2035, and 21 percent

54 South Coast Air Quality Management District, Board Meeting, December 5, 2008, Agenda No. 31, http://www3.aqmd.gov/hb/2008/December/0812ag.html. Accessed December 2018.

55 South Coast Air Quality Management District, Greenhouse Gases, CEQA Significance Thresholds, Board Letter – Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, December 5, 2008, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2. Accessed December 2018. The performance standards primarily focus on energy efficiency measures beyond Title 24 and a screening level of 3,000 $MTCO_2e$ per year for residential and commercial sector projects. The SCAQMD adopted a GHG significance threshold of 10,000 $MTCO_2e$ per year for industrial stationary source projects for which the SCAQMD is the lead agency.

56 South Coast Air Quality Management District, Greenhouse Gases CEQA Significance Thresholds, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ghg-significance-thresholds. Accessed December 2018.

57 California Air Resources Board, Sustainable Communities, Final Regional GHG Emissions Reduction Tragets Adopted by ARB, https://ww3.arb.ca.gov/cc/sb375/final_targets.pdf. Accessed December 2018.

58 Southern California Association of Governments, 2016 RTP/SCS, 2016, http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS.pdf. Accessed December 2018.

reduction by 2040 compared to the 2005 level on a per capita basis.[59] Compliance with and implementation of 2016 RTP/SCS policies and strategies would have co-benefits of reducing per capita criteria air pollutant emissions associated with reduced per capita vehicle miles traveled (VMT).

The 2016 RTP/SCS states that the SCAG region is home to approximately 18.3 million people in 2012 and currently includes approximately 5.9 million homes and 7.4 million jobs. By 2040, the integrated growth forecast projects that these figures will increase by 3.8 million people, with nearly 1.5 million more homes and 2.4 million more jobs. High Quality Transit Areas (HQTAs), which are defined by the 2016 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours, will account for 3 percent of regional total land, but are projected to accommodate 46 percent and 55 percent of future household and employment growth respectively between 2012 and 2040.[60] The 2016 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in the region's HQTAs. HQTAs are a cornerstone of land use planning best practice in the SCAG region because they concentrate roadway repair investments, leverage transit and active transportation investments, reduce regional life cycle infrastructure costs, improve accessibility, create local jobs, and have the potential to improve public health and housing affordability.

SCAG's 2016 RTP/SCS provides specific strategies for implementation. These strategies include supporting projects that encourage a diverse job opportunities for a variety of skills and education, recreation and cultures and a full-range of shopping, entertainment and services all within a relatively short distance; encouraging employment development around current and planned transit stations and neighborhood commercial centers; encouraging the implementation of a "Complete Streets" policy that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles. [61]

In addition, the 2016 RTP/SCS includes strategies to promote active transportation, support local planning and projects that serve short trips, expand understanding and consideration of public health in the development of local plans and projects, and supports improvements in sidewalk quality, local bike networks, and neighborhood mobility areas. It also proposes increasing access to the California Coast Trail, light rail and bus stations, and promoting corridors that support biking and walking, such as through a regional greenway network and local bike networks. The 2016 RTP/SCS proposes to better align active transportation investments with land use and transportation strategies, increase competitiveness of local agencies for federal and state funding, and to expand the potential for all people to use active transportation. CARB has accepted the SCAG GHG quantification determination in the 2016 RTP/SCS and that the 2016 RTP/SCS, if

59 Ibid.

60 Southern California Association of Governments, 2016 RTP/SCS, pages 20, 75-77.

61 Southern California Association of Governments, 2016 RTP/SCS, pages 170-181.

implemented, would achieve the 2020 and 2035 GHG emission reduction targets established by CARB.[62,63]

Although there are no per capita GHG emission reduction targets for passenger vehicles set by CARB for 2040, the 2016 RTP/SCS GHG emission reduction trajectory shows that more aggressive GHG emission reductions are projected for 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21-percent decrease in per capita GHG emissions by 2040 (an additional 3-percent reduction in the five years between 2035 [18 percent] and 2040 [21 percent]), the 2016 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the state's GHG emission reduction goals.

In March 2018, the CARB updated the SB 375 targets to require 8 percent reduction by 2020 and a 19 percent reduction by 2035 in per capita passenger vehicle GHG emissions.[64] As this reduction target was updated after the 2016-2040 RTP/SCS, it is expected that the next iteration of the RTP/SCS will be updated to include this target.

2.4 City of Los Angeles

2.4.1 City of Los Angeles LA Green Plan

In acknowledgment of the overlap between land use and GHG emissions, the city of Los Angeles, in May 2007, published *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming*[65] *(LA Green Plan)*, outlining the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities. According to the *LA Green Plan*, the city of Los Angeles is committed to the goal of reducing emissions of CO_2 to 35 percent below 1990 levels by 2030. To achieve this, the City will:

- Increase the generation of renewable energy;
- Improve energy conservation and efficiency; and
- Change transportation and land use patterns to reduce dependence on automobiles

In 2008, the City released an implementation program for the LA Green Plan referred to as ClimateLA, which includes a baseline GHG inventory for the City and provides detailed information about each action item discussed in the LA Green Plan framework. [66] Action items range from harnessing wind power for electricity production and energy efficiency retrofits in city buildings, to converting the City's fleet vehicles to cleaner and more efficient models, and

62 Southern California Association of Governments, 2016 RTP/SCS, pages 170-181.

63 California Air Resources Board, Southern California Association of Governments' (SCAG) 2016 Sustainable Communities Strategy (SCS) ARB Acceptance of GHG Quantification Determination, June 2016, https://www.arb.ca.gov/cc/sb375/scag_executive_order_g_16_066.pdf. Accessed December 2018.

64 California Air Resources Board, SB 375 Regional Greenhouse Gas Emissions Reduction Targets, https://www.arb.ca.gov/cc/sb375/finaltargets2018.pdf. Accessed August 31, 2018.

65 City of Los Angeles, Green LA, An Action Plan to Lead the Nation in Fighting Global Warming (LA Green Plan), http://environmentla.org/pdf/GreenLA_CAP_2007.pdf.

66 City of Los Angeles, LA Green Plan (ClimateLA), 2012, http://environmentla.org/pdf/ClimateLA%20Program%20document%2012-08.pdf. Accessed December 2018.

reducing water consumption. Information about proposed and/or ongoing programs, opportunities for achieving the City's goals, specific challenges, and a list of milestones is provided for each action item. The scope of these actions range from those impacting only municipal facilities, such as retrofitting City Hall with high-efficiency lighting systems, to those facilitating changes in the private sector, such as rebates for the purchase of energy-efficient appliances.

2.4.2 City of Los Angeles Sustainable City pLAn

The *Sustainable City pLAn* is a comprehensive and actionable directive from the Mayor to improve the environmental, economic, and equitable conditions in the city of Los Angeles.[67] The pLAn is a tool that the Mayor will use to manage the City and establish visions, goals, and metrics for City departments. The Sustainable City pLAn sets targets to reduce GHG emissions below the 1990 baseline by 45 percent by 2025, 60 percent by 2035, and 80 percent by 2050, and establishes the following visions for City departments for the following categories:

- Environment**:** Local Water (lead the nation in water conservation and source the majority of water locally); Local Solar (increase Los Angeles's clean and resilient energy supplies by capturing energy from abundant sunshine); Energy Efficient Buildings (save money and energy by increasing the efficiency of buildings); Carbon and Climate Leadership (as a proactive leader on climate issues, strengthen Los Angeles's economy by dramatically reducing GHG emissions and rallying other cities to follow Los Angeles's lead); and Waste and Landfills (become the first big city in the United States to achieve zero-waste, and recycle and reuse most of its waste locally).

- Economy: Housing and Development (address Los Angeles's housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between income and rents); Mobility and Transit (invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled); Prosperity and Green Jobs (strengthen and grow the economy including through increased jobs and investments in clean technology sectors); and Preparedness and Resiliency (prepare for natural disasters and decrease vulnerability to climate change).

- Equity: Air Quality (healthy air to breathe); Environmental Justice (ensure the benefits of the pLAn extend to all Angelenos); Urban Ecosystem (have access to parks, open space, including a revitalized Los Angeles River Watershed); and Livable Neighborhoods (live in safe, vibrant, well-connected, and healthy neighborhoods).

2.4.3 City of Los Angeles Green Building Code

In 2011, 2014, and 2016, Chapter IX of the Los Angeles Municipal Code (LAMC), referred to as the L.A. Green Building Code, was amended to incorporate various provisions of the CALGreen Code. The City's Green Building Code includes mandatory requirements and elective measures for three categories of buildings: (1) low-rise residential buildings; (2) non-residential and high-rise residential buildings; and (3) additions and alterations to residential and non-residential buildings.

67 City of Los Angeles, Mayor's Office of Sustainability, Sustainable City pLAn, 2015, http://plan.lamayor.org/wp-content/uploads/2017/03/the-plan.pdf. Accessed December 2018.

2.4.4 Transportation Impact Study Guidelines

The City of Los Angeles Department of Transportation (LADOT) has developed the *Transportation Impact Study Guidelines* (TISG) (December 2016) to provide the public, private consultants, and City staff with standards, guidelines, objectives, and criteria to be used in the preparation of a traffic impact study. The TISG emphasize sustainability, smart growth, transportation demand management strategies, multi-modal strategies, and reduction of GHG emissions in addition to traditional traffic flow considerations when evaluating and minimizing impacts to the City's transportation system as a result of land use policy decisions. The TISG establish the reduction of vehicle trips and VMT as a policy goal and thus is an implementing mechanism of the City's strategy to reduce land use transportation-related GHG emissions consistent with HSC Division 25.5 and SB 375.

SECTION 3
Significance Thresholds

3.1 Appendix G of State CEQA Guidelines

Until the passage of AB 32, CEQA documents generally did not evaluate GHG emissions or impacts on global climate change. Rather, the primary focus of air pollutant analysis in CEQA documents was the emission of criteria pollutants, or those identified in the California and federal CAAs as being of most concern to the public and government agencies (e.g., toxic air contaminants). With the passage of AB 32 and SB 97, CEQA documents now contain a more detailed analysis of GHG emissions. However, the analysis of GHGs is different from the analysis of criteria pollutants. Since the half-life of CO_2 is approximately 100 years, GHGs affect the global climate over a relatively long timeframe. Conversely, for criteria pollutants, significance thresholds/impacts are based on daily emissions; and the determination of attainment or non-attainment is based on the daily exceedance of applicable ambient air quality standards (e.g., 1-hour and 8-hour exposures). Also, the scope of criteria pollutant impacts is local and regional, while the scope of GHG impacts is global.

OPR's recommended amendments to the *CEQA Guidelines* for GHGs were adopted by the California Natural Resources Agency on December 30, 2009. The following two questions relating to the effects of GHGs were added to the *CEQA Guidelines*, Appendix G (Environmental Checklist).

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

b. Would the project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Amendments to Section 15064.4 of the State *CEQA Guidelines* were adopted to assist lead agencies in determining the significance of the impacts of GHG emissions. Consistent with existing CEQA practice, Section 15064.4 gives lead agencies the discretion to determine whether to assess those emissions quantitatively or qualitatively. If a qualitative analysis is used, in addition to quantification, this section recommends certain qualitative factors that may be used in the determination of significance (i.e., extent to which the project may increase or reduce GHG emissions compared to the existing environment; whether the project exceeds an applicable significance threshold; and extent to which the project complies with regulations or requirements adopted to implement a reduction or mitigation of GHGs). The amendments to Section 15064.4 do not establish a threshold of significance; rather, lead agencies are granted discretion to establish significance thresholds for their respective jurisdictions, including looking to thresholds developed by other public agencies, or suggested by other experts, such as the California Air

Pollution Control Officers Association (CAPCOA), so long as any threshold chosen is supported by substantial evidence (see Section 15064.7(c)).

The California Natural Resources Agency has also clarified that the Guidelines Amendments focus on the effects of GHG emissions as cumulative impacts, and that they should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see Section 15064(h)(3)).[68] As indicated above, the *CEQA Guidelines* were amended in response to SB 97. In particular, the *CEQA Guidelines* were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Although GHG emissions can be quantified as discussed under the Methodology section above, CARB, SCAQMD, and the City have not adopted quantitative project-level significance thresholds for GHG emissions that would be applicable to the Project. The Governor's Office of Planning and Research (OPR) released a technical advisory on CEQA and climate change that provided some guidance on assessing the significance of GHG emissions, and states that "lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice," and that while "climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment."[69] Furthermore, the technical advisory states that "CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project."[70]

Per State *CEQA Guidelines* Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project.[71] To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency.[72] Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."[73]

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68 See generally California Natural Resources Agency, Final Statement of Reasons for Regulatory Action, December 2009, pages 11-13, 14, and 16; see also Letter from Cynthia Bryant, Director of the Office of Planning and Research to Mike Chrisman, Secretary for Natural Resources, April 13, 2009, http://www.opr.ca.gov/docs/Transmittal_Letter.pdf. Accessed December 2018.

69 Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008.

70 Governor's Office of Planning and Research, Technical Advisory – CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review, 2008.

71 California Code of Regulations (CCR), Title 14, Section 15064(h)(3).

72 California Code of Regulations (CCR), Title 14, Section 15064(h)(3).

73 California Code of Regulations (CCR), Title 14, Section 15064(h)(3).

Thus, State *CEQA Guidelines* Section 15064(h)(3) allows a lead agency to make a finding of non-significance for GHG emissions if a project complies with a program and/or other regulatory schemes to reduce GHG emissions.[74]

In the absence of any adopted numeric threshold, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. The 2016–2040 RTP/SCS is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. CARB's Climate Change Scoping Plan, SCAG's 2016 RTP/SCS; the City's LA Green Plan; and Sustainable City pLAn all apply to the Project and are all intended to reduce GHG emissions to meet the statewide targets set forth in AB 32. Thus, the Lead Agency has determined that the Project would not have a significant effect on the environment if the Project is found to be consistent with the applicable regulatory plans and policies to reduce GHG emissions, including the emissions reduction measures discussed within CARB's 2017 Climate Change Scoping Plan, SCAG's 2016 RTP/SCS, and the City's LA Green Plan, and Sustainable City pLAn.

74 See, for example, San Joaquin Valley Air Pollution Control District (SJVAPCD), CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation, APR-2025 (June 25, 2014), in which the SJVAPCD "determined that GHG emissions increases that are covered under ABR's Cap-and-Trade regulation cannot constitute significant increases under CEQA…" Furthermore, the SCAQMD has taken this position in CEQA documents it has produced as a lead agency. The SCAQMD has prepared three Negative Declarations and one Draft Environmental Impact Report that demonstrate the SCAQMD has applied its 10,000 $MTCO_2e$/yr significance threshold in such a way that GHG emissions covered by the Cap-and-Trade Program do not constitute emissions that must be measured against the threshold. See SCAQMD, Final Negative Declaration for Ultramar Inc. Wilmington Refinery Cogeneration Project, SHC No. 2012041014 (October 2014); SCAQMD Final Negative Declaration for Phillips 99 Los Angeles Refinery Carson Plant—Crude Oil Storage Capacity Project, SCH No. 2013091029 (December 2014); SCAQMD Final Mitigated Negative Declaration for Toxic Air Contaminant Reduction for Compliance with SCAQMD Rules 1420.1 and 1402 at the Exide Technologies Facility in Vernon, CA, SCH No. 2014101040 (December 2014); and SCAQMD Final Environmental Impact Report for the Breitburn Santa Fe Springs Blocks 400/700 Upgrade Project, SCH No. 2014121014 (August 2015).

SECTION 4
Methodology

The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the Project is conducted as followsbecau. Detailed modeling calculations and supporting files are provided in **Appendix F-1** through **F-3** of this Technical Report.

Because there is no applicable adopted or accepted numerical threshold of significance for GHG emissions, the methodology for evaluating the Project's impacts related to GHG emissions focuses on its consistency with statewide, regional, and local plans adopted for the purpose of reducing and/or mitigating GHG emissions. This evaluation of consistency with such plans is the sole basis for determining the significance of the Project's GHG-related impacts on the environment.

However, for informational purposes, the analysis also calculates the amount of GHG emissions that would be attributable to the Project using recommended air quality models, as described below. The primary purpose of quantifying the Project's GHG emissions is to satisfy State CEQA Guidelines Section 15064.4(a), which calls for a good-faith effort to describe and calculate emissions. The estimated emissions inventory is also used to determine if there would be a reduction in the Project's incremental contribution of GHG emissions as a result of compliance with regulations and requirements adopted to implement plans for the reduction or mitigation of GHG emissions. The significance of the Project's GHG emissions impacts is not based on the amount of GHG emissions resulting from the Project.

4.1 Greenhouse Gas Emissions Estimates

The Climate Action Registry General Reporting Protocol provides procedures and guidelines for calculating and reporting GHG emissions from general and industry-specific activities. Although no numerical thresholds of significance have been adopted, and no specific protocols are available for land use projects, the General Reporting Protocol provides a framework for calculating and reporting GHG emissions from the Project. The GHG emissions provided in this report are consistent with the General Reporting Protocol framework. For the purposes of this report, total GHG emissions from the Project were quantified to provide information to decision makers and the public regarding the level of the Project's annual GHG emissions. The General Reporting Protocol recommends separating GHG emissions into three categories that reflect different aspects of ownership or control over emissions. They include the following:

- Scope 1: Direct, on-site combustion of fossil fuels (e.g., natural gas, propane, gasoline, and diesel).

- Scope 2: Indirect, off-site emissions associated with purchased electricity or purchased steam.

- Scope 3: Indirect emissions associated with other emissions sources, such as third-party vehicles and embodied energy.[75]

CARB believes that consideration of so-called indirect emissions provides a more complete picture of the GHG footprint of a facility: "As facilities consider changes that would affect their emissions – addition of a cogeneration unit to boost overall efficiency even as it increases direct emissions, for example – the relative impact on total (direct plus indirect) emissions by the facility should be monitored. Annually reported indirect energy usage also aids the conservation awareness of the facility and provides information" to CARB to be considered for future strategies by the industrial sector. For these reasons, CARB has proposed requiring the calculation of direct and indirect GHG emissions as part of the HSC Division 25.5 reporting requirements. Additionally, the Office of Planning and Research directs lead agencies to "make a good-faith effort, based on available information, to calculate, model, or estimate…GHG emissions from a project, including the emissions associated with vehicular traffic, energy consumption, water usage and construction activities." Therefore, direct and indirect emissions have been calculated for the Project.

For purposes of this analysis, direct and indirect sources if GHG emissions were included. It is considered reasonable and consistent with criteria pollutant calculations to consider those GHG emissions resulting from Project-related incremental (net) increases from emissions sources mentioned in the scope categories above such as emissions from the use of on-road mobile vehicles, electricity, and natural gas compared to existing conditions. This includes Project construction activities such as demolition, hauling, and construction worker trips. This analysis also considers indirect GHG emissions from water conveyance, wastewater generation, and solid waste handling. Since potential impacts resulting from GHG emissions are long-term rather than acute, GHG emissions are calculated on an annual basis.

A fundamental challenge in the analysis of GHG emissions is the global nature of the existing and cumulative future conditions. Changes in GHG emissions can be difficult to attribute to a particular project because the project may cause a shift in the locale for some type of GHG emissions, rather than simply causing "new" GHG emissions. As a result, there is a lack of clarity as to whether a project's GHG emissions represent a net global increase, reduction, or no change in GHGs that would exist if the project were not implemented. Therefore, the analysis of the Project's GHG emissions is particularly conservative in that it assumes all of the GHG emissions are new additions to the atmosphere.

The General Reporting Protocol provides a range of basic calculation methods. However, they are typically designed for existing buildings or facilities and are not directly applicable to planning and development situations where the buildings or facilities do not yet exist. As a result, this section relies on calculation guidance from state and regional agencies with scientific expertise in quantifying GHG emissions, such as CARB and the SCAQMD. GHG emissions are estimated using the California Emissions Estimator Model (CalEEMod), which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land

[75] Embodied energy includes energy required for water pumping and treatment for end-uses. Third-party vehicles include vehicles used visitors of the Project Site.

use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[76]

The CAPCOA has provided guidance on mitigating or reducing GHG emissions from land use development projects. In September 2010, CAPCOA released a guidance document titled *Quantifying Greenhouse Gas Mitigation Measures* which provides GHG reduction values for recommended mitigation measures.[77] The CAPCOA guidance document was utilized in this analysis for quantifying reductions from physical and operational Project characteristics and Project Design Features in CalEEMod.

4.2 Construction Emissions

Construction of the proposed Project has the potential to generate GHG emissions through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project site. Construction emissions can vary from day to day, depending on the level of activity, the specific type of operation, and the prevailing weather conditions. The number and types of construction equipment, vendor trips (e.g., transport of building materials), and worker trips were based on relatively conservative assumptions for a project of this type and scale as provided in the CalEEMod model. These values were then applied to the same construction phasing assumptions used in the criteria pollutant analysis (see the Project's Air Quality Technical Report) to generate GHG emissions values for each construction year. GHG emissions during construction are forecasted by assuming a conservative estimate of construction activities (i.e., assuming all construction occurs at the earliest feasible date). If the onset of construction is delayed to a later date than assumed in the modeling analysis, construction impacts would be less than those analyzed, because a more energy-efficient and cleaner burning construction equipment and vehicle fleet mix would be expected in the future, pursuant to State regulations that require construction equipment fleet operators to phase-in less polluting heavy-duty equipment and trucks. As a result, should the Project commence construction on a later date than modeled in this GHG impact analysis, GHG impacts would be less than the impacts disclosed herein. A complete listing of the construction equipment by phase and construction phase duration assumptions used in this analysis is included within the CalEEMod printout sheets that are provided in **Appendix F-2** of this Technical Report.

GHG emissions are estimated using CalEEMod, which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions from a variety of land use projects. CalEEMod was developed in collaboration with the air districts of California. Regional data (e.g., emission factors, trip lengths, meteorology, source

76 See: http://www.aqmd.gov/caleemod/.

77 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010.

inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions. The model is considered to be an accurate and comprehensive tool for quantifying air quality and GHG impacts from land use projects throughout California.[78]

The Project's construction emissions were calculated using CalEEMOD Version 2016.3.2. Construction of the Project is estimated to require approximately 48 months, starting as early as the third quarter of 2019. Subphases of construction would include demolition of the Executive Building and parking structure, site preparation, grading and excavation, foundation pouring, building construction, paving, and architectural coating. Demolition activities would generate approximately 35,000 tons of demolition debris (asphalt and general construction debris). The Project would export approximately 364,000 cubic yards of soil during grading and excavation activities. Heavy-duty equipment, vendor supply trucks and concrete trucks would be used during construction of foundations, parking structures, and buildings. Landscaping and architectural coating would occur during the finishing activities. **Table 4**, *Anticipated Project Construction Schedule*, presents the anticipated construction schedule for the Project. Project construction is anticipated to begin in 2019. However, for modeling purposes, in order to provide a conservative and environmentally protective air quality analysis, the emissions were modeled in CalEEMod assuming construction would begin one year earlier in 2018. This is more conservative because emission factors are higher for 2018 than 2019 as equipment and vehicles are anticipated to produce fewer GHG emissions over time due to more stringent requirements. Project construction that commences at a later date would result in similar or reduced emissions, primarily due to vehicles meeting more stringent emissions standards. Therefore, since Project construction is anticipated to start at a later date than modeled in CalEEMod, the emissions would be similar or reduced compared to the emissions reported in this Technical Report.

TABLE 4
ANTICIPATED PROJECT CONSTRUCTION SCHEDULE

Phase and Subphase	Start Date [a]	End Date [a]	Work Days
Demolition	7/1/2019	1/31/2020	184
Site Preparation	2/1/2020	2/28/2020	24
Grading	3/1/2020	9/30/2020	183
Foundation (North Tower)	10/1/2020	10/1/2020	1
Foundation (South Tower)	10/2/2020	10/2/2020	1
Subterranean Parking Structure Construction	10/3/2020	6/26/2021	230
Podium Construction	6/27/2021	8/27/2021	53
Building Construction	8/28/2021	10/6/2023	660
Paving	3/1/2023	10/6/2023	189
Architectural Coating	1/1/2022	10/6/2023	552
Renovation	7/1/2019	8/8/2021	660

NOTES:

78 South Coast Air Quality Management District, California Emissions Estimator Model (CalEEMod), http://www.aqmd.gov/caleemod/.

[a] The emissions were estimated assuming construction begins at the earliest possible date (2018). This provides for a conservative emissions estimate as emission factors decline in future years. Project construction may commence at a later date, which would generally result in similar or reduced emissions, primarily due to vehicles meeting more stringent emissions standards. If construction starts at a later date, emissions could occur in calendar year 2022 and 2023; however, the emissions would be similar or reduced compared to the emissions reported in this Technical Report.

SOURCE: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Construction haul and vendor truck emissions during grading, concrete pour and building construction were evaluated using regional heavy-duty truck emission factors from EMFAC2014. Truck trips and default trip length data were used to assess roadway emissions from truck exhaust, as well as typical CARB idling times of local emissions on-site.

The CO_2e emissions are calculated for the construction period and future Project build-out conditions in order to estimate the net change in GHG emissions for Project construction and operation. The SCAQMD recognizes that construction-related GHG emissions from projects "occur over a relatively short-term period of time" and that "they contribute a relatively small portion of the overall lifetime project GHG emissions."[79] The SCAQMD recommends that construction project GHG emissions should be "amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies."[80] As such, GHG emissions from construction have been amortized over the 30-year lifetime of the Project (i.e., total construction GHG emissions were divided by 30 to determine an annual construction emissions estimate comparable to operational emissions).

4.2.1 Emissions from Construction Equipment

Construction of the Project would result in one-time GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O from heavy-duty construction equipment. Construction emissions are forecasted by assuming all construction occurs at the earliest feasible date and applying the off-road emissions factors. The emissions are estimated using the CalEEMod tool, which incorporates the CARB OFFROAD and EMFAC models. The output values used in this analysis were adjusted to be Project-specific based on equipment types and the construction schedule. These values were then applied to the same construction phasing assumptions used in the criteria pollutant analysis (see Section IV.B, *Air Quality*, of the Project's Draft EIR) to generate GHG emissions values for each construction year. Construction GHG emissions are generally calculated in CalEEMod as follows:

<u>Construction Off-Road Equipment:</u>

$$Emissions_{Diesel}\ [MTCO_2e] = (\sum_i (EF_i \times Pop_i \times AvgHP_i \times Load_i \times Activity_i) \div 10^6$$

Where: EF_i = Emission factor from OFFROAD [g/bhp-hr]
Pop_i = Population [quantity of same equipment type]

79 South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, 2008, page 3-9, http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgattachmente.pdf. Accessed December 2018.

80 South Coast Air Quality Management District, Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold, 2008, page 3-9.

$AvgHP_i$ = Maximum rated average horsepower [hp]
$Load_i$ = Load Factor [dimensionless]
$Activity_i$ = Hours of operation [hours]
10^6 = Conversion factor [g/MT]
i = Summation index

The CalEEMod tool provides options for specifying equipment, horsepower ratings, load factors, and operational hours per day. Construction equipment lists for each phase of activity were provided by the applicant and/or applicant's construction contractor(s) and architect(s). The amount of construction equipment used and the duration of construction activity could have a substantial effect upon the amount of construction emissions, concentrations and the resulting impacts occurring at any one time. As such, the emission forecasts provided reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner.

4.2.2 Emissions from On-Road Trips

Construction of the Project would also contribute to regional GHG emissions from haul trucks and worker vehicles. The emissions are estimated using the CalEEMod tool, which incorporates the CARB OFFROAD and EMFAC models for on-road emission factors. Running GHG emissions were divided by the VMT of each respective vehicle class from each scenario year and adjusted for unit conversions to derive emission factors in units of grams per VMT. The emissions from mobile sources were calculated with the trip rates, trip lengths and emission factors for running from EMFAC2014 as follows:

Construction On-Road Trips:

$$Emissions_{pollutant}\ [MTCO_2e] = (VMT \times EF_{running,pollutant}) \div 10^6$$

Where:
VMT = vehicle miles traveled [miles]
$EF_{running,pollutant}$ = emission factor for running emissions [g/mile]
10^6 = Conversion factor [g/MT]

4.3 Operational Emissions

Similar to construction, operational emissions are also estimated using the CalEEMod software version 2016.3.2 and CARB's on-road vehicle emissions factor (EMFAC2014) model on-road emissions factor model. CalEEMod was used to estimate GHG emissions from electricity, natural gas, solid waste, water and wastewater, mobile sources, and landscaping equipment. Operational emissions for the Project Site were calculated for the following two scenarios:

- **Project Without GHG Reduction Characteristics, Features, and Measures**: represents emissions based on a scenario consistent with CARB's Scoping Plan statewide NAT forecast for the AB 32 target year of 2020, includes LADWP's emission factor for 2009 of 1,145 lbs/MWh, certain VMT reductions from the traffic report and the CAPCOA measures, but does not include project design features.

- **Proposed Project**: represents emissions from the project in the year 2023, includes LADWP's estimated electricity emission factor for compliance with the 2020 Renewables Portfolio Standard of 849 lbs CO_2/MWh, and includes all project design features and VMT reductions from the traffic report and the CAPCOA measures.[81, 82]

The GHG emissions calculations for the Project include credits or reductions for implementation of relevant project design features set forth in Section IV.E, *Greenhouse Gas Emissions*, of the Project's Draft EIR. The analysis of Project GHG emissions at buildout also takes into account actions and mandates already approved and expected to be in force by Project buildout (e.g., Pavley I and II Standards and implementation of California's Statewide Renewables Portfolio Standard beyond current levels of renewable energy). In addition, as mobile source GHG emissions are directly dependent on the number of vehicle trips and annual VMT, a decrease in the number of Project-generated trips and vehicle distances traveled as a result of Project characteristics (e.g., close proximity to transit) would provide a proportional reduction in mobile source GHG emissions compared to a generic project without such locational benefits. Emissions reductions regarding Cap-and-Trade were not included in this analysis.

The sections below discuss methods for each scenario for each source of emissions in more detail. Emissions calculations include credits or reductions for the Project Design Features and GHG reducing measures, some of which are required by regulation, such as reductions in energy and water demand.

Operational GHG emissions are assessed based on the Project-related incremental increase in GHG emissions compared to baseline conditions. Under CEQA, the baseline environmental setting is established as the time the Notice of Preparation for the Project's EIR circulated on June 28, 2017. The trip generation forecasts provided in the Project Transportation Impact Analysis[83] include trip rates for the existing land uses to be removed on the existing Project Site. Thus, the net change in Project trips are based on the Project trips minus the existing trips generated at the Project Site. Similarly, the net change in the Project's energy, waste, and water GHG emissions are based on the Project's emissions minus the emissions from the entitled land uses on the existing Project Site. Detailed GHG emissions calculations are provided in **Appendix F-3** of this Technical Report.

The CAPCOA has provided guidance on mitigating or reducing GHG emissions from land use development projects. In September 2010, CAPCOA released a guidance document titled *Quantifying Greenhouse Gas Mitigation Measures* which provides GHG reduction values for recommended mitigation measures.[84] The CAPCOA guidance document was utilized in this

81 Los Angeles Department of Water and Power, 2016 Briefing Book, https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB423407&RevisionSelectionMethod=LatestReleased. Accessed December 2018.

82 California Energy Commission, Utility Energy Supply Plans from 2015, 2016, http://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2015/LADWP%20%20PUBLIC%20S-2%20supply%20form%2006-29-2016%20revision.xlsx. Accessed December 2018.

83 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, (2017).

84 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010.

analysis for quantifying reductions from physical and operational Project characteristics and Project Design Features in CalEEMod.

4.3.1 Area Sources

Area sources of GHG emissions resulting from the operation of the existing land uses at the Project Site under the Project include equipment used to maintain landscaping. The combustion of fossil fuels to operate these equipment results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The emissions occur on-site and are a direct result of activity from the existing land uses; therefore, the GHG emissions are considered to be direct.

The emissions of GHGs associated with operational area sources under the Project are calculated using the CalEEMod tool. The emissions for landscaping equipment are based on the size of the residential, commercial and restaurant land uses, the GHG emission factors for fuel combustion, and the GWP values for the GHGs emitted. Annual GHG emissions from landscaping equipment in units of $MTCO_2e$ are generally calculated in CalEEMod as follows:

Landscaping Equipment:

Annual Emissions $[MTCO_2e] = (\sum_i (Units \times EF_{LE} \times A_{LE} \times GWP)_i) \div 10^6$

Where:

$Units$	=	Number of land use units (same land use type) [1000 sqft]
EF_{LE}	=	GHG emission factor [grams (g)/1000 sqft/day]
A_{LE}	=	Landscaping equipment operating days per year [day/year]
GWP	=	Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
10^6	=	Conversion factor [g/MT]
i	=	Summation index

CalEEMod uses landscaping equipment GHG emission factors from the CARB OFFROAD model and the CARB *Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*.[85] CalEEMod estimates that landscaping equipment operate for 250 days per year in the South Coast Air Basin. Area source emissions are constant for the two Project scenarios.

4.3.2 Energy Use

With regard to energy usage, the consumption of fossil fuels to generate electricity and to provide heating and hot water generates GHG emissions. Future fuel consumption rates are estimated based on specific square footage of the residential, retail, and restaurant land uses, as well as predicted water supply needs of the Project. Energy usage (off-site electricity generation and on-site natural gas consumption) for the Project is calculated within CalEEMod using the CEC's *California Commercial End Use Survey* (CEUS) data set, which provides energy demand by

85 California Air Resources Board, OFFROAD Modeling Change Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment, June 13, 2003, http://www.arb.ca.gov/msei/2001_residential_lawn_and_garden_changes_in_eqpt_pop_and_act.pdf. Accessed December 2018.

building type and climate zone.[86] This data set provides energy intensities of different land uses throughout the state and different climate zones. However, since the data from the CEUS is from 2002, the CalEEMod software incorporates correction factors to account for consistency with the Title 24 Building Energy Efficiency Standards, which would have been in place for each scenario. This assessment also includes electricity-related GHG emissions from the proposed subterranean parking, which would include elevators, lighting, and a ventilation system.

Electricity

The generation of electricity in California is achieved through the combustion of fossil fuels, primarily natural gas, using steam boilers, internal combustion engines, and combustion turbines. A portion of the electricity in California is imported from outside the state and is derived from the combustion of coal and other non-gaseous fossil fuels. The combustion of fossil fuels to produce electricity results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The electricity generation occurs off-site; therefore, electricity use results in GHG emissions that are considered to be indirect.

Emissions of GHGs associated with operation of the existing site uses and the Project's proposed uses are based on the size of the residential, office, restaurant, retail, and parking structure land uses, the electrical demand factors for the land uses, the GHG emission factors for the electricity utility provider, and the GWP values for the GHGs emitted. This assessment also includes electricity-related GHG emissions from the parking lot, which would include lighting electricity. Annual electricity GHG emissions in units of $MTCO_2e$ are calculated as follows:

Electricity:

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_E \times EF_E \times GWP)_i \right) \div 2204.6$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_E	=	Electrical demand factor [megawatt-hour (MWh)/1000 sqft/year]
EF_E	=	GHG emission factor [pounds per megawatt-hour (MWh)]
GWP	=	Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

Since the Project would also be required to meet the Title 24 standards in effect at the time of building permit application (potentially the 2019 standards if adopted at the time of building permit application), this analysis conservatively applies the 2016 Title 24 Building Standards Code for the 2023 Project buildout year scenario.

For the Project and existing Project Site GHG emissions, building electricity usage rates are based on CalEEMod factors. For the Proposed Project scenario, the 2016 Title 24 standards were used. For the Project Without GHG Reduction Characteristics, Features, and Measures scenario,

86 California Energy Commission, California Commercial End-Use Survey, http://capabilities.itron.com/CeusWeb/Chart.aspx. Accessed December 2018.

the 2008 Title 24 standards were used, which is consistent with CARB's statewide NAT forecast, which is based on 2009-2011 average emissions.

The Los Angeles Department of Water and Power (LADWP) provides electric service to the Project Site. Emission factors for CO_2 due to electrical generation to serve the electrical demands of the Project were obtained from the LADWP *2016 Power Integrated Resource Plan*, which accounts for the generation mix using renewable and non-renewable sources.[87] Emission factors for CH_4 and N_2O were obtained from CalEEMod. LADWP currently provides 20 percent of electricity via renewable sources[88] but has committed to providing an increasing percentage from renewable sources that exceed the Renewables Portfolio Standard requirements by providing 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036.[89] Based on data in CalEEMod and from LADWP, the estimated CO_2 intensity for electricity sales used for the existing conditions was approximately 1,228 lbs CO_2/MWh. Based on LADWP future projections for the Project opening year of 2023, an estimated emission factor of 849 lbs CO_2/MWh was calculated based on LADWP projections for compliance with the Renewables Portfolio Standard.[90,91] For the Project Without GHG Reduction Characteristics, Features, and Measures scenario, the 2009 emission factor of approximately 1,145 lbs/MWh was used, which is consistent with CARB's approach for assessing the statewide NAT forecast.

Natural Gas

Natural gas-related emissions of GHGs associated with operation of the Project are based on the size of the existing site uses and the Project's proposed uses, the natural gas demand factors for the land uses, the GHG emission factors for the natural gas combustion, and the GWP values for the GHGs emitted. Annual natural gas GHG emissions in units of $MTCO_2e$ are calculated as follows:

Natural Gas:

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_{NG} \times EF_{NG} \times GWP)_i \right) \div 2204.62$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_{NG}	=	Natural gas combustion factor [MMBtu/1000 sqft/year]
EF_{NG}	=	GHG emission factor [pounds/MMBtu]
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6	=	Conversion factor [pounds/MT]

87 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, December 2016, page C-12, https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB562207&RevisionSelectionMethod=LatestReleased. Accessed December 2018.

88 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, December 2016, page ES-1.

89 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES-1.

90 Los Angeles Department of Water and Power, 2016 Briefing Book, https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB423407&RevisionSelectionMethod=LatestReleased. Accessed December 2018.

91 California Energy Commission, Utility Energy Supply Plans from 2015, 2016, http://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2015/LADWP%20%20PUBLIC%20S-2%20supply%20form%2006-29-2016%20revision.xlsx. Accessed December 2018.

i = Summation index

Natural gas demand is based on data from the CEUS, which lists energy demand by building type.[92] However, since the data from the CEUS is from 2002, correction factors are applied to account for compliance with the updated 2016 Title 24 Building Standards Code. The correction factors are applied only to the new building construction. The Project would meet the amended standards. For the Project and existing Project Site GHG emissions, natural gas usage rates are based on CalEEMod factors.The combustion of natural gas results in relatively equal amounts of GHG emissions per unit of gas combusted in the state. Emission factors for GHGs due to natural gas combustion to serve the heating and cooking demands of the Project were obtained from the CalEEMod tool, which provides statewide emission factors.[93] The emissions of GHGs due to natural gas demand would be relatively steady for the years assessed.

4.3.3 Mobile Sources

Mobile source emissions are estimated based on CARB's updated version of the on-road vehicle emissions factor (EMFAC) model. The most recent version is EMFAC2014, which "represents [California Air Resources Board's] current understanding of motor vehicle travel activities and their associated emission levels."[94] Mobile source emissions are also based on the trip generation rates provided in the Project's Transportation Impact Analysis, which accounts for trip reductions from pedestrian trips, existing public transportation options, and pass-by trips.[95]

In calculating mobile-source emissions, the trip length values for the mixed-use project are based on air basin-specific values in CalEEMod for the relevant land uses (residential, commercial restaurant, and parking structure land uses). Trip distances in the South Coast Air Basin are slightly longer than the statewide average due to the fact that commute patterns in the South Coast Air Basin involve a substantial portion of the population commuting relatively far distances, as documented in the SCAG *2016 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS)*. The RTP/SCS shows that, even under future Plan conditions, upwards of 50 percent of all work trips are 10 miles or longer.[96] For the purposes of this analysis, trip distances in South Coast Air Basin are considered to be generally analogous to the statewide average given that the CalEEMod model trip distances in the South Coast Air Basin are slightly longer, but still generally similar to, the statewide average. The trip distances for the various operational activities were multiplied by the average daily trip estimates for each land use based on the data provided by the Project Transportation Impact Analysis to estimate the VMT for the

92 California Energy Commission, California Commercial End-Use Survey, http://capabilities.itron.com/CeusWeb/ChartsSF/Default2.aspx. Accessed December 2018.

93 California Air Pollution Control Officers Association, California Emissions Estimator Model, http://www.caleemod.com/. Accessed December 2018.

94 California Air Resources Board, Mobile Source Emissions Inventory. http://www.arb.ca.gov/msei/categories.htm#emfac2014. Accessed December 2018.

95 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, (2017).

96 Southern California Association of Governments, 2016 Regional Transportation Plan/ Sustainable Communities Strategy, Performance Measures Appendix, 2016, page 13. The RTP/SCS does not specify the existing non-plan percentage of work trips greater than 10 miles in the region; however, it can be assumed that the percentage under existing non-plan conditions is greater than 50 percent since the goal of the RTP/SCS is to reduce overall VMT in the region.

Project.[97] The estimated VMT reductions takes into account trip reductions based on applicable physical and operational Project characteristics including internal capture from co-locating residential, office, restaurant, and retail uses on the Project Site, job densities, neighborhood and site walkability and connectivity, and proximity to public transit (including high-quality rail transit via the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line) and job centers. The estimated VMT reductions are calculated using the equations and methodologies prescribed in the CAPCOA guidance document, *Quantifying Greenhouse Gas Mitigation Measures*, which provides reduction calculation formulas for transportation characteristics and measures.[98]

Emissions of GHGs associated with mobile sources from operation of the Project are based on the average daily trip rate, trip distance, the GHG emission factors for the mobile sources, and the GWP values for the GHGs emitted. The types of vehicles that would visit the Site include all vehicle types including automobiles, light-duty trucks, delivery trucks, and waste haul trucks. Modeling for the Project was conducted using the vehicle fleet mix for the South Coast Air Basin as provided in EMFAC2014 and CalEEMod. Annual mobile source GHG emissions in units of $MTCO_2e$ are generally calculated as follows:

Mobile:

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times \text{ADT} \times D_{TRIP} \times \text{Days} \times \text{EF} \times \text{GWP})_i \right) \div 2204.6$$

Where:

Units	=	Number of vehicles (same vehicle model year and class)
ADT	=	Average daily trip rate [trips/day]
DTRIP	=	Trip distance [miles/trip]
Days	=	Number of days per year [days/year]
EF	=	GHG emission factor [pounds per mile]
GWP	=	Global warming potential [$CO_2 = 1$, $CH_4 = 25$, $N_2O = 298$]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

Emissions of GHGs from motor vehicles are dependent on model years and the specific types of vehicles that are used to travel to and from the existing Project Site. The emissions were calculated using a representative motor vehicle fleet mix for the South Coast Air Basin for the opening year of the Project. As discussed above, all vehicle types would visit the Project Site; therefore, the use of the motor vehicle fleet mix for the South Coast Air Basin is an appropriate modeling parameter.

For the Project Without GHG Reduction Characteristics, Features, and Measures scenario, the average of years 2009-2011 vehicle fleet and emission factors from EMFAC2014 were used, which is consistent with CARB's statewide NAT forecast. Trip rates for the Project are from the traffic report, and do not include trip reductions from walk/transit characteristics and TDM measures. Trip lengths are based on model defaults and do not include the adjustment for additional CAPCOA VMT reductions discussed below under *Land Use Characteristics*. This

97 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, (2017).

98 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, 2010.

allows for an accurate estimate of No-Action-Taken emissions for the Project in 2023, consistent with CARB's statewide NAT forecast for 2020.

For the Proposed Project scenario, the year 2020 vehicle fleet and emission factors from EMFAC2014 was used as a conservative assessment. Future year vehicle emission factors would likely be slightly lower in 2023 as a portion of the vehicle fleet would meet more stringent emissions standards. Trip rates for the Project are from the traffic report, and include trip reductions from walk/transit characteristics and TDM measures. Trip lengths include the adjustment for additional CAPCOA VMT reductions discussed below under *Land Use Characteristics*.

4.3.4 Water Supply, Treatment and Distribution

Water and wastewater generated from the land uses under the Project would require energy to supply, distribute and treat. The combustion of fossil fuels to produce electricity results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O. The electricity generation occurs off-site; therefore, the electricity use from water and wastewater results in GHG emissions that are considered to be indirect. Wastewater also results in emissions of GHGs from wastewater treatment systems (e.g., septic, aerobic, or lagoons) as well as from solids that are digested either through an anaerobic digester or with co-generation from combustion of digester gas.

The emissions of GHGs associated with wastewater treatment process emissions are also calculated using CalEEMod. The emissions are based on the type of treatment (e.g., aerobic, facultative lagoons, septic systems). The emissions are calculated using the default settings in CalEEMod for the type of wastewater treatment and water usage rates from the Utility Technical Report for the Project.[99] Calculation formulas are described in detail in the *California Emissions Estimator Model User's Guide, Appendix A*.[100] Annual water demand and wastewater GHG emissions due to electricity are generally calculated in CalEEMod as follows for indoor and outdoor water demand:

<u>Water Supply, Treatment, and Distribution; Wastewater Treatment (electricity):</u>

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_W \times (EI_W \div 1000) \times EF_W \times GWP)_i \right) \div 2204.62$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_W	=	Water demand factor [million gallons (Mgal)/1000 sqft/year]
EI_W	=	Electricity intensity factor [kilowatt-hours (kWh)/Mgal]
1000	=	Conversion factor [kWh/MWh]
EF_W	=	GHG emission factor [pounds/MWh]
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

99 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, (2017).

100 California Air Pollution Control Officers Association, California Emissions Estimator Model User's Guide, 2017.

The CEC's estimate for energy intensity of the water use cycle in Southern California, as provided in the 2006 CEC report *Refining Estimates of Water-Related Energy Use in California*, is used to calculate the energy usage related to water supply, treatment, and distribution and wastewater treatment.[101] The same electricity GHG emissions factors discussed above are used for water and wastewater energy usage.

As stated in the *User's Guide*, the GHGs emitted from each type of wastewater treatment are based on the CARB's *Local Government Operations Protocol* (LGOP),[102] which are in turn based on USEPA methodologies.[103] The default CalEEMod settings for wastewater treatment are: 10.33 percent septic tank, 87.46 percent aerobic, 2.21 percent facultative lagoons and 100 percent anaerobic combustion of gas.

4.3.5 Solid Waste

The Project would generate solid waste from day-to-day operational activities, which generally consists of product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, plastic, and other items routinely disposed of in trash bins. A portion of the waste is diverted to waste recycling and reclamation facilities. Waste that is not diverted is usually sent to local landfills for disposal. waste that is disposed in landfills results in GHG emissions of CO_2 and CH_4 from the decomposition of the waste that occurs over the span of many years.

Emissions of GHGs associated with solid waste disposal under the Project's proposed land uses are calculated using the CalEEMod tool. The emissions are based on the size of the residential, commercial restaurant, and parking structure land uses, the waste disposal rate for the land uses, the waste diversion rate, the GHG emission factors for solid waste decomposition, and the GWP values for the GHGs emitted. Annual waste disposal GHG emissions in units of $MTCO_2e$ are generally calculated in CalEEMod as follows:

Waste:

$$\text{Annual Emissions } [MTCO_2e] = \left(\sum_i (\text{Units} \times D_W \times EF_W \times GWP)_i \right) \div 1.1023$$

Where:

Units	=	Number of land use units (same land use type) [1000 sqft]
D_W	=	Waste disposal rate [tons/1000 sqft/year]
EF_W	=	GHG emission factor [tons/ton waste]
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
1.1023	=	Conversion factor [tons/MT]
i	=	Summation index

101 California Energy Commission, Refining Estimates of Water-Related Energy Use in California, PIER Final Project Report, CEC-500-2006-118, 2006.

102 California Air Resources Board, Local Government Operations Protocol, Chapter 10: Wastewater Treatment Facilities, 2008.

103 United States Environmental Protection Agency, Inventory of US Greenhouse Gas Emissions and Sinks: 1990-2006, Chapter 8: Waste, 2008.

CalEEMod allows the input of several variables to quantify solid waste emissions. The model requires the amount of waste disposed, which is the product of the waste disposal rate times the land use units. The total amount of waste disposed was reduced by the diversion rate for the City of Los Angeles of 76 percent, according to the most recent data available.[104] The GHG emission factors, particularly for CH_4, depend on characteristics of the landfill, such as the presence of a landfill gas capture system and subsequent flaring or energy recovery. The default values, as provided in CalEEMod, for landfill gas capture (e.g., no capture, flaring, energy recovery) are statewide averages and are used in this assessment. Solid waste emissions are constant for the two Project scenarios.

4.3.6 Stationary Source Emergency Generator:

Stationary source emissions may include emissions from maintenance and testing operations of two emergency generators, one in each residential tower. The North Tower will include a 414 kW generator and the South Tower will include a 623 kW generator. Emergency generator emissions are calculated based on emissions factors available from CARB and the SCAQMD in compliance with applicable regulations. Emergency generator emissions include compliance with CARB and SCAQMD regulations including the Tier 4 emissions standards and SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) mandated emission limits and operating hour constraints. As discussed previously, Rule 1470 applies to stationary compression ignition engine greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing. In general, stationary-source emergency generator emissions are calculated as follows. Emergency generator GHG emissions are constant for the two Project scenarios.

$$\text{Emissions}_{\text{Diesel}}\,[\text{g}] = \Sigma_i\,(\text{EF} \times \text{Pop} \times \text{HP} \times \text{Load} \times \text{Activity})_i$$

Where:

EF	=	Emission factor [g/bhp-hr]
Pop	=	Population [quantity of same equipment type]
HP	=	Maximum rated horsepower [hp]
Load	=	Load Factor [dimensionless]
Activity	=	Hours of operation [hours per day, hours per year]
i	=	Summation index

4.3.7 Stationary Source Cooling Tower:

Stationary source emissions may include emissions from using electricity in order to supply, treat, and distribute water used by the four cooling towers and the treatment of subsequently generated wastewater by the cooling towers on the Project Site Cooling tower emissions are calculated based on CalEEMod water electricity and GHG intensity emissions factors. Cooling tower GHG emissions are constant for the two Project scenarios.

[104] City of Los Angeles, Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013, https://bioenergyproducers.files.wordpress.com/2016/11/la-zero-waste-report.pdf. Accessed December 2018.

$$ED = \Sigma_i [((WA \times E_S) + (WA \times E_T) + (WA \times E_D) + (WA \times E_{WT})) \div 1{,}000]_i$$

Where:

WA	=	Water Amount Used [Mgal/year]
E_S	=	Electricity Demand Factor to Supply (kWh/Mgal)
E_T	=	Electricity Demand Factor to Treat (kWh/Mgal)
E_D	=	Electricity Demand Factor to Distribute (kWh/Mgal)
E_{TW}	=	Electricity Demand Factor for Wastewater Treatment (kWh/Mgal)
ED	=	Electricity Demand of Cooling Towers (MWh/year)
i	=	Summation index

$$Emissions = \Sigma_i [((I_{CO2} \times GWP) + (I_{CH4} \times GWP) + (I_{N2O} \times GWP)) \times ED \div 2204.6]_i$$

Where:

I_{CO2}	=	Electricity CO_2 Intensity Factor (lbs/MWh)
I_{CH4}	=	Electricity CH_4 Intensity Factor (lbs/MWh)
I_{N2O}	=	Electricity N_2O Intensity Factor (lbs/MWh)
ED	=	Electricity Demand of Cooling Towers (MWh/year)
GWP	=	Global warming potential [CO_2 = 1, CH_4 = 25, N_2O = 298]
2204.6	=	Conversion factor [pounds/MT]
i	=	Summation index

4.4 Comparison to Project without GHG Reduction Characteristics, Features, and Measures

As discussed previously, state, regional, and local GHG reduction plans and policies, such as CARB's Climate Change Scoping Plan, SB 375 and City of Los Angeles plans (LA Green Plan, Sustainable City pLAn) would be applicable to the Project. These plans and policies are intended to reduce GHG emissions in accordance with the goals of HSC Division 25.5. In order to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project as required by these GHG reduction plans and policies, this analysis compares the Project's GHG emissions to the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures. This approach mirrors the concepts used in CARB's Climate Change Scoping Plan, which demonstrates GHG reductions compared to a NAT scenario. This comparison is provided only to evaluate the Project's efficiency with respect to GHG reduction plans and policies, but is not relied on a threshold of significance.

The GHG emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures is quantified based on specific and defined circumstances in the context of relevant state activities and mandates. Since this comparison is intended to mirror the concepts used in CARB's Climate Change Scoping Plan, the GHG emissions for the Project without implementation of GHG reduction characteristics, features, and measures is evaluated based on the specific and defined circumstances that CARB relied on when it projected the State's GHG emissions in the absence of GHG reduction measures in the First Update to the Climate Change Scoping Plan.

The specific and defined circumstances used by CARB include conditions that existed during the 2009 to 2011 period, which include the vehicle fleet that existed during the 2009 to 2011 period and the 2008 Title 24 Building Energy Efficiency Standards. Furthermore, the specific Project Site characteristics and Project Design Features (PDF) such as PDF AQ-1, Green Building Features (refer to Section IV.B, *Air Quality*, of the Project's Draft EIR), and PDF WS-1, Water Conservation Features (refer to Section IV.R, *Water Supply*, of the Project's Draft EIR) are not included as they encompass GHG reduction strategies and features that would be consistent with state, regional, and local GHG reduction plans and policies or would go above and beyond regulatory requirements. The emissions are estimated using the CalEEMod software, and the model inputs are adjusted to account for the specific and defined circumstances and described above. The analysis assumes the Project without implementation of GHG reduction characteristics, features, and measures would incorporate the same land uses and building square footage as the proposed Project.

4.5 Project Design Features

4.5.1 Project Design Features

The Project would be designed to incorporate green building techniques and other sustainability features, however there are no Project Design Features proposed specifically to reduce GHG emissions. The Project Design Features (PDFs) described in IV.B, *Air Quality* and IV.R, *Water Supply* sections of the Project's Draft EIR would have the beneficial result of reducing greenhouse gas emissions, as discussed below in the Environmental Impacts section where applicable. To the extent they can be quantified, these features have been assumed in the emissions calculations, but all of these features are considered in the consistency analysis.

SECTION 5
Environmental Impacts

Threshold a): Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Threshold b): Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

5.1 Consistency with Applicable GHG Reduction Plans and Policies

As described above, compliance with a GHG emissions reduction plan renders a less-than-significant impact. The following section describes the extent the Project is consistent with regulations and policies and complies with or exceeds the performance-based standards included in the regulations outlined in the 2017 Climate Change Scoping Plan, the Regional Transportation Plan/Sustainable Communities Strategy, the LA Green Plan, and Sustainable City pLAn. As shown herein, the Project would be consistent with the applicable GHG reduction plans and policies.

5.1.1 CARB's Climate Change Scoping Plan

At the state level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing GHG emissions. Executive Order S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was adopted by the Legislature as the 2006 Global Warming Solutions Act (AB 32) and codified into law in HSC Division 25.5. Executive Order B-30-15's goal to reduce GHG emissions to 40 percent below 1990 levels by 2030 was adopted by the Legislature in SB 32 and also codified into law in HSC Division 25.5.

In support of HSC Division 25.5, the State has promulgated specific laws and strategies aimed at GHG reductions applicable to the Project. The primary focus of many of the statewide and regional plans, policies and regulations is to address worldwide climate change. Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's increase in annual GHG emissions would cause a measurable change in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions, including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment. According to

CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[105] It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone.

Table 5, *Consistency with Applicable 2017 Climate Change Scoping Plan Greenhouse Gas Reduction Strategies*, contains a list of GHG-reducing strategies applicable to the Project. The analysis describes the consistency of the Project with these laws and strategies outlined in the State's 2017 Climate Change Scoping Plan to reduce GHG emissions. The Climate Change Scoping Plan outlines a framework that relies on a broad array of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based mechanisms such as the Cap-and-Trade program. As discussed below, the Project would implement PDFs and incorporate characteristics to reduce energy use, conserve water, reduce waste generation, and reduce vehicle travel consistent with statewide strategies and regulations. As a result, the Project would not conflict with applicable Climate Change Scoping Plan strategies and regulations to reduce GHG emissions.

TABLE 5
CONSISTENCY WITH APPLICABLE 2017CLIMATE CHANGE SCOPING PLAN GREENHOUSE GAS REDUCTION STRATEGIES

Sector / Source	Category / Description	Consistency Analysis
Area		
SCAQMD Rule 445 (Wood Burning Devices)	Restricts the installation of wood-burning devices in new development.	**Consistent.** The Project will comply with this regulatory mandate. All cooking stoves would either be electric or natural gas.
Energy		
California Renewables Portfolio Standard	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020.	**Consistent.** The Project would use electricity provided by LADWP, which is which is required to obtain 33 percent renewable power by 2020 and has committed to achieving 50 percent renewables by 2025.[106] Furthermore, per SB 100, signed by Governor Brown on September 10, 2018, LADWP would be required to procure eligible renewable electricity for 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.
California Renewables Portfolio Standard, SB 350 and SB 100	Increases the proportion of electricity from renewable sources to 33 percent renewable power by 2020. SB 350 requires 50 percent by 2030. It also requires the State Energy Resources Conservation and Development Commission to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.	**Consistent.** The Project would use electricity provided by LADWP, which is required to meet the 2020, 2030, 2045, and 2050 performance standard (refer to Appendix F-3 of this Technical Report for additional details). The Project would also meet or exceed the applicable requirements of the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code or applicable version at the time of building permit issuance. The Project would incorporate energy efficiency measures as outlined in PDF AQ-1.

105 California Air Pollution Control Officers Association, CEQA & Climate change: Evaluating and Addressing Greenhous Gas Emissions from Projects Subject to the California Environmental Quality Act, (2008).

106 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES-1.

Sector / Source	Category / Description	Consistency Analysis
CCR, Title 24, Building Standards Code	Energy Efficiency Standards for Residential and Nonresidential Buildings	**Consistent.** The Project would meet or exceed the applicable requirements of the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code or applicable version at the time of building permit issuance, and LEED Silver Certification Requirements ore quivalent as committed to in PDF AQ-1. The Project would incorporate energy efficiency measures as outlined in the PDF AQ-1, PDF AQ-2 and PDF WS-1.
Assembly Bill 1109	The Lighting Efficiency And Toxics Reduction Act (AB 1109) prohibits manufacturing specified general purpose lights that contain levels of hazardous substances prohibited by the European Union. AB 1109 also requires a reduction in average statewide electrical energy consumption by not less than 50 percent from the 2007 levels for indoor residential lighting and not less than 25 percent from the 2007 levels for indoor commercial and outdoor lighting by 2018	**Consistent.** According to the CEC, energy savings from AB 1109 are achieved through codes and standards. Energy savings from AB 1109 are calculated as part of codes and standards savings.[107] The Project would incorporate energy efficient lighting. As discussed above, the Project would meet or exceed the applicable requirements of the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code and the 2016 City of Los Angeles Green Building Code, or applicable version at the time of building permit issuance, and would also incorporate energy efficiency measures as outlined in PDF AQ-1.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	**Consistent.** The Project would utilize energy efficiency appliances, including bathroom exhaust fans, and equipment and would meet or exceed the applicable energy standards in the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version at the time of building permit issuance.
	HVAC Systems will be designed to meet ASHRAE standards.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the applicable energy standards in ASHRAE 90.1-2013 Appendix G and the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code, or applicable version of these standards at the time of building permit issuance.
	Energy commissioning shall be performed for buildings larger than 10,000 square feet.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and LEED Silver Certification Requirements or equivalent as commited to in PDF AQ-1.
	Air filtration systems are required to meet a minimum efficiency reporting value (MERV) 8 or higher.	**Consistent.** The Project would meet or exceed the requirement of MERV 8 as part of its compliance with the City's requirements, and the CALGreen Code.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code. The Project would designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.

[107] California Energy Commission, 2013 California Energy Efficiency Potential and Goals Study, Appendix Volume I, February 5, 2014, http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=4021. Accessed December 2018.

Sector / Source	Category / Description	Consistency Analysis
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	**Consistent.** The Project would meet this requirement by providing 1,274 bicycle spaces as part of its compliance with the City's requirements and the CALGreen Code.
	Stormwater Pollution Prevention Plan (SWPPP) required.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code (See Section IV.G, *Hydrology and Water Quality*, of the Project's Draft EIR).
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	**Consistent.** The Project would meet or exceed this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires a minimum of 50 percent recycle or reuse of nonhazardous construction and demolition debris.	**Consistent.** The Project would meet or exceed this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires documentation of types of waste recycled, diverted or reused.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	**Consistent.** The Project would be consistent with this regulation and would meet or exceed the low VOC coating requirements.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements and the CALGreen Code.
SB 1368, CCR Title 20, Cap and Trade Program		**Consistent.** The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. Therefore, GHG emissions associated with the Project's 14.26 million kWh of electricity usage per year presented in Section IV.U, *Energy*, of the Project's Draft EIR, would be covered by the Cap-and-Trade Program as LADWP would be a covered entity.)

Sector / Source	Category / Description	Consistency Analysis
Mobile Sources		
Mobile Source Strategy (Cleaner Technology and Fuels)	Reduce GHGs and other pollutants from the transportation sector through transition to zero-emission and low-emission vehicles, cleaner transit systems and reduction of vehicle miles traveled.	**Consistent.** The Project would be consistent with this strategy by supporting the use of zero-emission and low-emission vehicles. The Project would designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations. Furthermore, the Project would also reduce VMT as a result of its urban infill location, with access to public transportation within a quarter-mile of the Project Site, and its proximity to other destinations including off-site residential, retail, and entertainment. The Project is also located within a HQTA as designated by SCAG.
AB 1493 (Pavley Regulations)	Reduces GHG emissions in new passenger vehicles from model year 2012 through 2016 (Phase I) and model years 2017–2025 (Phase II). Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards. Mobile emissions associated with the Project in Table 10 reflect compliance with this regulation. GHG emissions related to vehicular travel by the Project would benefit from this regulation because vehicle trips associated with the Project would be affected by AB 1493. Mobile source emissions generated by the Project would be reduced with implementation of AB 1493 consistent with reduction of GHG emissions under AB 32
Low Carbon Fuel Standard (Executive Order S-01-07)	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels. This executive order establishes a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards. Mobile emissions associated with the project in Table 10 reflect compliance with this regulation. GHG emissions related to vehicular travel by the Project would benefit from this regulation and mobile source emissions generated by the Project would be reduced with implementation of LCFS consistent with reduction of GHG emissions under AB 32.
Advanced Clean Cars Program	In 2012, CARB adopted the Advanced Clean Cars (ACC) program to reduce criteria pollutants and GHG emissions for model year vehicles 2015 through 2025. ACC includes the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.	**Consistent.** The standards would apply to all vehicles used by visitors, employees, apartment residents, and customers associated with the Project. The Project would designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.
SB 375	SB 375 establishes mechanisms for the development of regional targets for reducing passenger vehicle GHG emissions. Under SB 375, CARB is required, in consultation with the state's Metropolitan Planning Organizations, to set regional GHG reduction targets for the passenger vehicle and light-duty truck sector for 2020 and 2035.	**Consistent.** The Project would be consistent with SCAG RTP/SCS goals and objectives under SB 375 to implement "smart growth." The Project would provide employment opportunities in close proximity to off-site residential and other job centers in downtown Los Angeles where people can live and work and have access to modes of transportation that provide options for reducing reliance on automobiles and minimizing associated air pollutant emissions.

Sector / Source	Category / Description	Consistency Analysis
		The Project would incorporate PDF AQ-1 and PDF AQ-2 that would meet the applicable requirements of CALGreen and the City of Los Angeles Green Building Code. The Project would also reduce VMT as a result of its urban infill location, with access to public transportation within a quarter-mile of the Project Site, and its proximity to other destinations including off-site residential, retail, and entertainment. The Project is also located within a HQTA as designated by SCAG. Furthermore, implementation of the transportation strategies in the 2016 RTP/SCS would result in an estimated 18 percent decrease in per capita GHG emissions by 2035 and 21 percent decrease in per capita GHG emissions by 2040. As discussed above, CARB updated the SB 375 targets for the SCAG region, requiring a 19-percent decrease in per capita VMT by 2035. Implementation of the 2016–2040 RTP/SCS or the next plan is expected to fulfill and exceed the region's obligations under SB 375 with respect to meeting the State's GHG emission reduction goals.As project-related emissions are reduced by approximately 36 percent compared to NAT (see Table 10), therefore the Project would be consistent with SB 375 and the 2016 RTP/SCS.
Water		
CCR, Title 24	Title 24 includes water efficiency requirements for new residential and non-residential uses.	**Consistent.** See discussion under 2016 Title 24 Building Standards Code and California Green Building Standards Code Requirements above.
Senate Bill X7-7	The Water Conservation Act of 2009 sets an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. Each urban retail water supplier shall develop water use targets to meet this goal. This is an implementing measure of the Water Sector of the AB 32 Scoping Plan. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute the water; it also reduces emissions from wastewater treatment.	**Consistent.** See discussion under 2016 Title 24 Building Standards Code, California Green Building Standards Code Requirements above, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.
Solid Waste		
California Integrated Waste Management Act (IWMA) of 1989 and Assembly Bill (AB) 341	The IWMA mandated that state agencies develop and implement an integrated waste management plan which outlines the steps to be taken to divert at least 50 percent of their solid waste from disposal facilities. AB 341 directs CalRecycle to develop and adopt regulations for mandatory commercial recycling and sets a statewide goal for 75 percent disposal reduction by the year 2020.	**Consistent.** GHG emissions related to solid waste generation from the Project would benefit from this regulation as it would decrease the overall amount of solid waste disposed of at landfills. The decrease in solid waste would then in return decrease the amount of methane released from the decomposing solid waste. The Project would be served by a solid waste collection and recycling service that include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets. According to the City of Los Angeles *Zero Waste Progress Report* (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[108]

108 City of Los Angeles, Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013, https://bioenergyproducers.files.wordpress.com/2016/11/la-zero-waste-report.pdf . Accessed December 2018.

Sector / Source	Category / Description	Consistency Analysis
Other Sources		
Climate Action Team (CAT) works to coordinate statewide efforts to implement global warming emission reduction programs and the state's Climate Adaptation Strategy.	Reduce diesel-fueled commercial motor vehicle idling.	**Consistent.** The Project would be consistent with the CARB Air Toxics Control Measure to limit heavy duty diesel motor vehicle idling to no more than 5 minutes at any given time. This would also be applicable to the NAT scenario since the underlying Airborne Toxic Control Measure (ATCM) that limits heavy-duty diesel motor vehicle idling (Title 13 California Code of Regulations [CCR], Section 2485) was adopted by CARB in 2004.
	Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's waste diversion requirements and the CALGreen Code. The Project would be served by a solid waste collection and recycling service that include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with Citywide recycling targets.
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	**Consistent.** The Project would provide appropriate landscaping on the Project Site including vegetation and approximately 194 trees.
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	**Consistent.** The Project would meet this requirement as part of its compliance with the City's requirements, the CALGreen Code, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in the 2016 Title 24 Building Energy Efficiency Standards and the CALGreen Code or applicable version at the time of building permit issuance, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/commercial development along transit corridors, and implementing intelligent transportation systems.	**Consistent.** The Project would incorporate physical and operational Project characteristics that would reduce vehicle trips and VMT and encourage alternative modes of transportation for guests and employees. The Project would reduce VMT as a result of its urban infill location, with nearby access to public transportation within a quarter-mile of the Project Site, and its proximity to other destinations including off-site residential, retail, and entertainment (refer to discussion of VMT-reducing Project land use characteristics in subsection 5.2.2.
	Reduce energy use in private buildings.	**Consistent.** The Project would replace older buildings that are energy inefficient with new energy efficient buildings. The Project would utilize energy efficiency appliances and equipment and would meet or exceed the energy standards in the 2016 Title 24 Building Energy Efficiency Standards and the CALGreen Code or applicable version at the time of building permit issuance. Renovated buildings would also utilize energy efficient appliances and equipment consistent with the 2016 Title 24 standards and CALGreen Code or applicable version at the time of building permit issuance, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1.

SOURCE: ESA, 2018.

Furthermore, in addition to the Project's consistency with applicable GHG reduction laws and strategies, the Project would not conflict with the future anticipated statewide GHG reductions goals. CARB has outlined a number of potential strategies for achieving the 2030 reduction target of 40 percent below 1990 levels, as mandated by SB 32. These potential strategies include renewable resources for half of the State's electricity by 2030, increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles, reducing the rate of growth in VMT, supporting high-speed rail and other alternative transportation options, and use of high-efficiency appliances, water heaters, and HVAC systems.[109] The Project would benefit from statewide and utility-provider efforts towards increasing the portion of electricity provided from renewable resources. As previously discussed, the utility provider for the Project, LADWP, currently provides 20 percent of electricity via renewable sources but has committed to providing an increasing percentage from renewable sources that exceed the Renewables Portfolio Standard requirements by providing 50 percent by 2025, 55 percent by 2030, and 65 percent by 2036.[110] The Project would use energy-efficient appliances and equipment, water efficient fixtures, and would achieve the LEED Silver Certification level or equivalent as committed to in PDF AQ-1. The Project would also benefit from statewide efforts towards increasing the fuel economy standards of vehicles. The Project would support reducing VMT growth given its location at an infill site close to existing and future transit (including the Red and Purple Lines at the Metro Civic Center/Grand Park Station and future 2nd and Broadway Metro Station being constructed as part of the Regional Connector).

As discussed in **Table 5** above, the Project would be consistent with applicable GHG reduction strategies in the 2017 Climate Change Scoping Plan. The 2017 Scoping Plan also outlines strategies to reduce GHG emissions to achieve the 2030 target from sectors that are not directly controlled or influenced by the Project, but nonetheless contribute to Project-related GHG emissions. For instance, the Project itself is not subject to the Cap-and-Trade regulation; however, Project-related emissions would decline pursuant to the regulation as utility providers and transportation fuel producers are subject to renewable energy standards, Cap-and-Trade, and the LCFS. The 2017 Scoping Plan also calls for the doubling of the energy efficiency savings, including utility demand-response flexibility for 10 percent of residential and commercial electric space heating, water heating, air conditioning and refrigeration. The strategy is in the process of being designed specifically to accommodate existing residential and commercial uses under the CEC's Existing Building Energy Efficiency Action Plan.[111] While CARB is in the process of expanding the regulatory framework to meet the 2030 reduction target based on the existing laws and strategies in the 2017 Scoping Plan, the Project would support or not impede implementation of these potential GHG reduction strategies identified by CARB.

109 Energy + Environmental Economics, Summary of the California State Agencies' PATHWAYS Project: Long-Term Greenhouse Gas Reduction Scenarios, April 6, 2015, https://www.arb.ca.gov/html/fact_sheets/e3_2030scenarios.pdf. Accessed December 2018.

110 Los Angeles Department of Water and Power, 2016 Power Integrated Resource Plan, page ES-1.

111 California Energy Commission, 2016 Existing Buildings Energy Efficiency Plan Update, December 2016.

5.1.2 SCAG's 2016 RTP/SCS

Transportation-related GHG emissions would be the largest sector of emissions from the Project. This finding is consistent with the findings in regional plans, such as the SCAG 2016 RTP/SCS, which recognizes that the transportation sector is the largest contributor to the State's GHG emissions. The purpose of the SCAG RTP/SCS is to achieve the regional per capita GHG reduction targets for the passenger vehicle and light-duty truck sector established by CARB pursuant to SB 375. SCAG's Program EIR for the 2016 RTP/SCS, released in December 2015, states that "[e]ach [Metropolitan Planning Organization] is required to prepare an SCS in conjunction to [sic] with the RTP in order to meet these GHG emissions reduction targets by aligning transportation, land use, and housing strategies with respect to [Senate Bill] 375."[112] As part of the 2016 SCS/RTP, "transportation network improvements would be included, and more compact, infill, walkable and mixed-use development strategies to accommodate new region's growth would be encouraged to accommodate increases in population, households, employment, and travel demand."[113] Moreover, the 2016 RTP/SCS states that while "[p]opulation and job growth would induce land use change (development projects) and increase VMT, and would result in direct and indirect GHG emissions," the 2016 RTP/SCS would "supports sustainable growth through a more compact, infill, and walkable development pattern."[114]

Consistent with SCAG's 2016 RTP/SCS alignment of transportation, land use, and housing strategies, the Project would accommodate increases in population, households, employment, and travel demand. As discussed previously, the Project Site is an infill location close to jobs, off-site housing, shopping and entertainment uses and in close proximity to existing and future public transit stops, which would result in reduced VMT, as compared to a project of similar size and land uses at a location without close and walkable access to off-site destinations and public transit stops. As discussed previously, following the calculation protocol from the CAPCOA guidance, based on land use characteristics LUT-1, LUT-2, LUT-4, LUT-9, and SDT-1, in addition to the Transportation Impact Analysis trip rate reductions, the Project's VMT would be reduced by approximately 32.2 percent overall in comparison to the NAT scenario and would be greater than the reduction in transportation emission per capita provided in the 2016 RTP/SCS. Transportation Impact Analysis

As discussed further below, the Project would also be consistent with the following key GHG reduction strategies in SCAG's 2016 RTP/SCS, which are based on changing the region's land use and travel patterns:

- Compact growth in areas accessible to transit;
- New multi-family housing (1,127 residential units) in an infill location with neighborhood-serving retail and restaurant uses;

112 Southern California Association of Governments, Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2015, page 3.8-37.

113 Southern California Association of Governments, Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2015, page 3.8-35.

114 Southern California Association of Governments, Program Environmental Impact Report – 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, 2015, page 3.8-36.

- Jobs and housing closer to transit;
- New housing and job growth focused in HQTAs; and
- Biking and walking infrastructure to improve active transportation options and transit access.

The Project represents an infill development within an existing urbanized area that would concentrate new residential and neighborhood-serving commercial retail and restaurant uses within an HQTA, which is defined by the 2016 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours. The Project Site is located within a quarter-mile of public transportation, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector Project. The Project is also within a quarter mile of many Metro bus routes (e.g., local 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Hill and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street), LADOT's Dash Downtown "D" line, and Metro's Rapid Lines 728, 733, 745, and 770. In addition, the Project would also provide bicycle storage areas for Project residents and guests. The Project would provide residents and visitors with access to public transit and opportunities for walking and biking, which would facilitate a reduction in VMT and related vehicular GHG emissions. These and other measures would further promote a reduction in VMT and subsequent reduction in GHG emissions, which would be consistent with the goals of SCAG's 2016 RTP/SCS.

The estimated reduction in VMT (refer to discussion of VMT-reducing Project land use characteristics in subsection 5.2.2) for the Project is supported by area-specific data in the Health Atlas, published by the City in June 2013.[115] The Health Atlas is not a plan specifically developed to reduce GHG emissions. Nonetheless, while the primary focus of the Health Atlas is on factors that affect the health behaviors and health status of residents and workers in the City, some of the data is relevant to land use GHG emissions as those emissions reflect similar issues regarding land use patterns, urban design, and transportation systems. Data from the Health Atlas regarding the land use diversity, employment density, walkability, and transportation options for the Central City Community Plan Area is used to provide additional location-specific supporting evidence with respect to the Project's land use characteristics that would minimize VMT and that would support regional planning efforts in accordance with SCAG's 2016 RTP/SCS to reduce VMT and associated emissions.

As detailed below, data collected by the City in support of its Health Atlas demonstrates that the Project would be located in an area that would substantially reduce mobile source GHG emissions relative to the citywide and statewide average. The Health Atlas includes a number of findings related to land use mix and diversity, employment density, walkability, access to public transit, and other land use transportation findings organized by Community Plan Area. The Project is

115 City of Los Angeles, Health Atlas for the City of Los Angeles, June 2013, http://healthyplan.la/the-health-atlas/. Accessed December 2018.

located in the Central City Community Plan Area. A summary and analysis of the Health Atlas findings relative to the Central City Community Plan Area are provided below.

- **Land Use Diversity:** The Health Atlas evaluates land use diversity based on the presence of 19 types of uses or amenities, including supermarkets, convenience stores, banks, gyms, department stores, farmer's markets, libraries, and parks, grouped into four categories: food retail, community-serving retail, services, civic and community facility. The Central City Community Plan Area scored relatively high out of the 35 Community Plan Areas, indicating that the area has a high number of different types of amenities available in the Community Plan Area (a score of 11, which is in the highest one-third of the scores). The data indicates that the Central City Community Plan Area has a high potential for walkability and offers a high number of destinations available for non-motorized trips. These findings are substantiated by the CAPCOA guidance, *Quantifying Greenhouse Gas Mitigation Measures*. CAPCOA measure LUT-3 (Increase Diversity of Urban and Suburban Developments [Mixed Use]) states that "different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport."[116] These land use diversity characteristics also relate to the goals and benefits of the SCAG 2016 RTP/SCS, which seeks improved access and mobility by placing "destinations closer together, thereby decreasing the time and cost of traveling between them."[117] According to SCAG, giving people more transportation choices and providing greater opportunities for biking and walking reduces the number of people who drive alone and encourages people to use alternative modes of travel.[118] The high scores for the number of destinations available for non-motorized trips within the Central City Community Plan Area supports the expectation that projects located in the area would achieve substantial reductions in VMT and associated mobile source emissions relative to the citywide average. Therefore, based on City data and expert guidance from state and regional agencies, the Project would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the citywide and statewide average. Furthermore, the land use diversity scores for the Central City Community Plan Area in the Health Atlas indicate that the Project would be located in an area consistent with the regional SCAG 2016 RTP/SCS goals to improve mobility and access to diverse destinations, and to reduce vehicular demand and associated emissions.

- **Employment Density**: The Health Atlas evaluates employment density as the number of jobs per square mile. The Central City Community Plan Area has the highest employment density of the 35 Community Plan Areas in the city with nearly 80,000 jobs per square mile. The citywide average employee density is approximately 1,185 jobs per square mile.[119] The data indicates that the Central City Community Plan Area has a high potential for walkability and making use of frequent and comprehensive transit services, such as the Metro Red Line and connecting bus lines. These findings are substantiated by the CAPCOA guidance measure LUT-1 (Increase Density), which states that "[i]ncreased densities affect the distance people

116 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, page 162.

117 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 16.

118 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 14.

119 City of Los Angeles, Health Atlas for the City of Los Angeles, page 102.

travel and provide greater options for the mode of travel they choose."[120] Measure LUT-1 also states that increased densities "provides a foundation for implementation of many other strategies which would benefit from increased densities" such as "enhanced transit service."[121] The Health Atlas employment density findings are also related to the goals and benefits of the SCAG 2016 RTP/SCS, which seeks improved mobility and access and implementation of land use strategies that encourage walking, biking, and transit use, resulting in reduced vehicular demand and associated pollutant emissions.[122] The high employment density of the Central City Community Plan Area supports the expectation that projects located in the area would have high levels of walkability and high potential for transit usage. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the citywide and statewide average. Therefore, based on city data and expert guidance from state and regional agencies, the Project's location in an employment dense area would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the citywide and statewide average. Furthermore, the land employment density score for the Central City Community Plan Area in the Health Atlas indicates that the Project would be located in an area consistent with the regional SCAG 2016 RTP/SCS goals to improve mobility and access to diverse destinations, and to reduce vehicular demand and associated emissions.

- **Walkability:** The Health Atlas provides a quantitative analysis of the walkability of each Community Plan Area using a Walkability Index based on four components: land use mix, residential density, retail density, and intersection density. Higher scores represent more walkable areas. The Central City Community Plan Area has the highest Walkability Index of the 35 Community Plan Areas in the city. Furthermore, as discussed previously, the walkability score for the Project area, as quantified by WalkScore.com, is approximately 91 points[123] out of a possible 100, compared to the citywide score of 67 points. The data indicates that the Central City Community Plan Area is a highly walkable area. These findings are substantiated by the CAPCOA guidance measure LUT-9 (Improve Design of Development), which indicates that design elements that enhance walkability and connectivity, such as intersection density, reduce VMT and associated GHG emissions. The Health Atlas findings are also related to the goals and benefits of the SCAG RTP/SCS, which seeks better "placemaking," defined as "the process of developing options for locations where they can live and work that include a pleasant and convenient walking environment that reduces their reliance on their car."[124] The high Walkability Index of the Central City Community Plan Area supports the expectation that projects located in the area would have a highly walkable environment. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the citywide and statewide average. Therefore, based on city data and expert guidance from state

120 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, page 155.

121 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, page 155.

122 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, pages 13-15.

123 WalkScore.com (www.walkscore.com) rates the Project Site area (202 W 1st Street, Los Angeles, CA 90012) with a score of 91 of 100 possible points (scores accessed on November 8, 2017). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

124 Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, page 112, http://rtpscs.scag.ca.gov/Documents/2012/final/f2012RTPSCS.pdf. Accessed December 2018.

and regional agencies, the Project's location in a walkable area would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency when compared to the citywide and statewide average. Furthermore, the land employment density score for the Central City Community Plan Area in the Health Atlas indicates that the Project would be located in an area consistent with the regional SCAG 2016 RTP/SCS goals to provide better "placemaking" and to reduce vehicular demand and associated emissions.

- **Workers Commuting by Walking, Biking, and Public Transportation:** The Health Atlas also indicates that the Central City Community Plan Area has a high percentage of workers that commute to work by walking, biking, and public transportation. The Central City Community Plan Area has the 2nd highest percentage of workers that commute to work by walking, biking, and public transportation, at about 37 percent for the area as a whole, based on 2010 data. The statewide percentage of workers that commute to work by walking, biking, and public transportation is approximately 9 percent, based on census data for the 2010 to 2014 period.[125] As discussed previously, the Central City Community Plan Area is a highly walkable area and the area is also well served by frequent and comprehensive transit including the Metro Blue, Expo, Red, Purple, and Gold Lines, which provides convenient access to locations within Downtown Los Angeles and a multitude of locations outside the downtown area, and multiple bus lines. Thus, the data indicates that the Central City Community Plan Area substantially exceeds the statewide average for the percentage of workers that commute to work by walking, biking, and public transportation. The Health Atlas findings are further substantiated by the CAPCOA guidance measures LUT-1, LUT-3, and LUT-9, as discussed previously, and also by LUT-5 (Increase Transit Accessibility), which indicates that "high density near transit will facilitate the use of transit by people."[126] The Health Atlas findings are also related to the goals and benefits of the SCAG 2016 RTP/SCS, which seeks to implement "strategies focused on compact infill development, superior placemaking (the process of creating public spaces that are appealing), and expanded housing and transportation choices"[127] The high proportion of workers that commute to work by walking, biking, and public transportation in the Central City Community Plan Area supports the expectation that projects located in the area would be accessible to alternative forms of transportation. As a result, the Project would be expected to achieve substantial reductions in VMT and associated mobile source emissions relative to the citywide and statewide average. Therefore, based on city data and expert guidance from state and regional agencies, the Project's location in an area accessible to alternative forms of transportation including walking, bicycling, and transit, and with the Project's incorporation of the Paseo through the Project Site connecting 1st and 2nd Streets, would result in a substantial reduction in emissions from mobile sources and would have a substantially greater level of transportation efficiency and increase the walkability of the area when compared to the citywide and statewide average. Furthermore, the Project would be located in an area

125 United States Census Bureau, American FactFinder, Data Set B08301 (Means of Transportation to Work, California, 2010-2014), https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B08301&prodType=table. Accessed December 2018.

126 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, page 171.

127 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 14.

consistent with the regional SCAG 2016 RTP/SCS goals to provide more transportation choices and to reduce vehicular demand and associated emissions.

As discussed in the above analysis and below in **Table 6**, *Consistency with Applicable 2016 SCAG RTP/SCS Actions and Strategies*, the Project would be consistent with and support the goals and benefits of the SCAG 2016 RTP/SCS, which seeks "improved mobility and accessibility… to reach desired destinations with relative ease and within a reasonable time, using reasonably available transportation choices."[128] The SCAG 2016 RTP/SCS seeks to implement "strategies focused on compact infill development, superior placemaking (the process of creating public spaces that are appealing), and expanded housing and transportation choices."[129] The Project would concentrate new multi-family housing and neighborhood-serving commercial retail and restaurant uses within an HQTA in an urban infill location in proximity to multiple public transit stops. The Project would also provide bicycle storage areas for Project residents and guests, and a mid-block pedestrian paseo, which would support active transportation options and transit access. The high scores for walkability and number of destinations available for non-motorized trips within the Central City Community Plan Area indicate that the existing infrastructure and built environment is sufficiently developed such that projects located in the area would be expected to achieve substantial and credible reductions in trip distances and overall VMT. The high employment density of the Central City Community Plan Area supports the expectation that projects located in the area would provide high levels of walkability and high potential for transit usage by Project employees and visitors. The high number of workers that commute to work by walking, biking, and public transportation in the Central City Community Plan Area is additional proof that projects located in the area would provide access to more transportation choices for Project employees and visitors and that projects would have a substantially greater level of transportation efficiency when compared to the citywide and statewide average.

At the regional level, the 2016 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs. In order to assess the Project's potential to conflict with 2016 RTP/SCS, this section analyzes the Project's land use assumptions for consistency with those utilized by SCAG in its SCS. **Table 6** contains a list of GHG-reducing actions and strategies from the 2016 SCAG RTP/SCS that are applicable to the Project. The analysis describes the consistency of the Project with these strategies. Generally, projects are considered consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG's SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. **Table 6** demonstrates the Project's consistency with the Actions and Strategies set forth in the 2016 RTP/SCS. As discussed further below, the Project would be consistent with the SCAG 2016 RTP/SCS goals and benefits intended to improve mobility and access to diverse destinations, provide better "placemaking," provide more transportation choices, and reduce vehicular demand and associated emissions. Therefore, the

128 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 160.

129 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 14.

Project would be consistent with the GHG reduction-related actions and strategies contained in the 2016 RTP/SCS.

TABLE 6
CONSISTENCY WITH APPLICABLE 2016 SCAG RTP/SCS ACTIONS AND STRATEGIES

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Land Use Actions and Strategies		
Encourage the use of range-limited battery electric and other alternative fueled vehicles through policies and programs, such as, but not limited to, neighborhood oriented development, complete streets, and Electric (and other alternative fuel) Vehicle Supply Equipment in public parking lots.	Local Jurisdictions, COGs, SCAG, CTCs	**Consistent.** While the use of alternative-fueled vehicles is beyond the direct control or influence of the Project, the Project would not impair the City's or SCAG's ability to encourage the use of alternative-fueled vehicles through various policies and programs. Specifically, the Project would support a land use pattern that provides increased opportunity of use of alternative transportation modes. Additionally, the Project would encourage the use of alternative-fueled vehicles by designating a minimum of10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.
Support projects, programs, and policies that support active and healthy community environments that encourage safe walking, bicycling, and physical activity by children, including, but not limited to development of complete streets, school siting policies, joint use agreements, and bicycle and pedestrian safety education.	Local Jurisdictions, SCAG	**Consistent.** The Project would facilitate pedestrian and bicycle movements including through the ground level Paseo and around the Project Site and would provide 1,274 bicycle spaces. It would also connect to the surrounding commercial and recreational areas where the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park. The Project would locate residential, commercial, retail, and restaurant uses within an area that has public transit, employment opportunities, restaurants and entertainment all within walking distance.
Collaborate with the region's public health professionals to enhance how SCAG addresses public health issues in its regional planning, programming, and project development activities.	SCAG, State, Local Jurisdictions	**Consistent.** The Project would not impair the City's, SCAG's, or the State's ability to collaborate with the region's public health professionals regarding the integration of public health issues in regional planning. The Project would also incorporate measures to reduce air pollutant emissions, minimize hazards, and ensure water quality. As an example, the Project would comply with fugitive dust control measures included in SCAQMD Rule 403. The Project would result in a potentially significant air quality impact during construction from exhaust emissions of nitrogen oxides (NO_X) (refer to Section IV.B, *Air Quality*, of the Project's Draft EIR). However, the Project would be required to implement mitigation measure MM AQ-1 requiring the use of construction equipment that meet the most stringent Tier 4 emissions standards, which would reduce emissions to less than significant with the exception of exception of a temporary and short-term NO_X emissions impact that would be significant and unavoidable during the continuous concrete pour foundation activities lasting up to approximately four days.

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Update local zoning codes, General Plans, and other regulatory policies to promote a more balanced mix of residential, commercial, industrial, recreational and institutional uses located to provide options and to contribute to the resiliency and vitality of neighborhoods and districts.	Local Jurisdictions	**Consistent.** The Project would support this action/strategy by creating a mixed-use infill development comprising complementary uses that offer employment and other community-serving opportunities. The Project would support the development of complete communities by co-locating complementary commercial/restaurant and residential land uses in close proximity to existing off-site commercial and residential uses, being located within a quarter-mile of off-site commercial and residential uses, and being located in a highly walkable area well-served by transit within a quarter-mile of the Project Site.
Support projects, programs, policies and regulations that encourage the development of complete communities, which includes a diversity of housing choices and educational opportunities, jobs for a variety of skills and education, recreation and culture, and a full-range of shopping, entertainment and services all within a relatively short distance.	Local Jurisdictions, SCAG	**Consistent.** The Project would support the development of complete communities by co-locating complementary commercial and residential land uses in close proximity to existing off-site commercial and residential uses, and being located in a highly walkable area served by frequent and comprehensive transit within a quarter-mile of the Project Site. The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions.
Pursue joint development opportunities to encourage the development of housing and-mixed use projects around existing and planned rail stations or along high-frequency bus corridors, in transit-oriented development areas, and in neighborhood-serving commercial areas.	Local Jurisdictions, CTCs	**Not Applicable.** This strategy is not applicable to the Project because it is not a joint development. However, the Project would generally support the intent of this strategy because it would be located within a quarter mile of the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line, and provides further connection to the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station, as well as the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector; multiple bus and shuttle lines; the regional freeway system; bicycle lanes; and an established pedestrian grid; would maximize mobility and the accessibility to the Project Site. Additionally, the Project would provide distinctive sidewalks, landscaping, wayfinding signage, neighborhood-serving commercial uses, and outdoor activity to attract and serve Civic Center visitors and neighborhood residents.
Consider developing healthy community or active design guidelines that promote physical activity and improved health.	Local Jurisdictions	**Consistent.** The Project would facilitate pedestrian and bicycle movements through and around the Project Site where the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park, and the Project would provide 1,274 bicycle parking spaces It would also connect to the surrounding commercial and recreational areas, and would provide onsite amenities, such as open space and a gym, that encourage recreational opportunities. The Project would locate residential, retail, and restaurant uses within an area that has public transit, and employment opportunities, restaurants and entertainment all within walking distance.

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Create incentives for local jurisdictions and agencies that support land use policies and housing options that achieve the goals of SB 375.	State, SCAG	**Not Applicable.** This strategy is not applicable to the Project because implementation is the responsibility of local jurisdictions and agencies and not private developers. However, the Project would generally support the intent of this strategy because the Project would be consistent with the goals of SB 375, including the goal to reduce VMT and the corresponding emission of GHGs. The Project would locate complementary commercial/restaurant and residential land uses in close proximity to existing off-site commercial and residential uses, being located within a quarter-mile of off-site commercial and residential uses, and being located in HQTA as designated by SCAG, which is a highly walkable area served by frequent and comprehensive transit within a quarter-mile of the Project Site.[130] The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions.
Transportation Network Actions and Strategies		
Prioritize transportation investments to support compact infill development that includes a mix of land uses, housing options, and open/park space, where appropriate, to maximize the benefits for existing communities, especially vulnerable populations, and to minimize any negative impacts.	SCAG, CTCs, Local Jurisdictions	**Consistent.** The Project provides a mix of uses, including 1,127 residential units and multiple commercial/retail uses including office space, restaurants and a grocery store. The Project would provide open space amenities available to residents of the North and South Towers, which would include landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and tables and seating, and would also provide a publicly accessible Paseo running between W. 1st Street and W. 2nd Street. The Project Site is an infill location close to jobs, off-site housing, shopping and entertainment uses and in close proximity to existing and future public transit stops, which would result in reduced VMT, as compared to a project of similar size and land uses at a location without close and walkable access to off-site destinations and public transit stops. The proximity of the Project to alternative transit modes, including regional rail and bus lines, would support the region's transportation investment and the sustainability of the regional transportation system.
Explore and implement innovative strategies and projects that enhance mobility and air quality, including those that increase the walkability of communities and accessibility to transit via non-auto modes, including walking, bicycling, and neighborhood electric vehicles (NEVs) or other alternative fueled vehicles.		**Consistent.** The Project would facilitate pedestrian and bicycle movements through and around the Project Site where the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park, and the Project would provide 1,274 bicycle parking spaces. It would also connect to the surrounding commercial and recreational areas. The Project would locate residential, retail, office and restaurant uses within an area that is well-served by public transit, and employment opportunities, restaurants and entertainment all within walking distance. Further, the Project would promote the use of electric vehicles by designating a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations.

130 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 77.

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Collaborate with local jurisdictions to plan and develop residential and employment development around current and planned transit stations and neighborhood commercial centers.	SCAG, CTCs, Local Jurisdictions	**Consistent.** Project would intensify development in an area served by the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line, and provides further connection to the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station, as well as the future 2nd and Broadway Metro Station being constructed as part of the Metro Regional Connector project; the regional freeway system; and multiple bus and shuttle lines. Furthermore, the Project would provide a high-density residential and retail/restaurant use in an area with pedestrian access to a large range of entertainment and commercial uses opportunities in downtown Los Angeles.
Collaborate with local jurisdictions to provide a network of local community circulators that serve new TOD, HQTAs, and neighborhood commercial centers providing an incentive for residents and employees to make trips on transit.	SCAG, CTCs, Local Jurisdictions	**Not Applicable.** This strategy is not applicable to the Project because implementation is the responsibility of local jurisdictions and agencies and not private developers. However, the Project would generally support the intent of this strategy because the Project would locate complementary commercial and residential uses in close proximity to existing off-site commercial and residential uses, within a quarter-mile of off-site commercial and residential uses, in a highly walkable area well-served by transit, as the Project is located in an HQTA as designated by SCAG.[131] The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and other non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions. The Project would improve pedestrian connectivity by providing a mid-block paseo between W. 1st Street and W. 2nd Street. Further, the Project would provide distinctive sidewalks, landscaping, wayfinding signage, ground-floor retail uses, and outdoor activity areas to attract and accommodate Civic Center visitors and neighborhood residents.

131 Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, page 77.

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Develop first-mile/last-mile strategies on a local level to provide an incentive for making trips by transit, bicycling, walking, or neighborhood electric vehicle or other ZEV options.	CTCs, Local Jurisdictions	**Consistent.** The Project would facilitate pedestrian and bicycle movements through and around the Project Site where the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park, and the Project would provide 1,274 bicycle parking spaces The Project would designate a minimum of 10 percent of on-site non-residential parking for carpool and/or alternative-fueled vehicles. In addition, the Project design will provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces, with 5 percent of the Code-required spaces further improved with electric vehicle charging stations . The Project would provide residents and retail/restaurant visitors with available LADOT and Metro regional transit information through the Transportation Demand Management (TDM) program (finalized TDM program to be reviewed and approved by the LADOT). The TDM program would incorporate commute trip reduction (CTR) marketing that may include: new employee orientation of trip reduction and alternative mode options, event promotions, and publications. The Project's TDM may also include providing on-site car share amenities, and providing rideshare program and a rideshare information center that provides assistance for Project employees and tenants regarding forming carpools or accessing transit alternatives (refer to Section IV.P, *Transportation and Traffic,* of the Project's Draft EIR, for additional information).
Encourage transit fare discounts and local vendor product and service discounts for residents and employees of TOD/HQTAs or for a jurisdiction's local residents in general who have fare media.	Local Jurisdictions	**Consistent.** The Project is located in a HQTA as designated by SCAG. In addition, the Project TDM program (finalized TDM program to be reviewed and approved by the LADOT) would include a variety of measures that would promote transit use by residents and employees through incentives. Incentives would be analyzed in the Project TDM and could include transit fare discounts (refer to Section IV.P, *Transportation and Traffic*, of the Project's Draft EIR for additional information).
Continue to support the California Interregional Blueprint as a plan that links statewide transportation goals and regional transportation and land use goals to produce a unified transportation strategy.	SCAG	**Not Applicable.** This strategy is not applicable to the Project because implementation is the responsibility of local jurisdictions and agencies and not private developers. However, the Project would generally support transportation and land use goals via the development of a mixed-use commercial and residential project in close proximity to existing off-site commercial and residential and commercial uses, and existing and future public transit. In addition, the Project is located in a HQTA, which is defined by the 2016 RTP/SCS as generally walkable transit villages or corridors that are within 0.5 mile of a well-serviced transit stop or transit corridor with 15-minute or less service frequency during peak commute hours.[132]
Transportation Demand Management (TDM) Actions and Strategies		
Support work-based programs that encourage emission reduction strategies and incentivize active transportation commuting or ride-share modes.	SCAG, Local Jurisdictions	**Consistent.** As part of the TDM program (finalized TDM program to be reviewed and approved by the LADOT), the Project would include programs that encourage emission reduction strategies, such as carpools and rideshare, bicycle by providing racks and showers, incentives for use of alternative travel modes, and parking incentives for carpools/vanpools.

[132] Southern California Association of Governments, The 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy, pages 75-77.

Actions and Strategies	Responsible Party(ies)	Consistency Analysis
Develop infrastructure plans and educational programs to promote active transportation options and other alternative fueled vehicles, such as neighborhood electric vehicles (NEVs), and consider collaboration with local public health departments, walking/biking coalitions, and/or Safe Routes to School initiatives, which may already have components of such educational programs in place.	Local Jurisdictions	**Consistent.** As part of the TDM program (finalized TDM program to be reviewed and approved by the LADOT), the Project would incorporate commute trip reduction (CTR) marketing that may include: new employee orientation of trip reduction and alternative mode options, event promotions, and publications. The Project's TDM may also include providing on-site car share amenities, and providing rideshare program and a rideshare information center that provides assistance for Project employees and tenants regarding forming carpools or accessing transit alternatives.
Clean Vehicle Technology Actions and Strategies		
Support subregional strategies to develop infrastructure and supportive land uses to accelerate fleet conversion to electric or other near zero-emission technologies. The activities committed in the two subregions (Western Riverside COG and South Bay Cities COG) are put forward as best practices that others can adopt in the future.	SCAG, Local Jurisdictions	**Consistent.** As discussed above, while the use of alternative-fueled vehicles is beyond the direct control or influence of the Project, the Project would not impair the City's or SCAG's ability to encourage the use of alternative-fueled vehicles through various policies and programs. Specifically, the Project would support a land use pattern that provides increased opportunity of use of alternative transportation modes by adding a high-density mixed-use development in downtown area located near transit and nearby land uses including retail, entertainment destinations, employment, etc. Additionally, the Project would encourage the use of alternative-fueled vehicles by designating a minimum of 8 percent of on-site parking for carpool and/or alternative-fueled vehicles, and the Project design would provide for the installation of the conduit and panel capacity to accommodate future electric vehicle charging stations into 20 percent of the parking spaces.

SOURCE: ESA, 2018.

5.1.3 City of Los Angeles LA Green Plan

The Project would be consistent with the City of Los Angeles *Green LA: An Action Plan to Lead the Nation in Fighting Global Warming* (LA Green Plan). The LA Green Plan outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities. **Table 7**, *Consistency with City of Los Angeles LA Green Plan*, provides a discussion of the Project's consistency with applicable GHG-reducing actions from the LA Green Plan. As discussed below, the Project would be consistent with the applicable goals and actions of the LA Green Plan.

5.1.4 City of Los Angeles Sustainable City pLAn

As discussed above, the Sustainable City pLAn includes both short-term and long-term aspirations through the year 2035 in various topic areas, including: water, solar power, energy-efficient buildings, carbon and climate leadership, waste and landfills, housing and development, mobility and transit, and air quality, among others. The Sustainable City pLAn provides information as to what the City will do with buildings and infrastructure in their control. Specific targets related to housing and development, and mobility and transit, include the construction of new housing units within 1,500 feet of transit by 2017, reducing vehicle miles traveled per capita by five percent by 2025, and increasing trips made by walking, biking or transit by at least 35 percent by 2025. As discussed in **Table 8**, *Consistency with City of Los Angeles Sustainable City*

pLAn, the Project would generally comply with these aspirations as the Project. Therefore, the Project would be consistent with the Sustainable City pLAn.

TABLE 7
CONSISTENCY WITH CITY OF LOS ANGELES GREEN LA PLAN

Action		Description	Consistency Analysis
Focus Area: Energy			
E6	Present a comprehensive set of green building policies to guide and support private sector development.	The City embarked on an effort to establish green building requirements, paired with incentives, for medium- to large-private projects. Buildings account for a majority of electricity use. Each building site is a microcosm of the environmental issues faced by the City, so addressing each site in a comprehensive manner will provide a variety of environmental benefits.	**Consistent.** The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1. The Project would incorporate energy efficiency measures as outlined in PDF AQ-1 and PDF AQ-2. As a result, the Project would be consistent with City's green building policies.
Focus Area: Water			
W1	Meet all additional demand for water resulting from growth through water conservation and recycling.	The Mayor's Office and LADWP developed the *Securing LA's Water Future* plan, which is an aggressive, multi-faceted approach to developing a locally sustainable water supply. The plan includes a set of key short-term and long-term strategies to secure our water future, such as: Short-Term Conservation Strategies: • Enforcing prohibited uses of water (levying fines and sanctions against water abusers and increase water conservation awareness). • Expanding the list of prohibited uses of water (possible further restrictions on watering landscape and washing/rinsing vehicles without a self-closing nozzle). • Extending outreach efforts, water conservation incentives, and rebates. • Encouraging regional conservation measures (encourage all water agencies in the region to adopt water conservation ordinances which include prohibited uses and enforcement). Long-Term Conservation Strategies: • Increasing water conservation through reduction of outdoor water use and new technology. • Maximizing water recycling. • Enhancing stormwater capture • Accelerating clean-up of the groundwater basin. • Expanding groundwater storage.	**Consistent.** While this action primarily applies to the City and LADWP, the Project would comply with the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and incorporate water efficiency measures defined in PDF AQ-1, PDF AQ-2 and PDF WS-1. The reductions would be achieved through the installation of water efficient fixtures that exceed applicable standards, drought-tolerant/California native plant species selection, irrigation system efficiency. As a result, the Project would be consistent with the applicable short- and long-term water conservation strategies.
W2	Reduce per capita water consumption by 20 percent.	See W1, above.	See W1, above.

Action		Description	Consistency Analysis
W3	Implement the City's innovative water and wastewater integrated resources plan that will increase conservation, and maximize use of recycled water, including capture and reuse of stormwater.	See W1, above.	See W1, above.
Focus Area: Transportation			
T8	Promote walking and biking to work, within neighborhoods, and to large events and venues.	Promoting alternate modes of travel will reduce the carbon emissions associated with single occupancy vehicles (SOVs). As described in Action Items LU1 and LU2, the City is promoting high-density and mixed-use housing close to major transportation arteries. Such developments will also support the advancement of Action Item T8, by improving accessibility for those who wish to walk and bike to work.	**Consistent.** The Project would facilitate pedestrian and bicycle movements through and around the Project Site where the Project provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park, and the Project would provide 1,274 bicycle parking spaces. It would also connect to the surrounding commercial and recreational areas. The Project would locate residential, retail, and restaurant uses within an area that is well-served by public transit, and has employment opportunities, restaurants and entertainment within walking distance. As a result, the Project would be consistent with this action.
Focus Area: Land Use			
LU1	Promote high-density housing close to major transportation arteries.	Promoting higher density housing in areas close to transportation stops is an important component of the City's General Plan. Higher density housing with good access to transit helps accommodate the City's growing population and helps relieve traffic congestion, by increasing ridership on public transit.	**Consistent.** The Project's residential uses are proposed on a Project Site in an urban infill location within the Downtown area of the City of Los Angeles. The Project would be located in a highly walkable area well-served by transit within a quarter-mile of the Project Site, including the existing Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line, and provides further connection to the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station, as well as the future 2nd and Broadway Metro Station being constructed as part of the Metro Regional Connector project; the regional freeway system; and multiple bus and shuttle lines. The Project's location and design are consistent with this City action.
LU2	Promote and implement transit-oriented development (TOD).	Transit Oriented Districts represent opportunities for creating cohesive, vibrant, walkable communities where fragmented, auto-dependent corridors now exist. TODs are a positive alternative to low-density traditional land use patterns that typically segregate housing, jobs and neighborhood services from one another. In contrast, TODs cluster these community elements in close proximity, so a greater portion of trips can be made by transit, bike, or on foot.	**Consistent.** The Project has many TOD features, such as co-locating complementary office, restaurant and residential land uses in close to proximity to existing off-site commercial and residential uses, being located within a quarter-mile of off-site commercial and residential uses, and being located in a highly walkable area well-served by transit within a quarter-mile of the Project Site. The increases in land use diversity and mix of uses on the Project Site would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions. As a result, the Project is consistent with this City action.

Action		Description	Consistency Analysis
Focus Area: Waste			
WsT1	Reduce or recycle 70% of trash by 2015.	Source reduction and recycling programs not only conserve natural resources and landfill space, but also confer climate benefits.	**Consistent.** The Project would be served by a solid waste collection and recycling service that will include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with citywide recycling targets. According to the City of Los Angeles *Zero Waste Progress Report* (March 2013), the City achieved a landfill diversion rate of approximately 76 percent by year 2012.[133] The Project would also comply with the City of Los Angeles Space Allocation Ordinance (171,687) which requires that developments include a recycling area or a room of a specified size on the Project Site.

SOURCE: City of Los Angeles, LA Green Plan, 2008; ESA, 2018.

TABLE 8
CONSISTENCY WITH CITY OF LOS ANGELES SUSTAINABLE CITY PLAN

Action	Description	Consistency Analysis
Focus Area: Environment		
Local Water	Lead the nation in water conservation and source the majority of water locally.	**Consistent**. The Project would comply with the applicable requirements of the State of California Green Building Standards Code and the City of Los Angeles Green Building Code and incorporate water efficiency measures as defined in the PDF WS-1. The reductions would be achieved through the installation of water efficient fixtures that exceed applicable standards, drought-tolerant/California native plant species selection, and irrigation system efficiency. The Project would not impair the City's and LADWP's ability to provide locally sourced water.
Local Solar	Increase Los Angeles' clean and resilient energy supplies by capturing energy from abundant sunshine.	**Consistent**. Building rooftop areas without landscaping, pool, deck, garden or other improvements will be constructed as solar-ready for the future installation of on-site solar photovoltaic (PV) or solar water heating (SWH) systems as required by the 2016 Title 24 Building Energy Efficiency Standards or applicable version at the time of building permit issuance.
Energy Efficient Buildings	Save money and energy by increasing the efficiency of buildings.	**Consistent**. The Project would be designed and operated to meet or exceed the applicable requirements of the State of California Green Building Standards Code, the City of Los Angeles Green Building Code, and LEED Silver Certification Requirements or equivalent as committed to in PDF AQ-1. The Project would incorporate energy efficiency measures as defined in the PDF AQ-1 and PDF AQ-2.

133 City of Los Angeles Department of Public Works, LA Sanitation, Zero Waste Progress Report, March 2013.

Action	Description	Consistency Analysis
Carbon and Climate Leadership	As a proactive leader on climate issues, strengthen Los Angeles' economy by dramatically reducing GHG emissions and rallying other cities to follow Los Angeles' lead.	**Consistent**. The Project would be designed to incorporate energy and water efficient designs that meet or exceed the 2016 Title 24 Building Energy Efficiency Standards and CALGreen Code standards and incorporate energy and water efficiency measures as defined in the PDF AQ-1, PDF AQ-2, and PDF WS-1, which would result in GHG emissions reductions. The Project would also be located in an area well served by multiple public transportation options and in a highly walkable environment, which would reduce transportation-related GHG emissions. Following the calculation protocol from the CAPCOA guidance, based on land use characteristics LUT-1, LUT-2, LUT-4, LUT-9, and SDT-1, in addition to the Transportation Impact Analysis trip rate reductions, the Project's VMT would be reduced by approximately 32.2 percent overall.
Waste and Landfills	Become the first big city in the United States to achieve zero-waste, and recycle and reuse most of its waste locally.	**Consistent**. The Project would be served by a solid waste collection and recycling service that may include mixed waste processing, and that yields waste diversion results comparable to source separation and consistent with citywide recycling targets. The Project would also comply with the City of Los Angeles Space Allocation Ordinance (171,687) which requires that developments include a recycling area or a room of a specified size on the Project Site.
Focus Area: Economy		
Mobility and Transit	Invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled.	**Consistent**. The Project would provide 1,127 residential units, a mix of retail and restaurant uses, and office uses in an area well served by multiple public transportation options and in a highly walkable environment, which would reduce vehicle miles traveled and transportation-related GHG emissions.

Action	Description	Consistency Analysis
Preparedness and Resiliency	Prepare for natural disasters and decrease vulnerability to climate change.	**Consistent**. The Project would be constructed to meet or exceed applicable requirements for fire, seismic, and other building safety standards. The Project would meet the applicable fire safety standards for residential and commercial buildings of the 2016 Title 24 California Building Code and California Fire Code or applicable version at the time of building permit issuance (refer to Section IV.L, *Fire Protection*, of the Project's Draft EIR for additional information). The Project would be constructed to meet the applicable seismic safety standards related to structural strength, means of egress to facilities (entering and exiting), and general stability of buildings of the 2016 Title 24 California Building Code or applicable version at the time of building permit issuance (refer to Section IV.D, *Geology and Soils*, of the Project's Draft EIR for additional information). As discussed in Section IV.G, *Hydrology and Water Quality*, of the Project's Draft EIR, the Project would result in less than significant impacts on drainage/flooding conditions. The Project would include emergency generators that would be tested and maintained to provide emergency lighting and electricity in the event of a power supply interruption.
Focus Area: Equity		
Air Quality	Healthy air to breathe.	**Consistent**. The Project would implement PDF AQ-1 which requires the Project's new buildings to meet the LEED Silver Certification Requirements or equivalent. As such, Project operations would include indoor air quality controls such as use of MERV 8 or higher air filtration systems, and the planting of 194 new trees, which would improve air quality. During construction, the Project would comply with applicable rules to minimize air pollutant emissions. As an example, the Project would comply with fugitive dust control measures included in SCAQMD Rule 403. The Project would result in a potentially significant air quality impact during construction from exhaust emissions of NO_X (refer to Section IV.B, *Air Quality*, of the Project's Draft EIR). However, the Project would be required to implement mitigation measure MM AQ-1 requiring the use of construction equipment that meet the most stringent Tier 4 emissions standards, which would reduce emissions to less than significant with the exception of a temporary and short-term NO_X emissions impact that would be significant and unavoidable during the continuous concrete pour foundation activities lasting up to approximately four days.

Action	Description	Consistency Analysis
Urban Ecosystem	Have access to parks, open space, including a revitalized Los Angeles River Watershed.	**Consistent**. As discussed in Section IV.N, *Parks and Recreation*, of the Project's Draft EIR, the Project would be located within a few miles of several nearby parks and within less than a quarter mile of Grand Park, City Hall Park, and dog park at 2nd Street and Spring Street, just south of the Los Angeles Police Department Headquarters, as well as the future Civic Center and Broadway park.
Livable Neighborhoods	Live in safe, vibrant, well-connected, and healthy neighborhoods.	**Consistent**. The Project would be support the development of vibrant, safe, and well-connected neighborhoods. The Project would provide landscaping that would complement the aesthetic character of the Project Site and its relationship to surrounding buildings where the Project-provided pedestrian paseo leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a connection to First and Broadway Civic Center Park. All of the open space areas would have landscaping, including a total of approximately 194 trees, and well-detailed hardscape.

SOURCE: City of Los Angeles, Sustainable City pLAn, 2008; ESA, 2018.

The analysis above describes the consistency of the Project with the applicable City GHG emissions reduction plans, policies, and regulations, including the City's LA Green Plan and the City's Sustainable City pLAn. As discussed in **Table 7** and **Table 8**, generally, the Project's consistency with the plans and policies should be demonstrated by a combination of regulatory compliance (green building code etc.) as well as project-specific characteristics and voluntary measures (e.g., PDFs). The Project would implement PDFs and incorporate water conservation, energy conservation, tree-planting, and other features consistent with these plans. Therefore, the Project would be consistent with the City's applicable plans, policies, or regulations for the reduction of GHG emissions.

5.1.4 Green Building Code

The Project would comply with the 2016 Los Angeles Green Building Code to reduce GHG emissions by increasing energy-efficiency beyond requirements, reducing indoor and outdoor water demand, installing energy-efficient appliances and equipment, and complying with 2016 California Title 24 Building Energy Efficiency Standards, as amended by the City. The Project would also meet the mandatory measures of the CALGreen Code as amended by the City by incorporating strategies such as low-flow toilets, low-flow faucets, low-flow showers, and other energy and resource conservation measures. The heating, ventilation, and air conditioning (HVAC) system would be sized and designed in compliance with the CALGreen Code to maximize energy efficiency caused by heat loss and heat gain.

5.1.5 Consistency with Executive Orders S-3-05 and B-30-15

The Executive Orders establish a goals to reduce GHG emissions to 80 percent below 1990 levels by 2050. This goal has not been codified by the Legislature and CARB has not adopted a strategy

or regulations to meet the 2050 goal. However, studies have shown that, in order to meet the 2050 goal, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its original *Climate Change Scoping Plan*, CARB acknowledged that the "measures needed to meet the 2050 goal are too far in the future to define in detail."[134] In the First Update, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."[135] The 2017 Scoping Plan recognizes that additional work is needed to achieve the more stringent 2050 target: "While the Scoping Plan charts the path to achieving the 2030 GHG emissions reduction target, we also need momentum to propel us to the 2050 statewide GHG target (80 percent below 1990 levels). In developing this Scoping Plan, we considered what policies are needed to meet our mid-term and long-term goals."[136] For example, the 2017 Scoping Plan acknowledges that "though Zero Net Carbon Buildings are not feasible at this time and more work needs to be done in this area, they will be necessary to achieve the 2050 target. To that end, work must begin now to review and evaluate research in this area, establish a planning horizon for targets, and identify implementation mechanisms."[137]

- **Energy Sector:** Continued improvements in California's lighting, appliance, and building energy efficiency programs and initiatives, such as the State's building energy efficiency standards and zero net energy building goals, would serve to reduce the Project's emissions level.[138] Additionally, further technological improvements and additions to California's renewable resource portfolio would favorably influence the Project's emissions level.[139]

- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the Project's emissions level.[140]

- **Water Sector:** The Project's emissions level will be reduced as a result of further enhancements to water conservation technologies.[141]

- **Waste Management Sector:** Plans to further improve recycling, reuse, and reduction of solid waste will beneficially reduce the Project's emissions level.[142]

This GHG Technical Report was prepared after thorough investigation of feasible methodologies to determine the potential GHG impacts associated with the Project. Due to the technological

134 California Air Resources Board, Climate Change Scoping Plan, December 2008, page 117.
135 California Air Resources Board, First Update, May 2014, page 32.
136 California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed December 2018.
137 California Air Resources Board, California's 2017 Climate Change Scoping Plan, November 2017.
138 California Air Resources Board, First Update, pages 37-39 and 85.
139 California Air Resources Board, First Update, pages 40-41.
140 California Air Resources Board, First Update, pages 55-56.
141 California Air Resources Board, First Update, page 65.
142 California Air Resources Board, First Update, page 69.

shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the Project's impacts further relative to the 2050 goal is speculative for purposes of CEQA. Despite thorough investigation, due to the uncertainty regarding specific state and local actions that will be implemented to achieve the 2050 GHG emission reduction targets, calculating Project emissions levels for 2050 would be highly speculative. Nonetheless, statewide efforts are underway to facilitate the State's achievement of those goals and it is reasonable to expect the Project's emissions level to decline as the regulatory initiatives identified by CARB in the 2017 Scoping Plan are implemented, and other technological innovations occur. Stated differently, the Project's emissions total at buildout represents the maximum emissions inventory for the Project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project would be consistent with the Executive Orders' goals.

In conclusion, the Project's consistency with applicable GHG reduction plans and policies plan as presented through **Tables 5, 6, 7,** and **8**, demonstrate that the Project is consistent with regulations and policies and comply with or exceed the regulations and reduction actions/strategies outlined in the Climate Change Scoping Plan, 2016 RTP/SCS, the LA Green Plan, and Sustainable City pLAn. Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, and Project-specific impacts with regard to greenhouse gas emissions.

5.2 Greenhouse Gas Emissions

As described above, compliance with a GHG emissions reduction plan renders a project less than significant. In support of the consistency analysis which describes the Project's compliance with or exceedance of performance-based standards included in the regulations and policies outlined in the applicable portions of the *Climate Change Scoping Plan*, the 2016–2040 RTP/SCS, the LA Green Plan, and the Sustainable City pLAn, quantitative calculations are provided below. The Project would generate an incremental contribution to and a cumulative increase in GHG emissions. A specific discussion regarding potential GHG emissions associated with the construction and operational phases of the Project is provided below.

5.2.1 Construction Emissions

The emissions of GHGs associated with construction of the Project were calculated for each year of construction activity using CalEEMod. Results of the GHG emissions calculations are presented on **Table 9**, *Estimated Unmitigated Construction Greenhouse Gas Emissions*. As presented therein, construction of the Project is anticipated to generate approximately 22,339 $MTCO_2e$. Construction of the Project is anticipated to begin in 2019, pending Project consideration and approval, and would be completed in late 2023. Construction of the Project is estimated to require approximately 48 months, starting as early as the third quarter of 2019. However, construction emissions were estimated assuming an earlier starting period. In order to provide a conservative emissions analysis, for modeling purposes, construction emissions were modeled with a starting time period in calendar year 2018. This is more conservative because

emission factors are higher for 2018 than 2019 as equipment and vehicles are anticipated to produce fewer GHG emissions over time due to more stringent requirements. It is estimated that 364,000 cubic yards (cy) of soil would be hauled from the Project Site during the grading and excavation phase. It should be noted that the GHG emissions shown in **Table 9** are based on construction equipment operating continuously throughout the work day. In reality, construction equipment tends to operate periodically or cyclically throughout the work day. Therefore, the GHG emissions shown reflect a conservative estimate.

Although GHGs are generated during construction and are accordingly considered one-time emissions, it is important to include them when assessing all of the long-term GHG emissions associated with a project. The draft SCAQMD indicators of significance recommend that construction-related GHG emissions be amortized over a project's 30-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies. In accordance with this methodology, the estimated Project's construction GHG emissions have been amortized over a 30-year period and are included in the annualized operational GHG emissions.

Due to the potential persistence of GHGs in the environment, impacts are based on annual emissions and, in accordance with SCAQMD methodology, construction-period impacts are not assessed independent of operational-period impacts, which are discussed in the next section.[143]

TABLE 9
ESTIMATED UNMITIGATED CONSTRUCTION GREENHOUSE GAS EMISSIONS

	$MTCO_2e$ per Year [a,b]	
Construction Year	**Project Without GHG Reduction Characteristics, Features, and Measures**	**Proposed Project**
Year 1 (2019) – Project (Tower Construction)	1,202	1,202
Year 2 (2020) – Project (Tower Construction)	5,153	5,153
Year 3 (2021) – Project (Tower Construction)	5,283	5,283
Year 4 (2022) – Project (Tower Construction)	4,981	4,981
Year 5 (2023) – Project (Tower Construction)	4,274	4,274
Year 1 (2019) – Renovations	350	350
Year 2 (2020) – Renovations	686	686
Year 3 (2021) – Renovations	410	410
Total	**22,339**	**22,339**
Amortized Emissions (30-years)	**745**	**745**

[a] Totals may not add up exactly due to rounding in the modeling calculations.

[b] CO_2e emissions are calculated using the global warming potential values from the Intergovernmental Panel on Climate Change Fourth Assessment Report: 25 for CH_4 and 298 for N_2O (Intergovernmental Panel on Climate Change, Fourth Assessment Report: The Physical Science Basis, Summary for Policy Makers, (2007))

143 South Coast Air Quality Management District, Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group #12, http://www.aqmd.gov/ceqa/handbook/GHG/2009/july29mtg/ghgmtg12.pdf. December 2018.

SOURCE: ESA, 2018.

5.2.2 Operational Emissions

GHG emissions associated with operation of the Project were calculated to disclose operational emissions from the Project and were estimated using the CalEEMod model. The Project is designed to include green building techniques and other sustainability features. The Project must comply with the portions of City's 2016 Green Building Code applicable to mixed-use/commercial development. Additionally, physical and operational Project characteristics for which sufficient data is available to quantify the reductions from building energy and resource consumption have been included in the quantitative analysis, and include, the following measures: installation of energy efficient appliances; low-water fixtures; water efficient irrigation; and building energy usage consistent with the 2016 California Title 24 Building Energy Efficiency Standards.

The Project's estimated mobile source emissions reflect the transportation-efficient location of the Project Site. The Project would represent an urban infill development, since it would be undertaken on a currently developed property, and would be located near existing off-site commercial, residential, and retail destinations and in close proximity to existing public transit stops. Infill development results in reduced vehicle trips and VMT, and reduced associated transportation-related emissions compared to a project without these characteristics. As discussed below under land use characteristic "Increased Transit Accessibility", because the Project comprises mixed uses including residential uses, and the Project Site is a previously developed "infill" site located within 750 feet of Metro's Los Angeles Civic Center/Grand Park Station and directly across W. 2nd Street from Metro's 2nd Street and Broadway Station (currently under construction), the Project meets the criteria of the City as a Transportation Priority Area (TPA).

As discussed above, CAPCOA has provided guidance for reducing emissions from land use development projects within its guidance document titled *Quantifying Greenhouse Gas Mitigation Measures.* The land use characteristics of the Project listed below are consistent with the CAPCOA guidance document, and would reduce vehicle trips to and from the Project Site and vehicle trip distances. These characteristics would, therefore, result in a corresponding reduction in transportation-related air pollutant and GHG emissions.

- **Increased Density:** Increased density, measured in terms of persons, jobs, and/or dwelling units per unit area, reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services. This characteristic corresponds to CAPCOA guidance strategy LUT-1.[144] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill[145] location and is mixed-use;

144 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 155-158.

145 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, p. 59-60. The project area meets the characteristics for an urban setting with respect to typical building heights of 6

therefore, this characteristic applies to the Project. The Project would increase the Project Site density to approximately 305 dwelling units per acre and would provide approximately 425 jobs per acre (refer to Section IV.J, *Population, Housing, and Employment*, Table IV.J-2 of the Project's Draft EIR, which provides employment data used to estimate the number of jobs per acre).[146]

- **Location Efficiency:** Location efficiency describes the location of a project relative to the type of urban landscape such as an urban area, compact infill, or suburban center. In general, compared to the statewide average, a project could realize VMT reductions up to 65 percent in an urban area, up to 30 percent in a compact infill area, or up to 10 percent in a suburban center for land use/location strategies.[147] This characteristic corresponds to CAPCOA guidance strategy LUT-2.[148] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location within Downtown Los Angeles and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the geographic location of the Project within the region. The Project Site is served by existing public transportation located within a quarter-mile. The Project Site is within an active urban center with many existing off-site commercial, entertainment, hotel, and residential buildings. The location efficiency of the Project Site would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average and would result in corresponding reductions in transportation-related emissions.

- **Increased Land Use Diversity and Mixed-Uses:** Locating different types of land uses near one another can decrease VMT since trips between land use types are shorter and could be accommodated by alternative modes of transportation, such as public transit, bicycles, and walking. This characteristic corresponds to CAPCOA guidance strategy LUT-3.[149] According

stories or much higher, grid street pattern, minimal setbacks, constrained parking, high parking prices, high quality rail service (i.e., Metro Red and Purple Lines at the Grand Park/Civic Center Station), location relative to regional cores (5 miles or less) and jobs/housing balance (the Central City Community Plan Area has an existing jobs/housing ratio of approximately 7.3 for year 2017; refer to Section IV.J, *Population and Housing*, of the Project's Draft EIR).

146 Based on employment density factors in the Los Angeles Unified School District, 2016 Developer Fee Justification Study, March 2017. As indicated in Section IV.J, *Population, Housing, and Employment*, Table IV.J-2, of the Project's Draft EIR, the projected employees would be 1,606. Given a Project size of 3.69 acres, the estimated jobs per acre would be 1,606 / 3.69 = 435.

147 CalEEMod, by default, assumes that trip distances in the South Coast Air Basin are slightly longer than the statewide average. This is due to the fact that commute patterns in the South Coast Air Basin involve a substantial portion of the population commuting relatively far distances, which is documented in the Southern California Association of Governments 2016-2040 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS). The RTP/SCS shows that, even under future Plan conditions, upwards of 50 percent of all work trips would be 10 miles or longer (SCAG, Performance Measures Appendix, page 13, 2016). The RTP/SCS does not specify the current percentage of work trips greater than 10 miles in the region, but it can be assumed that the percentage is currently greater than 50 percent since the goal of the RTP/SCS is to reduce overall VMT in the region. It is thus reasonable to assume that the trip distances in South Coast Air Basin are analogous to the statewide average given that the default model trip distances in the South Coast Air Basin are slightly longer but still generally similar to the statewide average. Therefore, projects could achieve similar levels of VMT reduction (65 percent in an urban area, 30 percent in a compact infill area, or 10 percent for a suburban center) compared to the South Coast Air Basin average.

148 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 159-161.

149 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 162-166.

to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings (also potentially for rural master-planned communities) for mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the percentage of each land use type in the Project. The Project would co-locate multi-family residential, office, retail, and restaurant land uses in close proximity to existing off-site commercial and residential uses, as well as major transit facilities. The increases in land use diversity and mix of uses on the Project Site, as well as proximity to transit, would reduce vehicle trips and VMT by encouraging walking and non-automotive forms of transportation.

- **Increased Destination Accessibility:** This characteristic corresponds to CAPCOA guidance strategy LUT-4.[150] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use, including residential, commercial, office, retail, and restaurant land uses; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the distance to Downtown Los Angeles or major job center. The Project Site is also located near other job centers in the region and within Downtown Los Angeles. The access to multiple destinations in close proximity to the Project Site would reduce vehicle trips and VMT compared to the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Increased Transit Accessibility:** Locating a project with high density near transit facilitates encourages the use of transit by people traveling to or from a project site. This characteristic corresponds to CAPCOA guidance strategy LUT-5.[151] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings (also potentially for rural settings adjacent to a commuter rail station with convenient access to a major employment center) for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include the distance to transit stations near the Project. The Project would be located within a quarter-mile of public transportation, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector Project. The Red Line connects the Civic Center to Union Station, Hollywood, and North Hollywood. The Red and Purple Lines provide further connection to three light rail transit lines serving downtown Los Angeles: the Blue and Expo Lines at the 7th Street/Metro Center Station and the Gold Line at Union Station. In addition, as part of the Metro Regional Connector Project, the future Historic Broadway Station would allow passengers to transfer to Blue, Expo, Red and Purple Lines, bypassing Union Station. The Project is also within a quarter mile of many Metro bus routes (e.g., local 2, 4, 10, 28, 81, 83, 90, 91, 94, and 302, which run northbound along Hill and Lines 30, 33, 40, 45, 68, 83, 84, 92, and 330, which run southbound along Spring Street), LADOT's Dash Downtown "D" line, and Metro's Rapid Lines 728, 733, 745, and 770. The Project would provide access to on-site

150 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 167-170.

151 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 171-175.

uses by providing a mid-block paseo to connect to existing pedestrian pathways. The Project would also provide parking for bicycles on-site to encourage utilization of alternative modes of transportation. The increased transit accessibility would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and result in corresponding reductions in transportation-related emissions.

- **Improve Design of Development:** Improved street network characteristics within a neighborhood enhances walkability and connectivity. Characteristics include street accessibility usually measured in terms of number of intersections (e.g., 4-way intersections) per square mile. This characteristic corresponds to CAPCOA guidance strategy LUT-9.[152] According to CAPCOA, the reduction in VMT from this characteristic applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. The Project would be located in a highly street-accessible area with over 100 four-way intersections within a 1-mile radius of the Project Site, which exceeds the standard intersection density assumed in baseline VMT modeling of 36 four-way intersections within a 1-mile radius per the CAPCOA guidance. The increased intersection density would reduce vehicle trips and VMT versus the statewide and South Coast Air Basin average, encourage walking and non-automotive forms of transportation, and would result in corresponding reductions in transportation-related emissions.

- **Provide Pedestrian Network Improvements:** Providing pedestrian access that minimizes barriers and links a project site with existing or planned external streets encourages people to walk instead of drive. This characteristic corresponds to CAPCOA guidance strategy SDT-1.[153] According to CAPCOA, the reduction in VMT from this characteristic applies to urban, suburban, and rural settings for residential, retail, office, industrial, and mixed-use projects. The Project is located in an urban infill location and is mixed-use; therefore, this characteristic applies to the Project. According to the CAPCOA guidance, factors that contribute to VMT reductions under this characteristic include pedestrian access connectivity within the Project and to/from off-site destinations. As discussed in Section 4.17, *Transportation and Traffic*, the walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. These attributes are quantified by WalkScore.com and assigned a score out of 100 points. With the various commercial businesses and recreational and entertainment facilities adjacent to the Project Site and proximity to public transit, the walkability of rating of the Project Site area is approximately 91 points;[154] this compares to the Citywide score of 67 points. As discussed in Chapter 2, *Project Description*, the Project would provide a full retail and service base at street level along all four edges of the Podium, including 1st Street, Broadway, 2nd Street, and the Paseo providing an interconnected streetscape environment with landscaping that buffers the scale and height of the new buildings. The Project would strengthen existing and new pedestrian connections and streetscapes through the use of landscaping, street trees, street furniture, lighting and signage. The Project would provide an internal pedestrian

152 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 182-185.

153 California Air Pollution Control Officers Association, Quantifying Greenhouse Gas Mitigation Measures, pages 186-189.

154 WalkScore.com (www.walkscore.com) rates the Project Site area (202 W 1st Street, Los Angeles, CA 90012) with a score of 91 of 100 possible points (scores accessed on November 8, 2017). Walk Score calculates the walkability of specific addresses by taking into account the ease of living in the neighborhood with a reduced reliance on automobile travel.

network for Project visitors and employees that links to the existing off-site pedestrian network including existing off-site sidewalks, and would therefore result in some reduction in VMT and associated transportation-related emissions.

The Project Transportation Impact Analysis already accounts for trip reductions from Increased Land Use Diversity and Mixed-Uses (LUT-3) and Increased Transit Accessibility (LUT-5). Therefore, VMT reductions for these characteristics were not included separate from the Transportation Impact Analysis to avoid double counting. Reductions in VMT were calculated for characteristics not included in the Transportation Impact Analysis, which include Increased Density (LUT-1), Location Efficiency (LUT-2), and Increased Destination Accessibility (LUT-4), Improved Design of Development (LUT-9), and Provide Pedestrian Network Improvements (SDT-1). Following the calculation protocol from the CAPCOA guidance, based on land use characteristics LUT-1, LUT-2, LUT-4, LUT-9, and SDT-1, in addition to the Transportation Impact Analysis trip rate reductions, the Project's VMT would be reduced by approximately 32.2 percent overall (refer to Appendix F-3 of this Technical Report for calculation details).

Maximum annual net GHG emissions resulting from motor vehicles, energy (i.e., electricity, natural gas), water conveyance and wastewater treatment, and solid waste were calculated for the expected opening year (2023). The maximum opening year GHG emissions from operation of the Project are shown in **Table 10**, *Project Annual Greenhouse Gas Emissions*. In addition, in order to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project, this analysis compares the Project's GHG emissions to the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures. This comparison is provided to evaluate the Project's efficiency with respect to GHG emissions but is not the threshold of significance used for impact analysis. Also, as shown above in **Table 5**, *Comparison of Project with Climate Change Scoping Plan GHG Reduction Measures,* this quantitative disclosure is correlated to the Climate Change Scoping Plan to the extent feasible.

As discussed previously, state, regional, and local GHG reduction plans and policies, such as CARB's Climate Change Scoping Plan, SB 375, and City of Los Angeles plans (LA Green Plan, Sustainable City pLAn) would be applicable to the Project. These plans and policies are intended to reduce GHG emissions in accordance with the goals of HSC Division 25.5. In order to evaluate the efficacy of the GHG reduction characteristics, features, and measures that would be implemented as part of the Project as required by these GHG reduction plans and policies, this analysis compares the Project's GHG emissions to the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures. This approach mirrors the concepts used in CARB's Climate Change Scoping Plan, which demonstrates GHG reductions compared to a NAT scenario.

It is well documented that CARB's Climate Change Scoping Plan's comparison to a NAT scenario was used to determine statewide efforts necessary to meet the 2020 AB 32 mandated levels, and not as a measure of GHG reduction efforts for a specific land use development. In addition, while other methodologies for calculating Project GHG reduction efficiencies exist, a comparison of Project GHG reduction efforts compared to an NAT provides valuable information regarding the efficiency of the Project's GHG reduction measures and is presented here for

informational purposes only. This analysis compares the Project's GHG emissions to the emissions that would be generated by the Project in the absence of any GHG reduction measures (i.e., the NAT scenario, which is also sometimes referred to as the No Implementation of Emission Reduction Measures ["NIERM"] calculation). It is not a threshold of significance, and is not used as the basis for any significance finding. Furthermore, this analysis is consistent with the most current regulatory policies and GHG quantification methods, however the scientific, regulatory environment regarding GHG reduction, and CEQA approaches for GHG analysis are constantly evolving and will continue to do so into the future.

The GHG emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures is quantified based on specific and defined circumstances in the context of relevant state activities and mandates. Since this comparison is intended to mirror the concepts used in CARB's Climate Change Scoping Plan, the GHG emissions for the Project without implementation of GHG reduction characteristics, features, and measures is evaluated based on the specific and defined circumstances that CARB relied on when it projected the State's GHG emissions in the absence of GHG reduction measures in the First Update to the Climate Change Scoping Plan.

The specific and defined circumstances used by CARB include conditions that existed during the 2009 to 2011 period, which include the vehicle fleet that existed during the 2009 to 2011 period and the 2008 Title 24 Building Energy Efficiency Standards. Furthermore, the specific Project Site characteristics and Project Design Features (PDF) such as PDF AQ-1, Green Building Features (refer to Section IV.B, *Air Quality*, of the Project's Draft EIR), and PDF WS-1, Water Conservation Features (refer to Section IV.R, *Water Supply*, of the Project's Draft EIR) are not included in the Project without implementation of GHG reduction characteristics as they encompass GHG reduction strategies and features that would be consistent with state, regional, and local GHG reduction plans and policies adopted after the 2009 to 2011 period or would go above and beyond regulatory requirements. The emissions for the Project without implementation of GHG reduction characteristics scenario are estimated using the CalEEMod software, and the model inputs are adjusted to account for the specific and defined circumstances and described above. The analysis assumes the Project without implementation of GHG reduction characteristics, features, and measures would incorporate the same land uses and building square footage as the proposed Project.

TABLE 10
ANNUAL GREENHOUSE GAS EMISSIONS

	Project CO_2e (Metric Tons per Year) [a]	
Emissions Sources	**Project Without GHG Reduction Characteristics, Features, and Measures**	**Proposed Project**
Existing Site (refer to Table 1)	**7,125**	**7,125**
Proposed Project Operational		
On-Road Mobile Sources	17,397	11,800
Stationary (Emergency Generators)	27	27

Emissions Sources	Project CO_2e (Metric Tons per Year) [a]	
	Project Without GHG Reduction Characteristics, Features, and Measures	Proposed Project
Area	20	20
Electricity	9,448	6,862
Natural Gas	1,869	1,846
Water Conveyance and Wastewater Treatment	663	505
Solid Waste	242	242
Construction (Amortized)	745	745
Proposed Subtotal	**30,411**	**22,047**
Percent Reduction (Project Only)	**—**	**28%**
Net Operational (Proposed – Existing)	**23,286**	**14,922**
Percent Reduction (Net Operational Total)	**—**	**36%**

[a] Totals may not add up exactly due to rounding in the modeling calculations.

SOURCE: ESA, 2018.

When considering only the Project's emissions and excluding the existing site emissions that would no longer occur after Project implementation, **Table 10** shows that the Project's operational emissions of 22,047 $MTCO_2e$ would be approximately 28 percent below the emissions that would be generated by the Project without implementation of GHG reduction characteristics, features, and measures. Thus, this analysis quantitatively demonstrates the efficacy of the Project GHG reduction measures as set forth in the applicable GHG reduction plans and policies. The 28 percent reduction in emissions is due to the following primary factors:

- **Reduction in vehicle trips and VMT associated with the Project's land use characteristics.** As discussed previously in subsection 5.1, the Project is an infill site located within a quarter-mile of public transportation, including the Metro Civic Center/Grand Park Station that serves two subway lines, the Red Line and Purple Line and the future 2nd and Broadway Metro Station being constructed as part of the Regional Connector Project in a highly walkable environment. These characteristics account for an approximately 32 percent reduction in Project VMT and associated emissions, and an approximately 18 percent reduction in total Project emissions.

- **Water conservation features.** (Refer to Section IV.R*, Water Supply*, of the Project's Draft EIR.) The Project would incorporate the following specific additional water conservation features.

    - High Efficiency Toilets with flush volume of 1.00 gallons per flush or less;

    - ENERGY STAR Certified Residential Clothes Washers – Front-loading with an Integrated Water Factor off 3.6 or less and a capacity of 4.3 cubic feet (cu ft);

- Showerheads with a flow rate of 1.5 gpm or less;
- Domestic Water Hearing System located close in proximity to point(s) of use;
- Individual Metering and billing for water use for commercial space;
- Drip/Surface Irrigation (Micro-Irrigation);
- Proper Hydro-zoning/Zoned Irrigation (group plants with similar water requirements together); and
- Drought Tolerant Plants – 70 percent of total landscaping.

The characteristics account for an approximately 24 percent reduction in Project water conveyance and wastewater treatment source emissions, and an approximately 0.5 percent reduction in total Project emissions.

- **Lower carbon intensity of electricity.** Under the Renewables Portfolio Standard, LADWP is required to reduce the carbon intensity of their electricity. The carbon intensity of LADWP electricity is 1,145 lbs/MWh for the "Project Without GHG Reduction Characteristics, Features, and Measures" scenario. Under the proposed Project buildout scenario, with implementation of the Renewables Portfolio Standard, the carbon intensity of LADWP electricity would be approximately 849 lbs/MWh (based on LADWP estimated 2020 GHG emissions and electricity supply, refer to Appendix F-3 of this Technical Report for additional details).[155,156] These characteristics account for an approximately 27 percent reduction in Project electricity emissions, and an approximately 9 percent reduction in total Project emissions.

The 2017 Climate Change Scoping Plan proposes a comprehensive set of actions designed to reduce overall carbon GHG emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The Climate Change Scoping Plan has a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 implementation fee to fund the program.

Table 11, *Comparison of Project with Climate Change Scoping Plan GHG Reduction Measures,* demonstrates how the Project's GHG reductions correlate to the emission reductions identified in the Climate Change Scoping Plan. It lists the GHG reduction measures identified in the Climate Change Scoping Plan and shows quantified estimates how of the emission reductions of the Project would be aligned with the estimated reductions from the Climate Change Scoping Plan. As stated above, this analysis is not presented as the method to analyze GHG impacts. Instead, the analysis is presented to quantify the Project's potential GHG emissions and correlate to GHG reduction policies in the Climate Change Scoping Plan, and thereby inform the threshold of significance

155 Los Angeles Department of Water and Power, 2016 Briefing Book, https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB423407&RevisionSelectionMethod=LatestReleased. Accessed December 2018.

156 California Energy Commission, Utility Energy Supply Plans from 2015, LADWP modified December 6, 2016, http://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2015/. Accessed December 2018.

below that demonstrates consistency with plans and policies adopted for the purpose of reducing GHG emissions.

TABLE 11
COMPARISON OF PROJECT WITH CLIMATE CHANGE SCOPING PLAN GHG REDUCTION MEASURES

Project Emission Category	Climate Change Scoping Plan GHG Reduction Measure	Climate Change Scoping Plan Measure Estimated Reduction ($MMTCO_2e$)	Project's GHG Reductions ($MTCO_2e$) [a]
Operational - Area	Low Carbon Fuel Standard	15	0
Operational – Energy (Electricity and Natural Gas)	Energy Efficiency	26.3	2,609
	Renewable Portfolio Standard	21.3	
	Million Solar Roofs	2.1	
Operational - Mobile	California Light-Duty Vehicle Greenhouse Gas Standards	31.7	5,597
	Low Carbon Fuel Standard	15	
	Regional Transportation GHG Targets	5	
	Vehicle Efficiency Measures	4.5	
Operational - Solid Waste	Recycling and Waste	1	0
Operational - Water	None Specified	N/A	158
Construction	Low Carbon Fuel Standard	15	0
	Medium/Heavy Duty Vehicles	1.4	

[a] The analysis conservatively assumed no reductions for the area and solid waste categories.

SOURCE: California Air Resources Board, Climate Change Scoping Plan, December 2008, https://www.arb.ca.gov/cc/scopingplan/document/scopingplandocument.htm. Accessed July 2017; ESA, 2018.

5.3 Conclusion

As set forth above, the Project would generate incrementally increased GHG emissions over existing conditions. However, even a very large individual project would not generate enough GHG emissions on its own to significantly influence global climate change. Moreover, as discussed above, the Project would be consistent with the Climate Change Scoping Plan, 2016 RTP/SCS, the LA Green Plan, and the Sustainable City pLAn. The Project's consistency with these applicable regulatory plans and policies to reduce GHG emissions, along with implementation of PDFs as discussed in the Project's Draft EIR, particularly PDF AQ-1 (Green Building Features) in Section IV.B, *Air Quality*, of the Project's Draft EIR, would minimize the Project's GHG emissions. In summary, the plan consistency analysis provided above demonstrates that the Project's design features are consistent with regulations and policies and comply with or exceed the regulations and reduction actions/strategies outlined in the Climate Change Scoping Plan, 2016 RTP/SCS, the LA Green Plan, and Sustainable City pLAn. **Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs, and Project-specific impacts with regard to climate change would be less than significant.**

SECTION 6
Cumulative Impacts

Although the Project is expected to emit GHGs, the emission of GHGs by a single project into the atmosphere is not itself necessarily an adverse environmental effect. Rather, it is the increased accumulation of GHG from more than one project and many sources in the atmosphere that may result in global climate change. The resultant consequences of that climate change can cause adverse environmental effects. A project's GHG emissions typically would be very small in comparison to state or global GHG emissions and, consequently, they would, in isolation, have no significant direct impact on climate change. The state has mandated a goal of reducing statewide emissions to 1990 levels by 2020, even though statewide population and commerce are predicted to continue to expand. In order to achieve this goal, CARB is in the process of establishing and implementing regulations to reduce statewide GHG emissions. Currently, there are no applicable CARB, SCAQMD, or City of Los Angeles significance thresholds or specific reduction targets, and no approved policy or guidance to assist in determining significance at the project or cumulative levels. Additionally, there is currently no generally accepted methodology to determine whether GHG emissions associated with a specific project represents new emissions or existing, displaced emissions. Therefore, consistent with CEQA Guidelines Section 15064h(3),[157] the City, as lead agency, has determined that the Project's contribution to cumulative GHG emissions and global climate change would be less than significant if the Project is consistent with the applicable regulatory plans and policies to reduce GHG emissions: AB 32 Climate Change Scoping Plan, SCAG's Regional Transportation Plan/Sustainable Communities Strategy, the City of Los Angeles' LA Green Plan, and Sustainable City pLAn.

Table 10 on page 85 illustrates that implementation of the Project's regulatory requirements and project design features, including state mandates, would contribute to GHG reductions. These reductions represent a reduction from NAT and support state goals for GHG emissions reduction. The methods used to establish this relative reduction are consistent with the approach used in CARB's Climate Change Scoping Plan for the implementation of AB 32.

[157] The State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction program renders a cumulative impact insignificant. Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project will comply with an approved plan or mitigation program that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such a plan or program must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, [and] plans or regulations for the reduction of greenhouse gas emissions."

The Project is consistent with the approach outlined in CARB's Climate Change Scoping Plan, particularly its emphasis on the identification of emission reduction opportunities that promote economic growth while achieving greater energy efficiency and accelerating the transition to a low-carbon economy. In addition, as recommended by CARB's Climate Change Scoping Plan, the Project would use "green building" features as a framework for achieving GHG emissions reductions as new buildings would be designed to achieve the standards of the Silver Rating under LEED.

As part of SCAG's 2016 RTP/SCS, a reduction in VMT within the region is a key component to achieving the 2020 and 2035 GHG emission reduction targets established by CARB. As discussed previously, Project would result in a VMT reduction of approximately 32 percent (based on calculation protocol from the CAPCOA guidance, which includes reductions for land use characteristics LUT-1, LUT-2, LUT-4, LUT-9, and SDT-1) in comparison to the NAT scenario and would be consistent with the reduction in transportation emission per capita provided in the 2016 RTP/SCS.

Additionally, the Project has incorporated sustainability design features in accordance with regulatory requirements as provided throughout the Project's Draft EIR, mitigation measures, and project design features to reduce VMT and to reduce the Project's potential impact with respect to GHG emissions. With implementation of these features, the Project results in a 36-percent reduction in net GHG emissions from the NAT scenario. The Project's GHG reduction measures make the Project consistent with AB 32.

As discussed in Section IV.B, *Air Quality*, and in Section IV.H, *Land Use and Planning*, of the Project's Draft EIR, the Project would be consistent with applicable land use policies of the City of Los Angeles and SCAG pertaining to air quality, including reducing GHG emissions.

The Project also would comply with the LA Green Plan, as shown in **Table 7**, which emphasizes improving energy conservation and energy efficiency, increasing renewable energy generation, and changing transportation and land use patterns to reduce auto dependence. The Project would also comply with the City of Los Angeles Green Building Code, which emphasizes improving energy conservation and energy efficiency, and increasing renewable energy generation. The Project's regulatory requirements and project design features provided above and throughout the Project's Draft EIR would advance these objectives. Furthermore, the related projects would also be anticipated to comply with many of these same emissions reduction goals and objectives (e.g., City of Los Angeles Green Building Code).

As discussed above, the Project is consistent with the applicable GHG reduction plans and policies. The NAT comparison demonstrates the efficacy of the measures contained in these policies. Moreover, while the Project is not directly subject to the Cap-and-Trade Program, that Program will indirectly reduce the Project's GHG emissions by regulating "covered entities" that affect the Project's GHG emissions, including energy, mobile, and construction emissions. More importantly, the Cap-and-Trade Program will backstop the GHG reduction plans and policies applicable to the Project in that the Cap-and-Trade Program will be responsible for relatively more emissions reductions if California's direct regulatory measures reduce GHG emissions less

than expected. The Cap-and-Trade Program will ensure that the GHG reduction targets of AB 32 are met.

Recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target. Subsequent to the findings of these studies, SB 32 was passed on September 8, 2016, which would require CARB to ensure that statewide GHG are reduced to 40 percent below the 1990 emissions level by 2030. As discussed above, the new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

As discussed above, SCAG's 2016-2040 RTP/SCS establishes a regulatory framework for achieving GHG reductions from the land use and transportation sectors pursuant to SB 375 and the state's long-term climate policies. The 2016-2040 RTP/SCS ensures VMT reductions and other measures that reduce regional emissions from the land use and transportation sectors. Specifically, the 2016–2040 RTP/SCS would result in an estimated 8 percent decrease in per capita GHG emissions by 2020, an 18-percent decrease in per capita GHG emissions by 2035, and a 21-percent decrease in per capita GHG emissions by 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21-percent decrease in per capita GHG emissions by 2040 (an additional 3-percent reduction in the five years between 2035 [18 percent] and 2040 [21 percent]), the 2016–2040 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the state's GHG emission reduction goals.

The Project is the type of land use development that is encouraged by the RTP/SCS to reduce VMT and expand multi-modal transportation options in order for the region to achieve the GHG reductions from the land use and transportation sectors required by SB 375, which, in turn, advances the state's long-term climate policies. By furthering implementation of SB 375, the Project supports regional land use and transportation GHG reductions consistent with state climate targets for 2020 and beyond. In addition, as demonstrated above in **Table 6**, the Project would be consistent with the Actions and Strategies set forth in the 2016–2040 RTP/SCS. Therefore, the Project would be consistent with the 2016–2040 RTP/SCS.

Thus, given the Project's consistency with state, SCAG, and City of Los Angeles GHG emission reduction goals and objectives, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. **In the absence of adopted standards and established significance thresholds, and given this consistency, it is concluded that the Project's incremental contribution to greenhouse gas emissions and their effects on climate change would not be cumulatively considerable.**

SECTION 7
Summary of Results

Greenhouse gas emissions associated with the Project have been evaluated to determine the level of impact from construction activities and future operations of the Project. The Project would be consistent with the City of Los Angeles LA Green Plan and Sustainable City pLAn and is consistent with applicable SCAG 2016 RTP/SCS policies intended to meet the region's GHG reduction targets as assigned by CARB. The Project would also substantially comply with or exceed the GHG reduction actions and strategies outlined in CARB's Climate Change Scoping Plan. Thus, the Project's GHG emissions are consistent with regulatory schemes intended to reduce GHG emissions. Therefore, the Project would result in less than significant GHG emissions based on its consistency with local and regional GHG emissions reduction strategies.

Emissions associated with construction and operation were estimated for the Project. Construction of the Project would result in temporary and incremental increases to GHG emissions through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the Project Site. GHG emissions associated with Project operations would be generated by the consumption of electricity and natural gas and by the operation of on-road vehicles. The Project would implement green building measures that reduce the Project's direct and indirect GHG emissions. With the implementation of the Project's green building measures, the Project would be consistent with local, regional, and State's plans and programs adopted for the purpose of reducing the emissions of GHGs. Accordingly, the project would not result in a cumulatively considerable impact to global climate change.

The GHG emissions analysis in this Technical Report was performed in accordance with SCAQMD and CARB guidance developed in compliance with, and as a result of, those regulations and programs. The result of the analysis of the Project's potential impacts in terms of GHG and global climate change indicates that the Project-related GHG emissions would not be expected to cause a direct physical change in the environment. Therefore, the Project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

Appendix F

Greenhouse Gas Technical Report Appendix

ESA

F-1 Existing Site Operational Emissions

Onni Times Square last update: 2/12/2018
Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Table 1: CalEEMod Land Use Inputs

Land Use	CalEEMod Land Use Type	Units [a]				Res. Pop.
Existing Uses to be Demolished/Removed						
Executive Building	General Office	176.26	gross ksf	176,258	gross sf	
Executive Building Bank	Bank (With Drive Through)	7.50	gross ksf	7,500	gross sf	
Corporate Garage	Parking Structure	44.31	gross ksf	44,306	gross sf	
Total Existing Uses to be Demolished/Removed		***228.06***	***gross ksf***	***228,064***	***gross sf***	
Existing Uses to Remain						
Times Building	General Office	116.11	gross ksf	116,113	gross sf	
Plant Building	General Office	79.34	gross ksf	79,340	gross sf	
Cafeteria	High-turnover (Sit-down) Restaurant	11.25	gross ksf	11,250	gross sf	
Mirror Building	General Office	169.40	gross ksf	169,402	gross sf	
Total Existing Uses to Remain		376.11	gross ksf	376,105	gross sf	
Total Existing Uses		***604.17***	***gross ksf***	***604,169***	***gross sf***	
Renovation of Existing Buildings						
Times (Times North) rooftop restoration of old design						
Plants Building (Rooftop:Mechanical Equipment to Office Terrace)						
Times (Times North), Plant and Mirror (Times South) Buildings Renovation - Commercial (grocery store, retail with office space on 2nd-4th floor)						
Renovations		1,406.000				
Commerical Office use	General Office	285.088	ksf	285,088	gross sf	
Ground-floor Restaurant	High-Turnover Restaurant	18.817	ksf	18,817	gross sf	
Upper-floor Office (Conservatively Modeled as Restaurant)	Quality Restaurant	22.200	ksf	22,200	gross sf	
Grocery Store	Supermarket	50.000	ksf	50,000	gross sf	
	Total	**376.105**	**ksf**	**376,105**	**gross sf**	
Project						
North Tower (location of Executive Building)	High-Rise Apartment	450	DU			
South Tower (location of former Parking Garage)	High-Rise Apartment	677	DU			
Total Residential		1,127	DU	1,071,692	sf	1,894
Loading	Other Non-Asphalt Surfaces	2.586	ksf	2,586	sf	
Podium Retail/Commercial	High-Turnover Restaurant	34.572	ksf	34,572	sf	
Total Towers Floor Area				***1,108,850***	***sf***	
Project Common Space/Common Space Amenities						
Residential Private Amenities						
Private Balconies (50 sf each)	Other Non-Asphalt Surfaces	56.349	ksf	56,349	sf	
Residential Outdoor Amenities						
Level 6 - Residential Terrace	City Park	28.777	ksf	28,777	sf	
Level 1 - Paseo/Plaza	Other Non-Asphalt Surfaces	15.708	ksf	15,708	sf	
Residential Indoor Amenities						
Level 1 - Lounge (North Tower)	General Office	3.025	ksf	3,025	sf	
Level 6 - Amenity (N Tower) + Level 6 - Amenity (S Tower)	Health Club	25.618	ksf	25,618	sf	
Total Residential Common Space/Common Space Amenities		***129.477***	***ksf***	***129,477***	***sf***	
Subterranean Parking Structure	Enclosed Parking with Elevator	1,410	spaces	**564,000**	**sf**	
Podium Parking Structure	Enclosed Parking with Elevator	334	spaces	**133,600**	**sf**	
Total Parking		***1,744***	***spaces***			
Total Floor Area				***1,935,927***	***sf***	
Residential Bicycle Parking	N/A	1,274	bicycle spaces			
Trees	N/A	194	provided			
Lot Area		3.69	acres	160,578	sf	

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Notes:
a. Square footage values may be rounded up to provide a conservative analysis.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Table 2: Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Site Prep/ Demo (Tons)[b]	Truck Capacity (Tons)	Truck Total One-Way Trips	Trucks One-Way Distance	Truck Daily One-Way Trips	Soil Export (CY)[b]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Trucks One-Way Distance	Soil Haul Truck Daily One-Way Trips	Concrete Mat Volume (CY)[b]	Concrete Truck Capacity (CY)	Concrete Truck Total One-Way Trips	Concrete Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day[c]	Worker One-Way Trips/Max Day[c]
Project																				
Demolition	7/1/2018	1/31/2019	184	35,000	20	3,500	22.1	20												58
Site Preparation	2/1/2019	2/28/2019	24																	58
Grading and Excavation	3/1/2019	9/30/2019	183						364,000	-	14.25	51,088	22.1	280						60
Foundations/Concrete Pour (North Tower)	10/1/2019	10/2/2019	2												9,366	10	1,874	1,406		38
Foundations/Concrete Pour (South Tower)	10/3/2019	10/4/2019	2												7,817	10	1,564	1,173		38
Subterranean Parking Structure	10/5/2019	6/26/2020	228												45,702	10	9,141	40	262	1,190
Podium Construction	6/29/2020	8/28/2020	53												25,106	10	5,022	95	262	1,186
Building Construction	8/31/2020	10/8/2022	660												28,577	10	5,716	9	262	1,186
Paving	3/1/2022	10/8/2022	191																	33
Architectural Coating	1/1/2021	10/8/2022	554																	237
Renovation [a]	7/1/2018	8/8/2020	660																	124

Notes:
a. Renovation activity could occur at a later time. In order to provide a conservative assessment, renovation activity was modeled at the earliest possible time since emission factors are higher in earlier years compared to later years.
b. Demolition debris quantities, Soil export quantities and concrete quantities provided by the Omni Group.
c. Vendor Trips and Worker trips are based on CalEEMod assumptions.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Existing: Omni Times Square
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

Existing

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	

Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction =	**28.08%**	Cap: 75%
(Includes double counting correction.)		
Total LUT/SDT/PDT/TST VMT Reduction =	**28.08%**	Cap: 70%

Land Use/Location Transportation Measures (65% Reduction Cap)

Total LUT % VMT Reduction = **27.36%** Cap: 65%

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction =	0.35%	Cap: 30%
Number of DU/acre:	-	A = 0%
Number of Jobs/acre:	646.6	A = 500%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap:	65%
Compact Infill LUT % VMT Reduction Cap:	30%
Suburban Center LUT % VMT Reduction Cap:	10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction =	0.00%	Cap: 30%
Single family sqft:	-	a_1 = -
Multi-family sqft:	-	a_2 = -
Commercial sqft:	-	a_3 = -
Industrial sqft:	-	a_4 = -
Institutional sqft:	-	a_5 = -
Park sqft:	-	a_6 = -
Total sqft:	-	

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction =	7.33%	Cap: 20%
Miles to downtown or job center:	7.6	

(Average distance to: Hollywood and Downtown L.A.
These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5	Increase Transit Accessibility	% VMT Reduction = Transit × B [not to exceed 30%] Transit = % project transit - % typical ITE transit % project transit = -50x + 38 [where x = 0 - 0.5 miles to transit] -4.4x + 15.2 [where x = 0.5 - 3 miles to transit] % typical ITE transit = 1.3% B = 0.67	% VMT Reduction = 0.00% Miles to transit: (Note: Only effective for 3 miles or less)	Cap: 30%
(ACOUNTED FOR IN TRAFFIC STUDY)				
LUT-6	Integrated Affordable and Below Market Rate Housing	% VMT Reduction = 4% × % units BMR	% VMT Reduction = 0.00% % of units below market rate: 0.0% (Note: Only effective up to 30%)	
LUT-7	Orient Project Toward Non-Auto Corridor	Not quantified separately; Assumed to be included in LUT-3 (If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)		
LUT-8	Locate Project near Bike Path/Bike Lanes	Not quantified separately; Assumed to be included in LUT-4 (If included in LUT-4, VMT reduction should be at least 0.625%)		
LUT-9	Improve Design of Development	% VMT Reduction = Intersections × B Intersections = % increase vs. typical ITE suburban = (Intersections per square mile of project - 36) / 36 B = 0.12	% VMT Reduction = 21.33% Intersections per square mile: 100 (Estimated based on count of 4-way intersections within 1 mile radius of project site.) (Note: Only effective up to 100)	
Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)			**Total SDT % VMT Reduction = 1.00%**	Cap: 5% without NEV Cap: 15% With NEV
SDT-1	Provide Pedestrian Network Improvements	VMT reduction based on urban/rural context and pedestrian accomodations	% VMT Reduction = 1.00% Pedestrian network on-site and connecting off-site (urban/suburban): 2% Pedestrian network on-site (urban/suburban): X 1% (Mark an "X" in one of the above)	
SDT-2	Provide Traffic Calming Measures	Marked crosswalks, count-down signal timers, curb extensions, speed tables, rasied crosswalks, raised intersections, median islands, tight corner radii, roundabouts, on-street parking, planter strips with trees, chicanes/chokers, and others.	% VMT Reduction = 0.00% 25% of streets with improvements: A 50% of streets with improvements: B 75% of streets with improvements: C 100% of streets with improvements: D 25% of intersctions with improvements: W 50% of intersctions with improvements: X 75% of intersctions with improvements: Y 100% of intersctions with improvements: Z (Mark an "X" in one of the above for each group)	

% of intersections with improvements

	% of streets with improvements: A	B	C	D
W	0.25%	0.25%	0.50%	0.50%
X	0.25%	0.50%	0.50%	0.75%
Y	0.50%	0.50%	0.75%	0.75%
Z	0.50%	0.75%	0.75%	1.00%

SDT-3	Neighborhood Electric Vehicle Network	% VMT Reduction = Pop × Number × NEV Pop × Number = NEVs per household [0.04 to 1.0] NEV = VMT reduction rate per household [12.7%]	% VMT Reduction =	0.00%	
			Low NEVs per Household:	0.04	
			High NEVs per Household:	1.0	
			(Mark an "X" in one of the above)		
SDT-4	Create Urban Non-Motorized Zones	Not quantified separately; Assumed to be included in SDT-1 (If included in SDT-1, VMT reduction should be at least 0.01% to 0.2%)			
SDT-5	Incorporate Bike Lane Street Design	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 1% of worker commute per additional mile of bike lanes per square mile)			
SDT-6	Provide Bike Parking in Non-Residential Projects	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 0.625%)			
SDT-7	Provide Bike Parking in Multi-Unit Residential Projects	Not quantified separately; Assumed to be included in LUT-9			
SDT-8	Provide Electric Vehicle Parking	Not quantified separately; Assumed to be included in SDT-3			
SDT-9	Dedicated Land for Bike Trails	Not quantified separately; Assumed to be included in LUT-9			
Parking Policy/Pricing (20% Reduction Cap)			**Total PDT % VMT Reduction =**	**0.00%**	Cap: 20%
PDT-1	Limit Parking Supply	% VMT Reduction = = (Actual Parking - ITE Parking) / ITE Parking × 0.5	% VMT Reduction =	0.00%	Cap: 12.50%
			Actual Parking Spaces:	-	
			ITE Parking Spaces:	-	
PDT-2	Unbunble Parking Costs from Property	% VMT Reduction = Change in vehicle cost × elasticity × A Change in vehicle cost = Monthly parking cost × (12/$4000) Elasticity = 0.4 A = 85%	% VMT Reduction =	0.00%	Cap: 13%
			Monthly parking cost:	$ -	
PDT-3	Implement Market Price Public Parking (On-Street)	% VMT Reduction = Park$ × B Park$ = Percent increase in on-street parking prices [minimum of 25%] B = 0.11	% VMT Reduction =	0.00%	Cap: 5.5%
			Actual On-Street Parking Price:	$ -	
			Baseline On-Street Parking Price:	$ -	
PDT-4	Require Residential Area Parking Permits	Not quantified separately; Assumed to be included in PDT-1, -2-, and -3 (If included in LUT-9, VMT reduction should be at least 0.09% to 0.36% depending on land use)			

Transit System Improvements (10% Reduction Cap)

Total TST % VMT Reduction = **0.00%** Cap: 10%

TST-1	Provide a Bus Rapid Transit System	% VMT Reduction = Riders × Mode × Lines × D Riders = 28% Mode = 17% Urban Center 4% Urban 1.30% Suburban Lines = Percent of lines serving project converting to BRT D = 0.67	% VMT Reduction = 0.00% Cap: 3.2% Urban Center: 17% Urban: 4% Suburban: 1.30% (Mark an "X" in one of the above) Lines Converting to BRT: 0% Total Baseline Lines:			
TST-2	Implement Transit Access Improvements	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-3	Expand Transit Network	% VMT Reduction = Coverage × B × Mode × D Coverage = % increase in transit network coverage B = 0.65 Urban Center 0.72 Urban 1.01 Suburban Mode = 17% Urban Center 4% Urban 1.30% Suburban D = 0.67	% VMT Reduction = 0.00% Cap: 8.2% Urban Center: 17% 0.65 Urban: 4% 0.72 Suburban: 1.30% 1.01 (Mark an "X" in one of the above) Coverage:			
TST-4	Increase Transit Service Frequency/Speed	% VMT Reduction = Headway × B × C × Mode × E Headway = % reduction in headways [15% - 80%] B = 0.32 Urban 0.36 Suburban C = 50% < 50% lines improved 85% >= 50% lines improved Mode = 17% Urban Center 4% Urban 1.30% Suburban E = 0.67	% VMT Reduction = 0.00% Cap: 2.5% Urban Center: 17% 0.32 Urban: 4% 0.32 Suburban: 1.30% 0.36 (Mark an "X" in one of the above) Headway: Percent of Lines Improved:			
TST-5	Provide Bike Parking Near Transit	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-6	Provide Local Shuttles	Not quantified separately; Assumed to be included in TST-3 and -4				

Commute Trip Reduction (25% Reduction Cap - WORK VMT ONLY)

Total TRT % Work VMT Reduction = **0.00%** Cap: 25%
% Work VMT of Total VMT: **2.5%**
Total TRT % Overall VMT Reduction = **0.00%** Cap: 15%

TRT-1	Implement Voluntary Commute Trip Reduction Program	% Work VMT Reduction = A × B A = 6.2% Urban 5.4% Suburban Center 5.2% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 6.2% Urban: 6.2% Suburban Center: 5.4% Suburban: 5.2% (Mark an "X" in one of the above) % Employees Eligible:			

TRT-2 — Implement Required Commute Trip Reduction Program

% Work VMT Reduction = A × B
A = 21%
B = % employees eligible

% Work VMT Reduction = 0.00% Cap: 21.0%

% Employees Eligible:

TRT-3 — Provide Ride-Sharing Programs

% Work VMT Reduction = Commute × Employee
Commute = 15% Urban; 10% Suburban Center; 5% Suburban
Employee = % employees eligible

% Work VMT Reduction = 0.00% Cap: 15.0%

Urban:		15%
Suburban Center:		10%
Suburban:		5%

(Mark an "X" in one of the above)

% Employees Eligible:

TRT-4 — Implement Subsidized or Discounted Transit Program

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 20.0%

Urban:		A
Suburban Center:		B
Suburban:		C
Transit Subsidy: $0.75		W
Transit Subsidy: $1.49		X
Transit Subsidy: $2.98		Y
Transit Subsidy: $5.96		Z

(Mark an "X" in one of the above for each group)

% Employees Eligible:

Daily Transit Subsidy

Setting	W	X	Y	Z
A	6.2%	12.9%	20%	20%
B	3.4%	7.3%	16.4%	20%
C	1.5%	3.3%	7.9%	20%

TRT-5 — Provide End of Trip Facilities

Not quantified separately; Assumed to be included in TRT-1 through -3
(If included, Work VMT reduction should be 2% to 5%, or total VMT reduction should be 0.02% to 0.625%)

TRT-6 — Encourage Telecommuting and Alternate Work Schedules

% Reduction in Commute VMT

% Work VMT Reduction = 0.00% Cap: 5.5%

9-day/80-hour Work Week:		A
4-day/40-hour Work Week:		B
Telecommuting 1.5 Days:		C
Employee Participation: 1%		V
Employee Participation: 3%		W
Employee Participation: 5%		X
Employee Participation: 10%		Y
Employee Participation: 25%		Z

(Mark an "X" in one of the above for each group)

Employee Participation

Schedule	V	W	X	Y	Z
A	0.07%	0.21%	0.35%	0.70%	1.75%
B	0.15%	0.45%	0.75%	1.50%	3.75%
C	0.22%	0.66%	1.10%	2.20%	5.50%

TRT-7 — Implement Commute Trip Reduction Marketing

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips [4%]
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 4.0%

% Employees Eligible:

TRT-8 — Implement Preferential Permit Parking Program

Not quantified separately; Assumed to be included in TRT-1 through -3

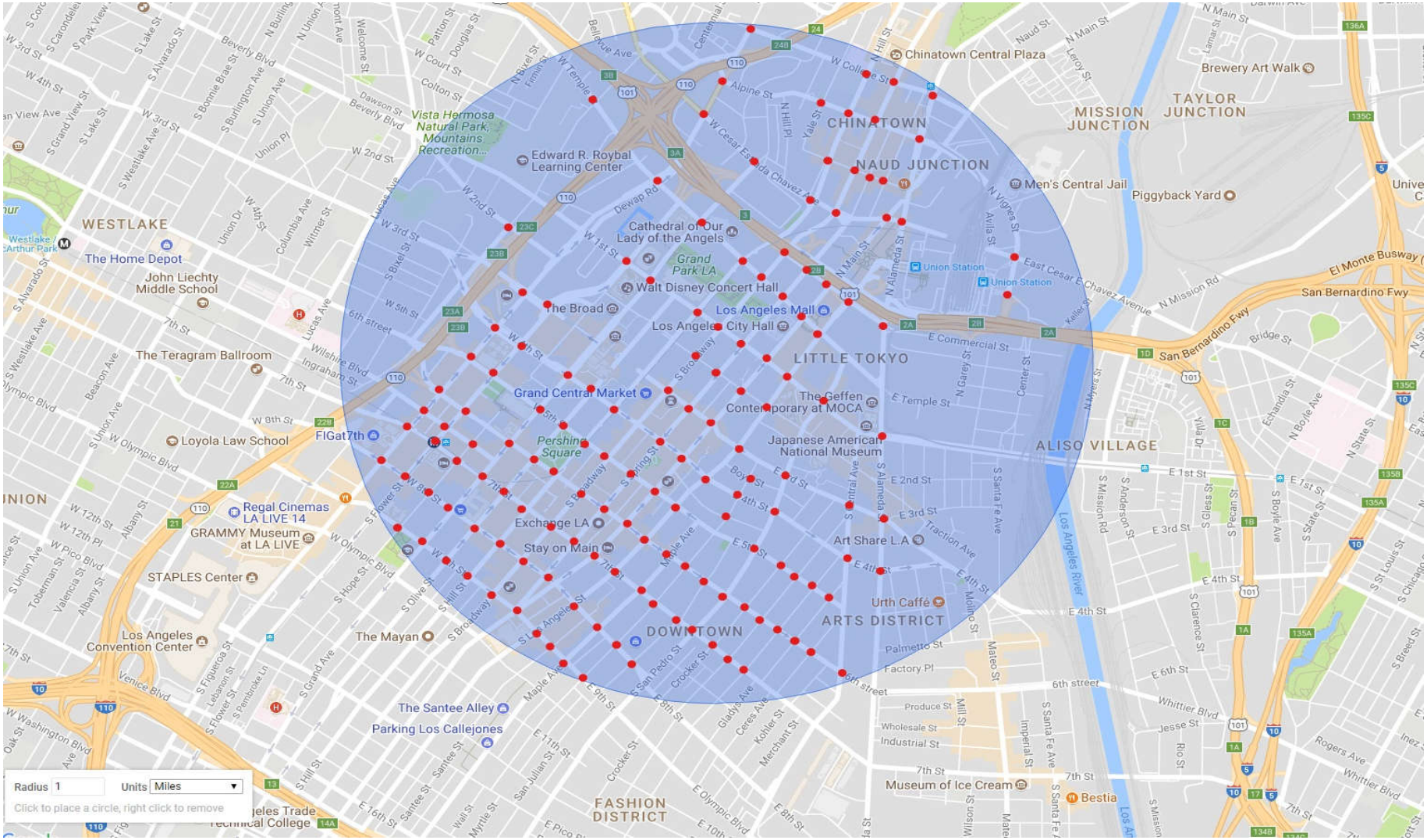
TRT-9	Implement Car-Sharing Program	% Work VMT Reduction = A × B / C A = % reduction in car-share member annual VMT [37%] B = number of car share members per shared car [20] C = 1,000 Urban 2,000 Suburban	% Work VMT Reduction = 0.00% Cap: 0.74% Urban: 1,000 Suburban: 2,000 (Mark an "X" in one of the above)
TRT-10	Implement a School Pool Program	Not applicable.	
TRT-11	Provide Employer-Sponsored Vanpool/Shuttle	% Work VMT Reduction = A × B × C A = % shift in vanpool mode share of commute trips = 2% to 20% B = % employees eligible C = 0.67	% Work VMT Reduction = 0.00% Cap: 13.4% A: Shift in Vanpool Mode Share: B: Employees Eligible:
TRT-12	Implement Bike Sharing Program	Not quantified separately; Assumed to be included in LUT-9 and SDT-5 (If included, total VMT reduction should be at least 0.03%)	
TRT-13	Implement School Bus Program	Not applicable.	
TRT-14	Price Workplace Parking	% Work VMT Reduction = A × B A = % reduction in commute VMT B = % employees subject to priced parking	% Work VMT Reduction = 0.00% Cap: 19.7% Urban: A Suburban Center: B Suburban: C Daily Parking Charge: $1 W Daily Parking Charge: $2 X Daily Parking Charge: $3 Y Daily Parking Charge: $6 Z (Mark an "X" in one of the above for each group) % Employees Subject to Priced Parking:
TRT-15	Implement Employee Parking Cash-Out	% Work VMT Reduction = A × B A = 7.7% Urban 4.5% Suburban Center 3.0% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 7.7% Urban: 7.7% Suburban Center: 4.5% Suburban: 3.0% (Mark an "X" in one of the above) % Employees Eligible:

Daily Parking Charge

Setting	W	X	Y	Z
A	6.9%	12.5%	16.8%	19.7%
B	1.8%	3.7%	5.4%	6.8%
C	0.5%	1.2%	1.9%	2.8%

Project: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

LUT-9 Improve Design of Development
Number of Four-way Intersections Around Project Site



Existing: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

Existing Trips and Vehicle Miles Traveled

Land Use (CalEEMod Land U	Unit Amount	Daily Existing Trips	
Land Uses			
Office	328,418 sf	11.03	Baseline trip rate per Room
		-15.0%	Deductions (Traffic Study)
		9.38	**Trip rate per 1000 sf less Adjustments**
		-28.1%	VMT Reduction (CAPCOA)
		8.4	C-C Trip Length (Baseline)
		16.6	C-W Trip Length (Baseline)
		6.9	C-NW Trip Length (Baseline)
		6.0	**C-C Trip Length (Existing)**
		11.9	**C-W Trip Length (Existing)**
		5.0	**C-NW Trip Length (Existing)**
Bank	7,500 sf	148.15	Baseline trip rate per 1000 sf
		-39.0%	Deductions (Traffic Study)
		90.37	**Trip rate per 1000 sf less Adjustments**
		-28.1%	VMT Reduction (CAPCOA)
		8.4	C-C Trip Length (Baseline)
		16.6	C-W Trip Length (Baseline)
		6.9	C-NW Trip Length (Baseline)
		6.0	**C-C Trip Length (Existing)**
		11.9	**C-W Trip Length (Existing)**
		5.0	**C-NW Trip Length (Existing)**

Source: Fehr and Peers, 2018; ESA, 2018.

LA Times - Existing

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Bank (with Drive-Through)	7.50	1000sqft	0.20	7,500.00	0
General Office Building	317.17	1000sqft	3.09	317,168.00	0
Unenclosed Parking with Elevator	44.31	1000sqft	0.20	44,306.00	0
High Turnover (Sit Down Restaurant)	11.25	1000sqft	0.20	11,250.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2017
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see operational assumptions

Vehicle Trips - see operational assumptions

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	3.85	3.10
tblEnergyUse	LightingElect	4.63	3.77

tblEnergyUse	LightingElect	9.64	7.87
tblEnergyUse	LightingElect	2.63	1.75
tblEnergyUse	T24E	2.94	2.25
tblEnergyUse	T24E	5.99	4.60
tblEnergyUse	T24E	10.52	8.11
tblEnergyUse	T24NG	15.35	13.65
tblEnergyUse	T24NG	12.05	10.02
tblEnergyUse	T24NG	46.57	42.98
tblLandUse	LandUseSquareFeet	317,170.00	317,168.00
tblLandUse	LandUseSquareFeet	44,310.00	44,306.00
tblLandUse	LotAcreage	0.17	0.20
tblLandUse	LotAcreage	7.28	3.09
tblLandUse	LotAcreage	1.02	0.20
tblLandUse	LotAcreage	0.26	0.20
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	0.00
tblVehicleTrips	CC_TTP	72.50	0.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	5.00
tblVehicleTrips	CNW_TL	6.90	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	11.90
tblVehicleTrips	CW_TL	16.60	0.00
tblVehicleTrips	CW_TTP	8.50	0.00
tblVehicleTrips	DV_TP	26.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	PB_TP	47.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00

tblVehicleTrips	PR_TP	27.00	100.00
tblVehicleTrips	PR_TP	37.00	0.00
tblVehicleTrips	ST_TR	86.32	90.37
tblVehicleTrips	ST_TR	2.46	9.38
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	SU_TR	31.90	90.37
tblVehicleTrips	SU_TR	1.05	9.38
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	WD_TR	148.15	90.37
tblVehicleTrips	WD_TR	11.03	9.38
tblVehicleTrips	WD_TR	127.15	0.00
tblWater	IndoorWaterUseRate	297,171.89	144,980.40
tblWater	IndoorWaterUseRate	56,371,812.85	6,131,086.90
tblWater	IndoorWaterUseRate	3,414,754.26	217,470.60
tblWater	OutdoorWaterUseRate	182,137.61	0.00
tblWater	OutdoorWaterUseRate	34,550,465.94	0.00
tblWater	OutdoorWaterUseRate	217,963.04	0.00
tblWater	OutdoorWaterUseRate	0.00	856,467.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3735	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101
Energy	0.0325	0.2958	0.2484	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	2,987.4730	2,987.4730	0.0691	0.0189	2,994.8416
Mobile	1.4287	6.5213	17.0714	0.0436	3.1915	0.0598	3.2513	0.8554	0.0565	0.9119	0.0000	4,009.7486	4,009.7486	0.2531	0.0000	4,016.0751
Waste						0.0000	0.0000		0.0000	0.0000	88.4736	0.0000	88.4736	5.2286	0.0000	219.1896
Water						0.0000	0.0000		0.0000	0.0000	2.0601	52.3921	54.4522	0.2128	5.2500e-003	61.3381
Total	**2.8347**	**6.8171**	**17.3248**	**0.0454**	**3.1915**	**0.0823**	**3.2738**	**0.8554**	**0.0790**	**0.9344**	**90.5337**	**7,049.6232**	**7,140.1569**	**5.7637**	**0.0242**	**7,291.4545**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3735	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101
Energy	0.0325	0.2958	0.2484	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	2,987.4730	2,987.4730	0.0691	0.0189	2,994.8416
Mobile	1.4287	6.5213	17.0714	0.0436	3.1915	0.0598	3.2513	0.8554	0.0565	0.9119	0.0000	4,009.7486	4,009.7486	0.2531	0.0000	4,016.0751
Waste						0.0000	0.0000		0.0000	0.0000	21.2337	0.0000	21.2337	1.2549	0.0000	52.6055
Water						0.0000	0.0000		0.0000	0.0000	2.0601	52.3921	54.4522	0.2128	5.2500e-003	61.3381
Total	**2.8347**	**6.8171**	**17.3248**	**0.0454**	**3.1915**	**0.0823**	**3.2738**	**0.8554**	**0.0790**	**0.9344**	**23.2938**	**7,049.6232**	**7,072.9170**	**1.7899**	**0.0242**	**7,124.8703**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**74.27**	**0.00**	**0.94**	**68.95**	**0.00**	**2.28**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4287	6.5213	17.0714	0.0436	3.1915	0.0598	3.2513	0.8554	0.0565	0.9119	0.0000	4,009.7486	4,009.7486	0.2531	0.0000	4,016.0751
Unmitigated	1.4287	6.5213	17.0714	0.0436	3.1915	0.0598	3.2513	0.8554	0.0565	0.9119	0.0000	4,009.7486	4,009.7486	0.2531	0.0000	4,016.0751

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Bank (with Drive-Through)	677.78	677.78	677.78	1,529,455	1,529,455
General Office Building	2,975.05	2,975.05	2975.05	6,871,503	6,871,503
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	3,652.83	3,652.83	3,652.83	8,400,958	8,400,958

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Bank (with Drive-Through)	11.90	6.00	5.00	6.60	74.40	19.00	100	0	0
General Office Building	11.90	6.00	5.00	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Bank (with Drive-Through)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
General Office Building	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
High Turnover (Sit Down Restaurant)	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069
Unenclosed Parking with Elevator	0.544524	0.045551	0.198447	0.129336	0.019135	0.005878	0.019261	0.027434	0.001914	0.002222	0.004531	0.000699	0.001069

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,665.5015	2,665.5015	0.0630	0.0130	2,670.9567
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,665.5015	2,665.5015	0.0630	0.0130	2,670.9567
NaturalGas Mitigated	0.0325	0.2958	0.2484	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.9715	321.9715	6.1700e-003	5.9000e-003	323.8849
NaturalGas Unmitigated	0.0325	0.2958	0.2484	1.7700e-003		0.0225	0.0225		0.0225	0.0225	0.0000	321.9715	321.9715	6.1700e-003	5.9000e-003	323.8849

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Bank (with Drive-Through)	135750	7.3000e-004	6.6500e-003	5.5900e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	7.2441	7.2441	1.4000e-004	1.3000e-004	7.2872
General Office Building	3.30172e+006	0.0178	0.1619	0.1360	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	176.1923	176.1923	3.3800e-003	3.2300e-003	177.2393
High Turnover (Sit Down Restaurant)	2.59605e+006	0.0140	0.1273	0.1069	7.6000e-004		9.6700e-003	9.6700e-003		9.6700e-003	9.6700e-003	0.0000	138.5351	138.5351	2.6600e-003	2.5400e-003	139.3584
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0325**	**0.2958**	**0.2484**	**1.7700e-003**		**0.0225**	**0.0225**		**0.0225**	**0.0225**	**0.0000**	**321.9715**	**321.9715**	**6.1800e-003**	**5.9000e-003**	**323.8849**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Bank (with Drive-Through)	135750	7.3000e-004	6.6500e-003	5.5900e-003	4.0000e-005		5.1000e-004	5.1000e-004		5.1000e-004	5.1000e-004	0.0000	7.2441	7.2441	1.4000e-004	1.3000e-004	7.2872
General Office Building	3.30172e+006	0.0178	0.1619	0.1360	9.7000e-004		0.0123	0.0123		0.0123	0.0123	0.0000	176.1923	176.1923	3.3800e-003	3.2300e-003	177.2393
High Turnover (Sit Down Restaurant)	2.59605e+006	0.0140	0.1273	0.1069	7.6000e-004		9.6700e-003	9.6700e-003		9.6700e-003	9.6700e-003	0.0000	138.5351	138.5351	2.6600e-003	2.5400e-003	139.3584
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0325**	**0.2958**	**0.2484**	**1.7700e-003**		**0.0225**	**0.0225**		**0.0225**	**0.0225**	**0.0000**	**321.9715**	**321.9715**	**6.1800e-003**	**5.9000e-003**	**323.8849**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	83250	46.3671	1.1000e-003	2.3000e-004	46.4619
General Office Building	4.12001e+006	2,294.6884	0.0542	0.0112	2,299.3847
High Turnover (Sit Down Restaurant)	496575	276.5732	6.5300e-003	1.3500e-003	277.1392
Unenclosed Parking with Elevator	85953.6	47.8729	1.1300e-003	2.3000e-004	47.9709
Total		**2,665.5015**	**0.0630**	**0.0130**	**2,670.9567**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Bank (with Drive-Through)	83250	46.3671	1.1000e-003	2.3000e-004	46.4619
General Office Building	4.12001e+006	2,294.6884	0.0542	0.0112	2,299.3847
High Turnover (Sit Down Restaurant)	496575	276.5732	6.5300e-003	1.3500e-003	277.1392
Unenclosed Parking with Elevator	85953.6	47.8729	1.1300e-003	2.3000e-004	47.9709
Total		**2,665.5015**	**0.0630**	**0.0130**	**2,670.9567**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3735	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101
Unmitigated	1.3735	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1563					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101
Total	**1.3735**	**5.0000e-005**	**4.9400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.4400e-003**	**9.4400e-003**	**3.0000e-005**	**0.0000**	**0.0101**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1563					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.2167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.8000e-004	5.0000e-005	4.9400e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.4400e-003	9.4400e-003	3.0000e-005	0.0000	0.0101
Total	**1.3735**	**5.0000e-005**	**4.9400e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.4400e-003**	**9.4400e-003**	**3.0000e-005**	**0.0000**	**0.0101**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	54.4522	0.2128	5.2500e-003	61.3381
Unmitigated	54.4522	0.2128	5.2500e-003	61.3381

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.14498 / 0	1.0974	4.7500e-003	1.2000e-004	1.2509
General Office Building	6.13109 / 0	46.4090	0.2008	4.9300e-003	52.9002
High Turnover (Sit Down Restaurant)	0.217471 / 0	1.6461	7.1200e-003	1.8000e-004	1.8764
Unenclosed Parking with Elevator	0 / 0.856467	5.2997	1.3000e-004	3.0000e-005	5.3105
Total		**54.4522**	**0.2128**	**5.2600e-003**	**61.3381**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Bank (with Drive-Through)	0.14498 / 0	1.0974	4.7500e-003	1.2000e-004	1.2509
General Office Building	6.13109 / 0	46.4090	0.2008	4.9300e-003	52.9002
High Turnover (Sit Down Restaurant)	0.217471 / 0	1.6461	7.1200e-003	1.8000e-004	1.8764
Unenclosed Parking with Elevator	0 / 0.856467	5.2997	1.3000e-004	3.0000e-005	5.3105
Total		**54.4522**	**0.2128**	**5.2600e-003**	**61.3381**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.2337	1.2549	0.0000	52.6055
Unmitigated	88.4736	5.2286	0.0000	219.1896

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	7	1.4209	0.0840	0.0000	3.5203
General Office Building	294.97	59.8762	3.5386	0.0000	148.3409
High Turnover (Sit Down Restaurant)	133.88	27.1764	1.6061	0.0000	67.3285
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**88.4736**	**5.2286**	**0.0000**	**219.1896**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Bank (with Drive-Through)	1.68	0.3410	0.0202	0.0000	0.8449
General Office Building	70.7928	14.3703	0.8493	0.0000	35.6018
High Turnover (Sit Down Restaurant)	32.1312	6.5223	0.3855	0.0000	16.1588
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**21.2337**	**1.2549**	**0.0000**	**52.6055**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

F-2 Project Construction Emissions

Onni Times Square last update: 2/12/2018
Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Table 1: CalEEMod Land Use Inputs

Land Use	CalEEMod Land Use Type	Units [a]				Res. Pop.
Existing Uses to be Demolished/Removed						
Executive Building	General Office	176.26	gross ksf	176,258	gross sf	
Executive Building Bank	Bank (With Drive Through)	7.50	gross ksf	7,500	gross sf	
Corporate Garage	Parking Structure	44.31	gross ksf	44,306	gross sf	
Total Existing Uses to be Demolished/Removed		***228.06***	***gross ksf***	***228,064***	***gross sf***	
Existing Uses to Remain						
Times Building	General Office	116.11	gross ksf	116,113	gross sf	
Plant Building	General Office	79.34	gross ksf	79,340	gross sf	
Cafeteria	High-turnover (Sit-down) Restaurant	11.25	gross ksf	11,250	gross sf	
Mirror Building	General Office	169.40	gross ksf	169,402	gross sf	
Total Existing Uses to Remain		376.11	gross ksf	376,105	gross sf	
Total Existing Uses		***604.17***	***gross ksf***	***604,169***	***gross sf***	
Renovation of Existing Buildings						
Times (Times North) rooftop restoration of old design						
Plants Building (Rooftop:Mechanical Equipment to Office Terrace)						
Times (Times North), Plant and Mirror (Times South) Buildings Renovation - Commercial (grocery store, retail with office space on 2nd-4th floor)						
Renovations		1,406.000				
Commerical Office use	General Office	285.088	ksf	285,088	gross sf	
Ground-floor Restaurant	High-Turnover Restaurant	18.817	ksf	18,817	gross sf	
Upper-floor Office (Conservatively Modeled as Restaurant)	Quality Restaurant	22.200	ksf	22,200	gross sf	
Grocery Store	Supermarket	50.000	ksf	50,000	gross sf	
	Total	**376.105**	**ksf**	**376,105**	**gross sf**	
Project						
North Tower (location of Executive Building)	High-Rise Apartment	450	DU			
South Tower (location of former Parking Garage)	High-Rise Apartment	677	DU			
Total Residential		1,127	DU	1,071,692	sf	1,894
Loading	Other Non-Asphalt Surfaces	2.586	ksf	2,586	sf	
Podium Retail/Commercial	High-Turnover Restaurant	34.572	ksf	34,572	sf	
Total Towers Floor Area				***1,108,850***	***sf***	
Project Common Space/Common Space Amenities						
Residential Private Amenities						
Private Balconies (50 sf each)	Other Non-Asphalt Surfaces	56.349	ksf	56,349	sf	
Residential Outdoor Amenities						
Level 6 - Residential Terrace	City Park	28.777	ksf	28,777	sf	
Level 1 - Paseo/Plaza	Other Non-Asphalt Surfaces	15.708	ksf	15,708	sf	
Residential Indoor Amenities						
Level 1 - Lounge (North Tower)	General Office	3.025	ksf	3,025	sf	
Level 6 - Amenity (N Tower) + Level 6 - Amenity (S Tower)	Health Club	25.618	ksf	25,618	sf	
Total Residential Common Space/Common Space Amenities		***129.477***	***ksf***	***129,477***	***sf***	
Subterranean Parking Structure	Enclosed Parking with Elevator	1,410	spaces	**564,000**	**sf**	
Podium Parking Structure	Enclosed Parking with Elevator	334	spaces	**133,600**	**sf**	
Total Parking		***1,744***	***spaces***			
Total Floor Area				***1,935,927***	***sf***	
Residential Bicycle Parking	N/A	1,274	bicycle spaces			
Trees	N/A	194	provided			
Lot Area		3.69	acres	160,578	sf	

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Notes:
a. Square footage values may be rounded up to provide a conservative analysis.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Table 2: Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Site Prep/ Demo (Tons)[b]	Truck Capacity (Tons)	Truck Total One-Way Trips	Trucks One-Way Distance	Truck Daily One-Way Trips	Soil Export (CY)[b]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Trucks One-Way Distance	Soil Haul Truck Daily One-Way Trips	Concrete Mat Volume (CY)[b]	Concrete Truck Capacity (CY)	Concrete Truck Total One-Way Trips	Concrete Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day[c]	Worker One-Way Trips/Max Day[c]
Project																				
Demolition	7/1/2018	1/31/2019	184	35,000	20	3,500	22.1	20												58
Site Preparation	2/1/2019	2/28/2019	24																	58
Grading and Excavation	3/1/2019	9/30/2019	183						364,000	-	14.25	51,088	22.1	280						60
Foundations/Concrete Pour (North Tower)	10/1/2019	10/2/2019	2												9,366	10	1,874	1,406		38
Foundations/Concrete Pour (South Tower)	10/3/2019	10/4/2019	2												7,817	10	1,564	1,173		38
Subterranean Parking Structure	10/5/2019	6/26/2020	228												45,702	10	9,141	40	262	1,190
Podium Construction	6/29/2020	8/28/2020	53												25,106	10	5,022	95	262	1,186
Building Construction	8/31/2020	10/8/2022	660												28,577	10	5,716	9	262	1,186
Paving	3/1/2022	10/8/2022	191																	33
Architectural Coating	1/1/2021	10/8/2022	554																	237
Renovation [a]	7/1/2018	8/8/2020	660																	124

Notes:
a. Renovation activity could occur at a later time. In order to provide a conservative assessment, renovation activity was modeled at the earliest possible time since emission factors are higher in earlier years compared to later years.
b. Demolition debris quantities, Soil export quantities and concrete quantities provided by the Omni Group.
c. Vendor Trips and Worker trips are based on CalEEMod assumptions.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Omni LA Times

Resource Loaded Construction Schedule

last updated:
1/10/2018

On-Site/Off-Road Equipment	2018												2019												2020												2021												2022											
Month	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Phase:																																																								
Demolition																																																							
Dumpers/Tenders							1	1	1	1	1	1	1																																												
Excavators							2	2	2	2	2	2	2																																												
Generator Sets							2	2	2	2	2	2	2																																												
Jackhammers							5	5	5	5	5	5	5																																												
Off-Highway Trucks							2	2	2	2	2	2	2																																												
Other Construction Equipment (Demo Hydraulic Hammers)							2	2	2	2	2	2	2																																												
Rollers							2	2	2	2	2	2	2																																												
Rough Terrain Forklifts							2	2	2	2	2	2	2																																												
Rubber Tired Loaders							2	2	2	2	2	2	2																																												
Signal Boards							2	2	2	2	2	2	2																																												
Sweeper/Scrubbers							1	1	1	1	1	1	1																																												
Tractors/Loaders/Backhoes							2	2	2	2	2	2	2																																												
Renovation																																																							
Air Compressors							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1												
Dumpers/Tenders							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1												
Forklifts							5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5												
Site Preparation																																																						
Dumpers/Tenders														1																																										
Excavators														2																																										
Generator Sets														2																																										
Jackhammers														5																																										
Off-Highway Trucks														2																																									
Rollers														2																																									
Rough Terrain Forklifts														2																																								
Rubber Tired Loaders														2																																								
Signal Boards														2																																								
Sweeper/Scrubbers														1																																								
Tractors/Loaders/Backhoes														2																																							
Grading and Excavation																																																					
Bore/Drill Rig															4	4	4	4	4	4	4																																
Compactor															5	5	5	5	5	5	5																																
Dumpers/Tenders															2	2	2	2	2	2	2																																
Excavators															2	2	2	2	2	2	2																																
Forklifts															2	2	2	2	2	2	2																																
Rough Terrain Forklifts															2	2	2	2	2	2	2																																
Rubber Tired Loaders															2	2	2	2	2	2	2																																
Signal Boards															2	2	2	2	2	2	2																																
Sweeper/Scrubbers															1	1	1	1	1	1	1																																
Tractors/Loaders/Backhoes															2	2	2	2	2	2	2																																
Foundations/Concrete Pour (North Tower)																																																					
Cement/Mortar Mixers																						5																																
Cranes (Electric)																						3																																
Forklifts																						5																																
Signal Boards																						2																																
Foundations/Concrete Pour (South Tower)																																																					
Cement/Mortar Mixers																							5																																
Cranes (Electric)																							3																																
Forklifts																							5																																
Signal Boards																							2																																

| | | |

Onni Times Square last updated: 2/12/2018

Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Off-Road Heavy-Duty Construction Equipment

Construction Phase	Heavy-Duty Equipment	No. of Heavy-Duty Equipment	Project Hours of Operation/Day Per Equipment	Hours of Operation/Week Per Equipment	Emissions Tier Rating (After Mitigation)	Notes/Comments
Site Preparation/Demo	Dumpers/Tenders	1	6	36	-	Under 50 hp
	Excavators	2	12	72	Tier 4	
	Generator Sets	2	12	72	Tier 4	
	Jackhammers	5	3	18	Tier 4	Assumed to be powered by generators
	Off-Highway Trucks	2	12	72	Tier 4	
(not in site prep)	Other Construction Equipment (Demo Hydraulic Hammers)	2	12	72	Tier 4	
	Rollers	2	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Rubber Tired Loaders	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
	Tractors/Loaders/Backhoes	2	12	72	Tier 4	
Renovation	Air Compressors	1	12	72	Tier 4	
	Dumpers/Tenders	1	6	36	Tier 4	
	Forklifts	5	12	72	Tier 4	
Mass Grading/Excavation	Bore/Drill Rig	4	12	72	Tier 4	
	Compactor	5	6	36	-	Under 50 hp
	Dumpers/Tenders	2	6	36	-	Under 50 hp
	Excavators	2	12	72	Tier 4	
	Forklifts	2	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Rubber Tired Loaders	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
	Tractors/Loaders/Backhoes	2	12	72	Tier 4	
Foundation (Continuous Concrete Pour)	Cement/Mortar Mixers	5	18	108	-	Under 50 hp
	Cranes (Electric)	3	18	108	-	Electric
	Forklifts	5	18	108	Tier 4	
	Signal Boards	2	18	108	-	Electric
Building Construction	Air Compressors	4	12	72	Tier 4	
(Also for Subterranean Parking Structure	Cement/Mortar Mixers	5	12	72	-	Under 50 hp
and Podium Construction Phases)	Cranes (Electric)	3	12	72	-	Electric
	Dumpers/Tenders	4	6	36	-	Under 50 hp
	Forklifts	10	12	72	Tier 4	
	Off-Highway Trucks	4	12	72	Tier 4	
	Rough Terrain Forklifts	2	12	72	Tier 4	
	Signal Boards	2	12	72	-	Electric
	Sweeper/Scrubbers	1	6	36	Tier 4	
(Only for Subterranean Parking Structure)	Bore/Drill Rig (Vibratory Pile Driver)	1	12	72	Tier 4	Bore/Drill Rig serves as conservative estimate due to similar power requirement as Vibratory Pile Driver
Architectural Coating	*Off-Road Equipment accounted for in Building Construction Phase.*					
Paving	Concrete/Industrial Saws	2	6	36	Tier 4	
	Compactor	3	6	36	-	Under 50 hp
	Generator Sets	1	12	72	Tier 4	
	Jackhammers	2	3	18	-	Assumed to be powered by generators
	Pavers	2	12	72	Tier 4	
	Paving Equipment	2	12	72	Tier 4	
	Surfacing Equipment	2	6	36	Tier 4	
	Tractors/Loaders/Backhoes	1	12	72	Tier 4	

Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

LA Times Square - Renovation

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
Quality Restaurant	41.02	1000sqft	0.40	41,017.00	0
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	660.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	5/13/2019	8/8/2020
tblConstructionPhase	PhaseStartDate	8/7/2018	7/1/2018
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.94	0.40
tblLandUse	LotAcreage	1.15	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	12.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.2290	1.9156	1.6322	3.7900e-003	0.1375	0.1039	0.2414	0.0372	0.0977	0.1349	0.0000	348.9671	348.9671	0.0420	0.0000	350.0159
2019	0.4117	3.5163	3.1076	7.4700e-003	0.2741	0.1814	0.4555	0.0742	0.1706	0.2448	0.0000	684.4337	684.4337	0.0814	0.0000	686.4687
2020	0.2262	1.9495	1.8129	4.4800e-003	0.1664	0.0953	0.2617	0.0450	0.0896	0.1346	0.0000	408.6912	408.6912	0.0481	0.0000	409.8936
Maximum	**0.4117**	**3.5163**	**3.1076**	**7.4700e-003**	**0.2741**	**0.1814**	**0.4555**	**0.0742**	**0.1706**	**0.2448**	**0.0000**	**684.4337**	**684.4337**	**0.0814**	**0.0000**	**686.4687**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0930	0.7420	1.5995	3.7900e-003	0.1375	8.3900e-003	0.1459	0.0372	8.1300e-003	0.0454	0.0000	348.9669	348.9669	0.0420	0.0000	350.0157
2019	0.1720	1.4015	3.0665	7.4700e-003	0.2741	0.0154	0.2895	0.0742	0.0150	0.0892	0.0000	684.4334	684.4334	0.0814	0.0000	686.4684
2020	0.0967	0.7877	1.7998	4.4800e-003	0.1664	7.9000e-003	0.1743	0.0450	7.6800e-003	0.0527	0.0000	408.6910	408.6910	0.0481	0.0000	409.8934
Maximum	**0.1720**	**1.4015**	**3.0665**	**7.4700e-003**	**0.2741**	**0.0154**	**0.2895**	**0.0742**	**0.0150**	**0.0892**	**0.0000**	**684.4334**	**684.4334**	**0.0814**	**0.0000**	**686.4684**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.28**	**60.29**	**1.33**	**0.00**	**0.00**	**91.67**	**36.40**	**0.00**	**91.40**	**63.60**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2018	9-30-2018	1.0684	0.4106
2	10-1-2018	12-31-2018	1.0739	0.4161
3	1-1-2019	3-31-2019	0.9651	0.3848
4	4-1-2019	6-30-2019	0.9712	0.3844
5	7-1-2019	9-30-2019	0.9818	0.3886
6	10-1-2019	12-31-2019	0.9866	0.3934
7	1-1-2020	3-31-2020	0.8906	0.3604
8	4-1-2020	6-30-2020	0.8867	0.3565
9	7-1-2020	9-30-2020	0.3800	0.1528
		Highest	1.0739	0.4161

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	7/1/2018	8/8/2020	6	660	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Dumpers/Tenders	1	6.00	16	0.38
Building Construction	Air Compressors	1	12.00	78	0.48
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Cranes	0	6.00	231	0.29
Building Construction	Forklifts	5	12.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Construction	7	124.00	62.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1561	1.2694	1.0190	1.4100e-003		0.0987	0.0987		0.0928	0.0928	0.0000	125.4797	125.4797	0.0297	0.0000	126.2230
Total	**0.1561**	**1.2694**	**1.0190**	**1.4100e-003**		**0.0987**	**0.0987**		**0.0928**	**0.0928**	**0.0000**	**125.4797**	**125.4797**	**0.0297**	**0.0000**	**126.2230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0213	0.6039	0.1581	1.2500e-003	0.0307	4.3500e-003	0.0350	8.8500e-003	4.1600e-003	0.0130	0.0000	120.9407	120.9407	8.7100e-003	0.0000	121.1585
Worker	0.0516	0.0424	0.4551	1.1400e-003	0.1068	8.7000e-004	0.1077	0.0284	8.0000e-004	0.0292	0.0000	102.5466	102.5466	3.5100e-003	0.0000	102.6344
Total	**0.0729**	**0.6462**	**0.6132**	**2.3900e-003**	**0.1375**	**5.2200e-003**	**0.1427**	**0.0372**	**4.9600e-003**	**0.0422**	**0.0000**	**223.4873**	**223.4873**	**0.0122**	**0.0000**	**223.7929**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0201	0.0957	0.9863	1.4100e-003		3.1700e-003	3.1700e-003		3.1700e-003	3.1700e-003	0.0000	125.4796	125.4796	0.0297	0.0000	126.2228
Total	**0.0201**	**0.0957**	**0.9863**	**1.4100e-003**		**3.1700e-003**	**3.1700e-003**		**3.1700e-003**	**3.1700e-003**	**0.0000**	**125.4796**	**125.4796**	**0.0297**	**0.0000**	**126.2228**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0213	0.6039	0.1581	1.2500e-003	0.0307	4.3500e-003	0.0350	8.8500e-003	4.1600e-003	0.0130	0.0000	120.9407	120.9407	8.7100e-003	0.0000	121.1585
Worker	0.0516	0.0424	0.4551	1.1400e-003	0.1068	8.7000e-004	0.1077	0.0284	8.0000e-004	0.0292	0.0000	102.5466	102.5466	3.5100e-003	0.0000	102.6344
Total	**0.0729**	**0.6462**	**0.6132**	**2.3900e-003**	**0.1375**	**5.2200e-003**	**0.1427**	**0.0372**	**4.9600e-003**	**0.0422**	**0.0000**	**223.4873**	**223.4873**	**0.0122**	**0.0000**	**223.7929**

3.2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2798	2.3056	2.0075	2.8100e-003		0.1723	0.1723		0.1619	0.1619	0.0000	247.5330	247.5330	0.0584	0.0000	248.9936
Total	**0.2798**	**2.3056**	**2.0075**	**2.8100e-003**		**0.1723**	**0.1723**		**0.1619**	**0.1619**	**0.0000**	**247.5330**	**247.5330**	**0.0584**	**0.0000**	**248.9936**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0385	1.1362	0.2897	2.4700e-003	0.0612	7.4300e-003	0.0686	0.0176	7.1100e-003	0.0248	0.0000	238.9111	238.9111	0.0168	0.0000	239.3303
Worker	0.0935	0.0745	0.8104	2.1900e-003	0.2129	1.7000e-003	0.2146	0.0565	1.5600e-003	0.0581	0.0000	197.9896	197.9896	6.2100e-003	0.0000	198.1448
Total	**0.1320**	**1.2107**	**1.1001**	**4.6600e-003**	**0.2741**	**9.1300e-003**	**0.2832**	**0.0742**	**8.6700e-003**	**0.0829**	**0.0000**	**436.9007**	**436.9007**	**0.0230**	**0.0000**	**437.4751**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0400	0.1908	1.9664	2.8100e-003		6.2900e-003	6.2900e-003		6.2900e-003	6.2900e-003	0.0000	247.5327	247.5327	0.0584	0.0000	248.9934
Total	**0.0400**	**0.1908**	**1.9664**	**2.8100e-003**		**6.2900e-003**	**6.2900e-003**		**6.2900e-003**	**6.2900e-003**	**0.0000**	**247.5327**	**247.5327**	**0.0584**	**0.0000**	**248.9934**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0385	1.1362	0.2897	2.4700e-003	0.0612	7.4300e-003	0.0686	0.0176	7.1100e-003	0.0248	0.0000	238.9111	238.9111	0.0168	0.0000	239.3303
Worker	0.0935	0.0745	0.8104	2.1900e-003	0.2129	1.7000e-003	0.2146	0.0565	1.5600e-003	0.0581	0.0000	197.9896	197.9896	6.2100e-003	0.0000	198.1448
Total	**0.1320**	**1.2107**	**1.1001**	**4.6600e-003**	**0.2741**	**9.1300e-003**	**0.2832**	**0.0742**	**8.6700e-003**	**0.0829**	**0.0000**	**436.9007**	**436.9007**	**0.0230**	**0.0000**	**437.4751**

3.2 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1539	1.2775	1.2068	1.7100e-003		0.0912	0.0912		0.0857	0.0857	0.0000	148.1334	148.1334	0.0351	0.0000	149.0115
Total	**0.1539**	**1.2775**	**1.2068**	**1.7100e-003**		**0.0912**	**0.0912**		**0.0857**	**0.0857**	**0.0000**	**148.1334**	**148.1334**	**0.0351**	**0.0000**	**149.0115**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6316	0.1593	1.4900e-003	0.0371	3.0900e-003	0.0402	0.0107	2.9600e-003	0.0137	0.0000	144.0973	144.0973	9.6200e-003	0.0000	144.3377
Worker	0.0524	0.0404	0.4469	1.2900e-003	0.1292	1.0000e-003	0.1303	0.0343	9.3000e-004	0.0353	0.0000	116.4606	116.4606	3.3500e-003	0.0000	116.5444
Total	**0.0724**	**0.6719**	**0.6062**	**2.7800e-003**	**0.1664**	**4.0900e-003**	**0.1705**	**0.0450**	**3.8900e-003**	**0.0489**	**0.0000**	**260.5578**	**260.5578**	**0.0130**	**0.0000**	**260.8821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0243	0.1158	1.1937	1.7100e-003		3.8000e-003	3.8000e-003		3.8000e-003	3.8000e-003	0.0000	148.1332	148.1332	0.0351	0.0000	149.0113
Total	**0.0243**	**0.1158**	**1.1937**	**1.7100e-003**		**3.8000e-003**	**3.8000e-003**		**3.8000e-003**	**3.8000e-003**	**0.0000**	**148.1332**	**148.1332**	**0.0351**	**0.0000**	**149.0113**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0199	0.6316	0.1593	1.4900e-003	0.0371	3.0900e-003	0.0402	0.0107	2.9600e-003	0.0137	0.0000	144.0973	144.0973	9.6200e-003	0.0000	144.3377
Worker	0.0524	0.0404	0.4469	1.2900e-003	0.1292	1.0000e-003	0.1303	0.0343	9.3000e-004	0.0353	0.0000	116.4606	116.4606	3.3500e-003	0.0000	116.5444
Total	**0.0724**	**0.6719**	**0.6062**	**2.7800e-003**	**0.1664**	**4.0900e-003**	**0.1705**	**0.0450**	**3.8900e-003**	**0.0489**	**0.0000**	**260.5578**	**260.5578**	**0.0130**	**0.0000**	**260.8821**

LA Times Square - Towers

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	37.60	1000sqft	0.86	37,597.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.09	74,643.00	0
City Park	0.92	Acre	0.09	28,777.00	0
Health Club	25.62	1000sqft	0.59	25,618.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Off-road Equipment - see construction assumptions

Trips and VMT - see construction assumptions

Demolition -

Grading - see construction assumptions

Architectural Coating -

Area Coating -

Construction Off-road Equipment Mitigation - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	FuelType	Diesel	Electrical
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	15.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	42.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	14.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	12.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
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tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
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tblConstructionPhase	NumDays	230.00	2.00
tblConstructionPhase	NumDays	230.00	228.00
tblConstructionPhase	NumDays	230.00	53.00
tblConstructionPhase	NumDays	230.00	660.00
tblConstructionPhase	NumDays	20.00	184.00

tblConstructionPhase	NumDays	8.00	183.00
tblConstructionPhase	NumDays	18.00	189.00
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tblGrading	AcresOfGrading	0.00	1.84
tblGrading	AcresOfGrading	0.00	1.84
tblGrading	MaterialExported	0.00	364,000.00
tblLandUse	LandUseSquareFeet	37,600.00	37,597.00
tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
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tblLandUse	LandUseSquareFeet	40,075.20	28,777.00
tblLandUse	LandUseSquareFeet	25,620.00	25,618.00
tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
tblLandUse	LotAcreage	15.79	0.68
tblLandUse	LotAcreage	1.71	0.09
tblLandUse	LotAcreage	0.92	0.09
tblLandUse	LotAcreage	18.18	0.80
tblLandUse	Population	3,223.00	1,894.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	PhaseName		Foundation (South Tower)
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tblOffRoadEquipment	PhaseName		Foundation (South Tower)
tblOffRoadEquipment	PhaseName		Subterranean Parking Structure
tblOffRoadEquipment	PhaseName		Podium Construction
tblOffRoadEquipment	PhaseName		Building Construction
tblOffRoadEquipment	PhaseName		Paving

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tblOffRoadEquipment	PhaseName		Podium Construction
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tblOffRoadEquipment	UsageHours	8.00	12.00
tblSolidWaste	SolidWasteGenerationRate	34.97	37.75

tblSolidWaste	SolidWasteGenerationRate	146.03	282.55
tblTripsAndVMT	HaulingTripLength	20.00	22.10
tblTripsAndVMT	HaulingTripLength	20.00	22.10
tblTripsAndVMT	HaulingTripNumber	3,461.00	3,500.00
tblTripsAndVMT	HaulingTripNumber	45,500.00	51,088.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripLength	6.90	25.00
tblTripsAndVMT	VendorTripNumber	262.00	1,406.00
tblTripsAndVMT	VendorTripNumber	262.00	1,173.00
tblTripsAndVMT	VendorTripNumber	262.00	302.00
tblTripsAndVMT	VendorTripNumber	262.00	357.00
tblTripsAndVMT	VendorTripNumber	262.00	271.00
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tblTripsAndVMT	WorkerTripNumber	1,171.00	38.00
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tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
tblTripsAndVMT	WorkerTripNumber	1,171.00	1,186.00
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tblTripsAndVMT	WorkerTripNumber	234.00	237.00
tblWater	IndoorWaterUseRate	6,682,788.92	7,214,212.83
tblWater	IndoorWaterUseRate	1,515,247.35	2,931,725.65
tblWater	OutdoorWaterUseRate	4,095,902.89	4,421,614.32
tblWater	OutdoorWaterUseRate	928,699.99	1,796,864.11

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.8369	8.8278	6.0993	0.0131	0.4015	0.4130	0.8145	0.0703	0.3853	0.4556	0.0000	1,194.5154	1,194.5154	0.2936	0.0000	1,201.8561
2019	1.8029	23.8082	13.5432	0.0544	1.2807	0.6432	1.9239	0.3373	0.5994	0.9366	0.0000	5,084.9025	5,084.9025	0.7621	0.0000	5,103.9547
2020	2.6949	21.5209	19.8253	0.0574	2.3403	0.8322	3.1725	0.6284	0.7802	1.4086	0.0000	5,165.3127	5,165.3127	0.7308	0.0000	5,183.5834
2021	4.5437	17.1957	18.8476	0.0552	2.7106	0.6491	3.3596	0.7260	0.6094	1.3354	0.0000	4,965.8000	4,965.8000	0.6042	0.0000	4,980.9047
2022	3.5991	14.2135	16.9953	0.0475	2.1040	0.5426	2.6466	0.5634	0.5111	1.0746	0.0000	4,259.9738	4,259.9738	0.5744	0.0000	4,274.3331
Maximum	**4.5437**	**23.8082**	**19.8253**	**0.0574**	**2.7106**	**0.8322**	**3.3596**	**0.7260**	**0.7802**	**1.4086**	**0.0000**	**5,165.3127**	**5,165.3127**	**0.7621**	**0.0000**	**5,183.5834**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1782	1.2203	7.1275	0.0131	0.2066	0.0212	0.2278	0.0408	0.0211	0.0619	0.0000	1,183.9788	1,183.9788	0.2925	0.0000	1,191.2921
2019	0.8525	12.4473	15.5930	0.0544	1.2335	0.0924	1.3258	0.3302	0.0901	0.4203	0.0000	4,969.3216	4,969.3216	0.7300	0.0000	4,987.5719
2020	1.3274	7.5057	19.9374	0.0574	2.3403	0.0967	2.4370	0.6284	0.0944	0.7227	0.0000	4,786.0969	4,786.0969	0.6128	0.0000	4,801.4171
2021	3.4637	6.3974	18.5492	0.0552	2.7106	0.0759	2.7865	0.7260	0.0741	0.8001	0.0000	4,587.8248	4,587.8248	0.4866	0.0000	4,599.9887
2022	2.6828	5.0214	17.5895	0.0475	2.1040	0.0679	2.1718	0.5634	0.0665	0.6300	0.0000	3,971.3148	3,971.3148	0.4845	0.0000	3,983.4282
Maximum	**3.4637**	**12.4473**	**19.9374**	**0.0574**	**2.7106**	**0.0967**	**2.7865**	**0.7260**	**0.0944**	**0.8001**	**0.0000**	**4,969.3216**	**4,969.3216**	**0.7300**	**0.0000**	**4,987.5719**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	36.90	61.91	-4.63	0.00	2.74	88.50	24.91	1.57	88.00	49.43	0.00	5.67	5.67	12.10	0.00	5.69

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2018	9-30-2018	4.8443	0.6925
2	10-1-2018	12-31-2018	4.8505	0.6987
3	1-1-2019	3-31-2019	4.7093	1.7300
4	4-1-2019	6-30-2019	6.3981	4.0032
5	7-1-2019	9-30-2019	6.4685	4.0472
6	10-1-2019	12-31-2019	7.6413	3.1254
7	1-1-2020	3-31-2020	6.2985	2.2309
8	4-1-2020	6-30-2020	6.2729	2.2052
9	7-1-2020	9-30-2020	6.1255	2.2809
10	10-1-2020	12-31-2020	5.4085	2.0205
11	1-1-2021	3-31-2021	5.3610	2.4334
12	4-1-2021	6-30-2021	5.3829	2.4228
13	7-1-2021	9-30-2021	5.4420	2.4494
14	10-1-2021	12-31-2021	5.4801	2.4875
15	1-1-2022	3-31-2022	5.2460	2.4111
16	4-1-2022	6-30-2022	6.0221	2.5203
17	7-1-2022	9-30-2022	6.0882	2.5480
		Highest	7.6413	4.0472

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	7/1/2018	1/31/2019	6	184	
2	Site Preparation	Site Preparation	2/1/2019	2/28/2019	6	24	
3	Grading	Grading	3/1/2019	9/30/2019	6	183	

4	Foundation (North Tower)	Building Construction	10/1/2019	10/2/2019	6	2	
5	Foundation (South Tower)	Building Construction	10/3/2019	10/4/2019	6	2	
6	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	
7	Podium Construction	Building Construction	6/27/2020	8/27/2020	6	53	
8	Building Construction	Building Construction	8/28/2020	10/6/2022	6	660	
9	Architectural Coating	Architectural Coating	1/1/2021	10/6/2022	6	552	
10	Paving	Paving	3/1/2022	10/6/2022	6	189	

Acres of Grading (Site Preparation Phase): 1.84

Acres of Grading (Grading Phase): 1.84

Acres of Paving: 0.77

Residential Indoor: 2,170,176; Residential Outdoor: 723,392; Non-Residential Indoor: 94,823; Non-Residential Outdoor: 31,608; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Dumpers/Tenders	1	6.00	16	0.38
Demolition	Excavators	2	12.00	158	0.38
Demolition	Generator Sets	2	12.00	84	0.74
Demolition	Off-Highway Trucks	2	12.00	402	0.38
Demolition	Other Construction Equipment	2	12.00	172	0.42
Demolition	Rollers	2	12.00	80	0.38
Demolition	Rough Terrain Forklifts	2	12.00	100	0.40
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Demolition	Rubber Tired Loaders	2	12.00	203	0.36
Demolition	Signal Boards	2	12.00	6	0.82
Demolition	Sweepers/Scrubbers	1	6.00	64	0.46
Demolition	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Site Preparation	Dumpers/Tenders	1	6.00	16	0.38
Site Preparation	Excavators	2	12.00	158	0.38
Site Preparation	Generator Sets	2	12.00	84	0.74
Site Preparation	Graders	0	8.00	187	0.41

Site Preparation	Off-Highway Trucks	2	12.00	402	0.38
Site Preparation	Rollers	2	12.00	80	0.38
Site Preparation	Rough Terrain Forklifts	2	12.00	100	0.40
Site Preparation	Rubber Tired Dozers	0	7.00	247	0.40
Site Preparation	Rubber Tired Loaders	2	12.00	203	0.36
Site Preparation	Signal Boards	2	12.00	6	0.82
Site Preparation	Sweepers/Scrubbers	1	6.00	64	0.46
Site Preparation	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Grading	Bore/Drill Rigs	4	12.00	221	0.50
Grading	Dumpers/Tenders	2	6.00	16	0.38
Grading	Excavators	2	12.00	158	0.38
Grading	Forklifts	2	12.00	89	0.20
Grading	Graders	0	6.00	187	0.41
Grading	Plate Compactors	5	6.00	8	0.43
Grading	Rough Terrain Forklifts	2	12.00	100	0.40
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Grading	Rubber Tired Loaders	2	12.00	203	0.36
Grading	Signal Boards	2	12.00	6	0.82
Grading	Sweepers/Scrubbers	1	6.00	64	0.46
Grading	Tractors/Loaders/Backhoes	2	12.00	97	0.37
Foundation (North Tower)	Cement and Mortar Mixers	5	18.00	9	0.56
Foundation (North Tower)	Cranes	3	18.00	231	0.29
Foundation (North Tower)	Forklifts	5	18.00	89	0.20
Foundation (North Tower)	Generator Sets	0	8.00	84	0.74
Foundation (North Tower)	Signal Boards	2	18.00	6	0.82
Foundation (North Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (North Tower)	Welders	0	8.00	46	0.45
Foundation (South Tower)	Cement and Mortar Mixers	5	18.00	9	0.56
Foundation (South Tower)	Cranes	3	18.00	231	0.29
Foundation (South Tower)	Forklifts	5	18.00	89	0.20

Foundation (South Tower)	Generator Sets	0	8.00	84	0.74
Foundation (South Tower)	Signal Boards	2	18.00	6	0.82
Foundation (South Tower)	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Foundation (South Tower)	Welders	0	8.00	46	0.45
Subterranean Parking Structure	Air Compressors	4	12.00	78	0.48
Subterranean Parking Structure	Cement and Mortar Mixers	5	12.00	9	0.56
Subterranean Parking Structure	Cranes	3	12.00	231	0.29
Subterranean Parking Structure	Dumpers/Tenders	4	6.00	16	0.38
Subterranean Parking Structure	Forklifts	10	12.00	89	0.20
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Off-Highway Trucks	4	12.00	402	0.38
Subterranean Parking Structure	Rough Terrain Forklifts	2	12.00	100	0.40
Subterranean Parking Structure	Signal Boards	2	12.00	6	0.82
Subterranean Parking Structure	Sweepers/Scrubbers	1	6.00	64	0.46
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45
Podium Construction	Air Compressors	4	12.00	78	0.48
Podium Construction	Cement and Mortar Mixers	5	12.00	9	0.56
Podium Construction	Cranes	3	12.00	231	0.29
Podium Construction	Dumpers/Tenders	4	6.00	16	0.38
Podium Construction	Forklifts	10	12.00	89	0.20
Podium Construction	Generator Sets	0	8.00	84	0.74
Podium Construction	Off-Highway Trucks	4	12.00	402	0.38
Podium Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Podium Construction	Signal Boards	2	12.00	6	0.82
Podium Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Podium Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Podium Construction	Welders	0	8.00	46	0.45
Building Construction	Air Compressors	4	12.00	78	0.48
Building Construction	Cement and Mortar Mixers	5	12.00	9	0.56

Building Construction	Cranes	3	12.00	231	0.29
Building Construction	Dumpers/Tenders	4	6.00	16	0.38
Building Construction	Forklifts	10	12.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Off-Highway Trucks	2	12.00	402	0.38
Building Construction	Rough Terrain Forklifts	2	12.00	100	0.40
Building Construction	Signal Boards	2	12.00	6	0.82
Building Construction	Sweepers/Scrubbers	1	6.00	64	0.46
Building Construction	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Architectural Coating	Air Compressors	0	6.00	78	0.48
Paving	Cement and Mortar Mixers	0	6.00	9	0.56
Paving	Concrete/Industrial Saws	2	6.00	81	0.73
Paving	Generator Sets	1	12.00	84	0.74
Paving	Pavers	2	12.00	130	0.42
Paving	Paving Equipment	2	12.00	132	0.36
Paving	Plate Compactors	3	6.00	8	0.43
Paving	Rollers	0	7.00	80	0.38
Paving	Surfacing Equipment	2	6.00	263	0.30
Paving	Tractors/Loaders/Backhoes	1	12.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	20	58.00	0.00	3,500.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Site Preparation	18	58.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	24	60.00	0.00	51,088.00	14.70	6.90	22.10	LD_Mix	HDT_Mix	HHDT
Foundation (North Tower)	15	38.00	1,406.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Foundation (South Tower)	15	38.00	1,173.00	0.00	14.70	25.00	20.00	LD_Mix	HHDT	HHDT
Subterranean Parking Structure	35	1,186.00	302.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Podium Construction	35	1,186.00	357.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	33	1,186.00	271.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	237.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	13	33.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Alternative Fuel for Construction Equipment

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3195	0.0000	0.3195	0.0484	0.0000	0.0484	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7979	8.2874	5.7849	0.0113		0.4106	0.4106		0.3830	0.3830	0.0000	1,020.0436	1,020.0436	0.2829	0.0000	1,027.1153
Total	**0.7979**	**8.2874**	**5.7849**	**0.0113**	**0.3195**	**0.4106**	**0.7301**	**0.0484**	**0.3830**	**0.4314**	**0.0000**	**1,020.0436**	**1,020.0436**	**0.2829**	**0.0000**	**1,027.1153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0148	0.5206	0.1015	1.2900e-003	0.0320	2.0100e-003	0.0340	8.6800e-003	1.9200e-003	0.0106	0.0000	126.5065	126.5065	9.1200e-003	0.0000	126.7344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0241	0.0198	0.2129	5.3000e-004	0.0500	4.1000e-004	0.0504	0.0133	3.8000e-004	0.0136	0.0000	47.9654	47.9654	1.6400e-003	0.0000	48.0064
Total	**0.0390**	**0.5405**	**0.3144**	**1.8200e-003**	**0.0820**	**2.4200e-003**	**0.0844**	**0.0220**	**2.3000e-003**	**0.0243**	**0.0000**	**174.4718**	**174.4718**	**0.0108**	**0.0000**	**174.7408**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1246	0.0000	0.1246	0.0189	0.0000	0.0189	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1392	0.6799	6.8131	0.0113		0.0188	0.0188		0.0188	0.0188	0.0000	1,009.5070	1,009.5070	0.2818	0.0000	1,016.5513
Total	**0.1392**	**0.6799**	**6.8131**	**0.0113**	**0.1246**	**0.0188**	**0.1434**	**0.0189**	**0.0188**	**0.0377**	**0.0000**	**1,009.5070**	**1,009.5070**	**0.2818**	**0.0000**	**1,016.5513**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0148	0.5206	0.1015	1.2900e-003	0.0320	2.0100e-003	0.0340	8.6800e-003	1.9200e-003	0.0106	0.0000	126.5065	126.5065	9.1200e-003	0.0000	126.7344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0241	0.0198	0.2129	5.3000e-004	0.0500	4.1000e-004	0.0504	0.0133	3.8000e-004	0.0136	0.0000	47.9654	47.9654	1.6400e-003	0.0000	48.0064
Total	**0.0390**	**0.5405**	**0.3144**	**1.8200e-003**	**0.0820**	**2.4200e-003**	**0.0844**	**0.0220**	**2.3000e-003**	**0.0243**	**0.0000**	**174.4718**	**174.4718**	**0.0108**	**0.0000**	**174.7408**

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0550	0.0000	0.0550	8.3200e-003	0.0000	8.3200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1250	1.2817	0.9794	1.9500e-003		0.0620	0.0620		0.0578	0.0578	0.0000	172.9946	172.9946	0.0484	0.0000	174.2055
Total	**0.1250**	**1.2817**	**0.9794**	**1.9500e-003**	**0.0550**	**0.0620**	**0.1169**	**8.3200e-003**	**0.0578**	**0.0661**	**0.0000**	**172.9946**	**172.9946**	**0.0484**	**0.0000**	**174.2055**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4200e-003	0.0847	0.0171	2.2000e-004	0.0262	3.2000e-004	0.0265	6.5800e-003	3.0000e-004	6.8800e-003	0.0000	21.4891	21.4891	1.5500e-003	0.0000	21.5278
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7700e-003	3.0100e-003	0.0327	9.0000e-005	8.5900e-003	7.0000e-005	8.6600e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	7.9886	7.9886	2.5000e-004	0.0000	7.9948
Total	**6.1900e-003**	**0.0877**	**0.0498**	**3.1000e-004**	**0.0348**	**3.9000e-004**	**0.0352**	**8.8600e-003**	**3.6000e-004**	**9.2200e-003**	**0.0000**	**29.4776**	**29.4776**	**1.8000e-003**	**0.0000**	**29.5226**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0214	0.0000	0.0214	3.2400e-003	0.0000	3.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0239	0.1169	1.1717	1.9500e-003		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	171.1825	171.1825	0.0483	0.0000	172.3888
Total	**0.0239**	**0.1169**	**1.1717**	**1.9500e-003**	**0.0214**	**3.2300e-003**	**0.0247**	**3.2400e-003**	**3.2300e-003**	**6.4700e-003**	**0.0000**	**171.1825**	**171.1825**	**0.0483**	**0.0000**	**172.3888**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.4200e-003	0.0847	0.0171	2.2000e-004	0.0262	3.2000e-004	0.0265	6.5800e-003	3.0000e-004	6.8800e-003	0.0000	21.4891	21.4891	1.5500e-003	0.0000	21.5278
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7700e-003	3.0100e-003	0.0327	9.0000e-005	8.5900e-003	7.0000e-005	8.6600e-003	2.2800e-003	6.0000e-005	2.3400e-003	0.0000	7.9886	7.9886	2.5000e-004	0.0000	7.9948
Total	**6.1900e-003**	**0.0877**	**0.0498**	**3.1000e-004**	**0.0348**	**3.9000e-004**	**0.0352**	**8.8600e-003**	**3.6000e-004**	**9.2200e-003**	**0.0000**	**29.4776**	**29.4776**	**1.8000e-003**	**0.0000**	**29.5226**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8000e-004	0.0000	9.8000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0922	0.9360	0.7212	1.5100e-003		0.0444	0.0444		0.0415	0.0415	0.0000	133.7812	133.7812	0.0367	0.0000	134.6995
Total	**0.0922**	**0.9360**	**0.7212**	**1.5100e-003**	**9.8000e-004**	**0.0444**	**0.0454**	**1.1000e-004**	**0.0415**	**0.0417**	**0.0000**	**133.7812**	**133.7812**	**0.0367**	**0.0000**	**134.6995**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3500e-003	2.6700e-003	0.0291	8.0000e-005	7.6400e-003	6.0000e-005	7.7000e-003	2.0300e-003	6.0000e-005	2.0800e-003	0.0000	7.1009	7.1009	2.2000e-004	0.0000	7.1065
Total	**3.3500e-003**	**2.6700e-003**	**0.0291**	**8.0000e-005**	**7.6400e-003**	**6.0000e-005**	**7.7000e-003**	**2.0300e-003**	**6.0000e-005**	**2.0800e-003**	**0.0000**	**7.1009**	**7.1009**	**2.2000e-004**	**0.0000**	**7.1065**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0185	0.0920	0.8718	1.5100e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	132.1706	132.1706	0.0366	0.0000	133.0847
Total	**0.0185**	**0.0920**	**0.8718**	**1.5100e-003**	**3.8000e-004**	**2.5100e-003**	**2.8900e-003**	**4.0000e-005**	**2.5100e-003**	**2.5500e-003**	**0.0000**	**132.1706**	**132.1706**	**0.0366**	**0.0000**	**133.0847**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3500e-003	2.6700e-003	0.0291	8.0000e-005	7.6400e-003	6.0000e-005	7.7000e-003	2.0300e-003	6.0000e-005	2.0800e-003	0.0000	7.1009	7.1009	2.2000e-004	0.0000	7.1065
Total	**3.3500e-003**	**2.6700e-003**	**0.0291**	**8.0000e-005**	**7.6400e-003**	**6.0000e-005**	**7.7000e-003**	**2.0300e-003**	**6.0000e-005**	**2.0800e-003**	**0.0000**	**7.1009**	**7.1009**	**2.2000e-004**	**0.0000**	**7.1065**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0216	0.0000	0.0216	3.2200e-003	0.0000	3.2200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.5405	6.0481	4.4086	0.0111		0.2567	0.2567		0.2369	0.2369	0.0000	988.6365	988.6365	0.3063	0.0000	996.2944
Total	**0.5405**	**6.0481**	**4.4086**	**0.0111**	**0.0216**	**0.2567**	**0.2782**	**3.2200e-003**	**0.2369**	**0.2401**	**0.0000**	**988.6365**	**988.6365**	**0.3063**	**0.0000**	**996.2944**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2406	8.4207	1.6969	0.0218	0.4850	0.0315	0.5165	0.1331	0.0301	0.1632	0.0000	2,137.5799	2,137.5799	0.1541	0.0000	2,141.4323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0264	0.0211	0.2293	6.2000e-004	0.0602	4.8000e-004	0.0607	0.0160	4.4000e-004	0.0164	0.0000	56.0117	56.0117	1.7600e-003	0.0000	56.0556
Total	**0.2670**	**8.4418**	**1.9262**	**0.0224**	**0.5453**	**0.0320**	**0.5772**	**0.1491**	**0.0306**	**0.1797**	**0.0000**	**2,193.5916**	**2,193.5916**	**0.1559**	**0.0000**	**2,197.4879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.4100e-003	0.0000	8.4100e-003	1.2600e-003	0.0000	1.2600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1582	0.8114	6.1245	0.0111		0.0234	0.0234		0.0234	0.0234	0.0000	976.3552	976.3552	0.3050	0.0000	983.9812
Total	**0.1582**	**0.8114**	**6.1245**	**0.0111**	**8.4100e-003**	**0.0234**	**0.0319**	**1.2600e-003**	**0.0234**	**0.0247**	**0.0000**	**976.3552**	**976.3552**	**0.3050**	**0.0000**	**983.9812**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.2406	8.4207	1.6969	0.0218	0.4850	0.0315	0.5165	0.1331	0.0301	0.1632	0.0000	2,137.5799	2,137.5799	0.1541	0.0000	2,141.4323
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0264	0.0211	0.2293	6.2000e-004	0.0602	4.8000e-004	0.0607	0.0160	4.4000e-004	0.0164	0.0000	56.0117	56.0117	1.7600e-003	0.0000	56.0556
Total	**0.2670**	**8.4418**	**1.9262**	**0.0224**	**0.5453**	**0.0320**	**0.5772**	**0.1491**	**0.0306**	**0.1797**	**0.0000**	**2,193.5916**	**2,193.5916**	**0.1559**	**0.0000**	**2,197.4879**

3.5 Foundation (North Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1200e-003	0.0624	0.0337	7.0000e-005		3.1900e-003	3.1900e-003		2.9500e-003	2.9500e-003	0.0000	5.7590	5.7590	1.6700e-003	0.0000	5.8008
Total	**6.1200e-003**	**0.0624**	**0.0337**	**7.0000e-005**		**3.1900e-003**	**3.1900e-003**		**2.9500e-003**	**2.9500e-003**	**0.0000**	**5.7590**	**5.7590**	**1.6700e-003**	**0.0000**	**5.8008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.5064	0.1030	1.3400e-003	0.0302	1.9500e-003	0.0321	8.2900e-003	1.8600e-003	0.0102	0.0000	131.3167	131.3167	9.2600e-003	0.0000	131.5480
Worker	1.8000e-004	1.5000e-004	1.5900e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3877	0.3877	1.0000e-005	0.0000	0.3880
Total	**0.0148**	**0.5065**	**0.1046**	**1.3400e-003**	**0.0306**	**1.9500e-003**	**0.0326**	**8.4000e-003**	**1.8600e-003**	**0.0103**	**0.0000**	**131.7043**	**131.7043**	**9.2700e-003**	**0.0000**	**131.9360**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7000e-004	5.0600e-003	0.0165	7.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.0599	2.0599	5.4000e-004	0.0000	2.0735
Total	**8.7000e-004**	**5.0600e-003**	**0.0165**	**7.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**2.0599**	**2.0599**	**5.4000e-004**	**0.0000**	**2.0735**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0146	0.5064	0.1030	1.3400e-003	0.0302	1.9500e-003	0.0321	8.2900e-003	1.8600e-003	0.0102	0.0000	131.3167	131.3167	9.2600e-003	0.0000	131.5480
Worker	1.8000e-004	1.5000e-004	1.5900e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3877	0.3877	1.0000e-005	0.0000	0.3880
Total	**0.0148**	**0.5065**	**0.1046**	**1.3400e-003**	**0.0306**	**1.9500e-003**	**0.0326**	**8.4000e-003**	**1.8600e-003**	**0.0103**	**0.0000**	**131.7043**	**131.7043**	**9.2700e-003**	**0.0000**	**131.9360**

3.6 Foundation (South Tower) - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.1200e-003	0.0624	0.0337	7.0000e-005		3.1900e-003	3.1900e-003		2.9500e-003	2.9500e-003	0.0000	5.7590	5.7590	1.6700e-003	0.0000	5.8008
Total	**6.1200e-003**	**0.0624**	**0.0337**	**7.0000e-005**		**3.1900e-003**	**3.1900e-003**		**2.9500e-003**	**2.9500e-003**	**0.0000**	**5.7590**	**5.7590**	**1.6700e-003**	**0.0000**	**5.8008**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4225	0.0860	1.1100e-003	0.0252	1.6200e-003	0.0268	6.9100e-003	1.5500e-003	8.4700e-003	0.0000	109.5551	109.5551	7.7200e-003	0.0000	109.7481
Worker	1.8000e-004	1.5000e-004	1.5900e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3877	0.3877	1.0000e-005	0.0000	0.3880
Total	**0.0124**	**0.4226**	**0.0875**	**1.1100e-003**	**0.0256**	**1.6200e-003**	**0.0272**	**7.0200e-003**	**1.5500e-003**	**8.5800e-003**	**0.0000**	**109.9428**	**109.9428**	**7.7300e-003**	**0.0000**	**110.1361**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7000e-004	5.0600e-003	0.0165	7.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.0599	2.0599	5.4000e-004	0.0000	2.0735
Total	**8.7000e-004**	**5.0600e-003**	**0.0165**	**7.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**2.0599**	**2.0599**	**5.4000e-004**	**0.0000**	**2.0735**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0122	0.4225	0.0860	1.1100e-003	0.0252	1.6200e-003	0.0268	6.9100e-003	1.5500e-003	8.4700e-003	0.0000	109.5551	109.5551	7.7200e-003	0.0000	109.7481
Worker	1.8000e-004	1.5000e-004	1.5900e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3877	0.3877	1.0000e-005	0.0000	0.3880
Total	**0.0124**	**0.4226**	**0.0875**	**1.1100e-003**	**0.0256**	**1.6200e-003**	**0.0272**	**7.0200e-003**	**1.5500e-003**	**8.5800e-003**	**0.0000**	**109.9428**	**109.9428**	**7.7300e-003**	**0.0000**	**110.1361**

3.7 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4700	4.4595	2.9740	6.5200e-003		0.2252	0.2252		0.2109	0.2109	0.0000	573.5503	573.5503	0.1586	0.0000	577.5151
Total	**0.4700**	**4.4595**	**2.9740**	**6.5200e-003**		**0.2252**	**0.2252**		**0.2109**	**0.2109**	**0.0000**	**573.5503**	**573.5503**	**0.1586**	**0.0000**	**577.5151**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	1.3261	0.3382	2.8800e-003	0.0714	8.6800e-003	0.0801	0.0206	8.3000e-003	0.0289	0.0000	278.8487	278.8487	0.0196	0.0000	279.3378
Worker	0.2142	0.1708	1.8573	5.0200e-003	0.4880	3.8900e-003	0.4918	0.1296	3.5800e-003	0.1332	0.0000	453.7559	453.7559	0.0142	0.0000	454.1116
Total	**0.2591**	**1.4969**	**2.1954**	**7.9000e-003**	**0.5593**	**0.0126**	**0.5719**	**0.1502**	**0.0119**	**0.1621**	**0.0000**	**732.6046**	**732.6046**	**0.0338**	**0.0000**	**733.4495**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0872	0.4587	2.9994	6.5200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	481.0717	481.0717	0.1304	0.0000	484.3317
Total	**0.0872**	**0.4587**	**2.9994**	**6.5200e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**481.0717**	**481.0717**	**0.1304**	**0.0000**	**484.3317**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	1.3261	0.3382	2.8800e-003	0.0714	8.6800e-003	0.0801	0.0206	8.3000e-003	0.0289	0.0000	278.8487	278.8487	0.0196	0.0000	279.3378
Worker	0.2142	0.1708	1.8573	5.0200e-003	0.4880	3.8900e-003	0.4918	0.1296	3.5800e-003	0.1332	0.0000	453.7559	453.7559	0.0142	0.0000	454.1116
Total	**0.2591**	**1.4969**	**2.1954**	**7.9000e-003**	**0.5593**	**0.0126**	**0.5719**	**0.1502**	**0.0119**	**0.1621**	**0.0000**	**732.6046**	**732.6046**	**0.0338**	**0.0000**	**733.4495**

3.7 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.8838	8.2086	5.8970	0.0133		0.4039	0.4039		0.3782	0.3782	0.0000	1,148.8165	1,148.8165	0.3223	0.0000	1,156.8751
Total	**0.8838**	**8.2086**	**5.8970**	**0.0133**		**0.4039**	**0.4039**		**0.3782**	**0.3782**	**0.0000**	**1,148.8165**	**1,148.8165**	**0.3223**	**0.0000**	**1,156.8751**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0782	2.4773	0.6247	5.8300e-003	0.1456	0.0121	0.1577	0.0420	0.0116	0.0536	0.0000	565.2088	565.2088	0.0377	0.0000	566.1517
Worker	0.4038	0.3109	3.4420	9.9200e-003	0.9954	7.7400e-003	1.0032	0.2644	7.1300e-003	0.2715	0.0000	896.9736	896.9736	0.0258	0.0000	897.6194
Total	**0.4821**	**2.7882**	**4.0667**	**0.0158**	**1.1410**	**0.0199**	**1.1609**	**0.3064**	**0.0187**	**0.3251**	**0.0000**	**1,462.1824**	**1,462.1824**	**0.0636**	**0.0000**	**1,463.7711**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1779	0.9357	6.1188	0.0133		0.0290	0.0290		0.0290	0.0290	0.0000	964.0393	964.0393	0.2648	0.0000	970.6602
Total	**0.1779**	**0.9357**	**6.1188**	**0.0133**		**0.0290**	**0.0290**		**0.0290**	**0.0290**	**0.0000**	**964.0393**	**964.0393**	**0.2648**	**0.0000**	**970.6602**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0782	2.4773	0.6247	5.8300e-003	0.1456	0.0121	0.1577	0.0420	0.0116	0.0536	0.0000	565.2088	565.2088	0.0377	0.0000	566.1517
Worker	0.4038	0.3109	3.4420	9.9200e-003	0.9954	7.7400e-003	1.0032	0.2644	7.1300e-003	0.2715	0.0000	896.9736	896.9736	0.0258	0.0000	897.6194
Total	**0.4821**	**2.7882**	**4.0667**	**0.0158**	**1.1410**	**0.0199**	**1.1609**	**0.3064**	**0.0187**	**0.3251**	**0.0000**	**1,462.1824**	**1,462.1824**	**0.0636**	**0.0000**	**1,463.7711**

3.8 Podium Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3061	2.8435	2.0428	4.6100e-003		0.1399	0.1399		0.1310	0.1310	0.0000	397.9561	397.9561	0.1117	0.0000	400.7476
Total	**0.3061**	**2.8435**	**2.0428**	**4.6100e-003**		**0.1399**	**0.1399**		**0.1310**	**0.1310**	**0.0000**	**397.9561**	**397.9561**	**0.1117**	**0.0000**	**400.7476**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0320	1.0144	0.2558	2.3900e-003	0.0596	4.9600e-003	0.0646	0.0172	4.7500e-003	0.0220	0.0000	231.4486	231.4486	0.0155	0.0000	231.8348
Worker	0.1399	0.1077	1.1923	3.4400e-003	0.3448	2.6800e-003	0.3475	0.0916	2.4700e-003	0.0940	0.0000	310.7164	310.7164	8.9500e-003	0.0000	310.9400
Total	**0.1719**	**1.1221**	**1.4481**	**5.8300e-003**	**0.4044**	**7.6400e-003**	**0.4121**	**0.1088**	**7.2200e-003**	**0.1160**	**0.0000**	**542.1650**	**542.1650**	**0.0244**	**0.0000**	**542.7748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0616	0.3241	2.1196	4.6100e-003		0.0101	0.0101		0.0101	0.0101	0.0000	333.9483	333.9483	0.0917	0.0000	336.2418
Total	**0.0616**	**0.3241**	**2.1196**	**4.6100e-003**		**0.0101**	**0.0101**		**0.0101**	**0.0101**	**0.0000**	**333.9483**	**333.9483**	**0.0917**	**0.0000**	**336.2418**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0320	1.0144	0.2558	2.3900e-003	0.0596	4.9600e-003	0.0646	0.0172	4.7500e-003	0.0220	0.0000	231.4486	231.4486	0.0155	0.0000	231.8348
Worker	0.1399	0.1077	1.1923	3.4400e-003	0.3448	2.6800e-003	0.3475	0.0916	2.4700e-003	0.0940	0.0000	310.7164	310.7164	8.9500e-003	0.0000	310.9400
Total	**0.1719**	**1.1221**	**1.4481**	**5.8300e-003**	**0.4044**	**7.6400e-003**	**0.4121**	**0.1088**	**7.2200e-003**	**0.1160**	**0.0000**	**542.1650**	**542.1650**	**0.0244**	**0.0000**	**542.7748**

3.9 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.5164	4.7700	3.5454	7.2500e-003		0.2478	0.2478		0.2327	0.2327	0.0000	623.0180	623.0180	0.1668	0.0000	627.1870
Total	**0.5164**	**4.7700**	**3.5454**	**7.2500e-003**		**0.2478**	**0.2478**		**0.2327**	**0.2327**	**0.0000**	**623.0180**	**623.0180**	**0.1668**	**0.0000**	**627.1870**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0495	1.5692	0.3957	3.6900e-003	0.0922	7.6800e-003	0.0999	0.0266	7.3500e-003	0.0340	0.0000	358.0169	358.0169	0.0239	0.0000	358.6142
Worker	0.2851	0.2195	2.4297	7.0100e-003	0.7027	5.4600e-003	0.7081	0.1866	5.0300e-003	0.1916	0.0000	633.1579	633.1579	0.0182	0.0000	633.6137
Total	**0.3346**	**1.7886**	**2.8253**	**0.0107**	**0.7949**	**0.0131**	**0.8080**	**0.2132**	**0.0124**	**0.2256**	**0.0000**	**991.1748**	**991.1748**	**0.0421**	**0.0000**	**992.2279**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0994	0.5470	3.3589	7.2500e-003		0.0170	0.0170		0.0170	0.0170	0.0000	492.5872	492.5872	0.1262	0.0000	495.7414
Total	**0.0994**	**0.5470**	**3.3589**	**7.2500e-003**		**0.0170**	**0.0170**		**0.0170**	**0.0170**	**0.0000**	**492.5872**	**492.5872**	**0.1262**	**0.0000**	**495.7414**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0495	1.5692	0.3957	3.6900e-003	0.0922	7.6800e-003	0.0999	0.0266	7.3500e-003	0.0340	0.0000	358.0169	358.0169	0.0239	0.0000	358.6142
Worker	0.2851	0.2195	2.4297	7.0100e-003	0.7027	5.4600e-003	0.7081	0.1866	5.0300e-003	0.1916	0.0000	633.1579	633.1579	0.0182	0.0000	633.6137
Total	**0.3346**	**1.7886**	**2.8253**	**0.0107**	**0.7949**	**0.0131**	**0.8080**	**0.2132**	**0.0124**	**0.2256**	**0.0000**	**991.1748**	**991.1748**	**0.0421**	**0.0000**	**992.2279**

3.9 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3680	12.3834	10.0329	0.0210		0.6222	0.6222		0.5844	0.5844	0.0000	1,805.5616	1,805.5616	0.4805	0.0000	1,817.5734
Total	**1.3680**	**12.3834**	**10.0329**	**0.0210**		**0.6222**	**0.6222**		**0.5844**	**0.5844**	**0.0000**	**1,805.5616**	**1,805.5616**	**0.4805**	**0.0000**	**1,817.5734**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1219	4.1254	1.0426	0.0106	0.2673	8.4000e-003	0.2757	0.0771	8.0400e-003	0.0852	0.0000	1,029.7791	1,029.7791	0.0664	0.0000	1,031.4387
Worker	0.7714	0.5725	6.4776	0.0196	2.0364	0.0154	2.0517	0.5408	0.0141	0.5550	0.0000	1,775.6323	1,775.6323	0.0478	0.0000	1,776.8269
Total	**0.8933**	**4.6979**	**7.5202**	**0.0303**	**2.3036**	**0.0238**	**2.3274**	**0.6179**	**0.0222**	**0.6401**	**0.0000**	**2,805.4114**	**2,805.4114**	**0.1142**	**0.0000**	**2,808.2656**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2880	1.5851	9.7345	0.0210		0.0491	0.0491		0.0491	0.0491	0.0000	1,427.5864	1,427.5864	0.3628	0.0000	1,436.6574
Total	**0.2880**	**1.5851**	**9.7345**	**0.0210**		**0.0491**	**0.0491**		**0.0491**	**0.0491**	**0.0000**	**1,427.5864**	**1,427.5864**	**0.3628**	**0.0000**	**1,436.6574**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1219	4.1254	1.0426	0.0106	0.2673	8.4000e-003	0.2757	0.0771	8.0400e-003	0.0852	0.0000	1,029.7791	1,029.7791	0.0664	0.0000	1,031.4387
Worker	0.7714	0.5725	6.4776	0.0196	2.0364	0.0154	2.0517	0.5408	0.0141	0.5550	0.0000	1,775.6323	1,775.6323	0.0478	0.0000	1,776.8269
Total	**0.8933**	**4.6979**	**7.5202**	**0.0303**	**2.3036**	**0.0238**	**2.3274**	**0.6179**	**0.0222**	**0.6401**	**0.0000**	**2,805.4114**	**2,805.4114**	**0.1142**	**0.0000**	**2,808.2656**

3.9 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.9462	8.2441	7.4901	0.0160		0.4025	0.4025		0.3785	0.3785	0.0000	1,378.8779	1,378.8779	0.3661	0.0000	1,388.0299
Total	**0.9462**	**8.2441**	**7.4901**	**0.0160**		**0.4025**	**0.4025**		**0.3785**	**0.3785**	**0.0000**	**1,378.8779**	**1,378.8779**	**0.3661**	**0.0000**	**1,388.0299**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0874	2.9889	0.7537	8.0200e-003	0.2041	5.5800e-003	0.2097	0.0589	5.3400e-003	0.0642	0.0000	779.3708	779.3708	0.0489	0.0000	780.5940
Worker	0.5532	0.3949	4.5675	0.0145	1.5549	0.0114	1.5663	0.4130	0.0105	0.4234	0.0000	1,307.2711	1,307.2711	0.0330	0.0000	1,308.0950
Total	**0.6406**	**3.3839**	**5.3212**	**0.0225**	**1.7590**	**0.0170**	**1.7760**	**0.4718**	**0.0158**	**0.4877**	**0.0000**	**2,086.6419**	**2,086.6419**	**0.0819**	**0.0000**	**2,088.6890**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2199	1.2103	7.4332	0.0160		0.0375	0.0375		0.0375	0.0375	0.0000	1,090.2195	1,090.2195	0.2762	0.0000	1,097.1256
Total	**0.2199**	**1.2103**	**7.4332**	**0.0160**		**0.0375**	**0.0375**		**0.0375**	**0.0375**	**0.0000**	**1,090.2195**	**1,090.2195**	**0.2762**	**0.0000**	**1,097.1256**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0874	2.9889	0.7537	8.0200e-003	0.2041	5.5800e-003	0.2097	0.0589	5.3400e-003	0.0642	0.0000	779.3708	779.3708	0.0489	0.0000	780.5940
Worker	0.5532	0.3949	4.5675	0.0145	1.5549	0.0114	1.5663	0.4130	0.0105	0.4234	0.0000	1,307.2711	1,307.2711	0.0330	0.0000	1,308.0950
Total	**0.6406**	**3.3839**	**5.3212**	**0.0225**	**1.7590**	**0.0170**	**1.7760**	**0.4718**	**0.0158**	**0.4877**	**0.0000**	**2,086.6419**	**2,086.6419**	**0.0819**	**0.0000**	**2,088.6890**

3.10 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1282**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1542	0.1144	1.2944	3.9200e-003	0.4069	3.0700e-003	0.4100	0.1081	2.8300e-003	0.1109	0.0000	354.8270	354.8270	9.5500e-003	0.0000	355.0657
Total	**0.1542**	**0.1144**	**1.2944**	**3.9200e-003**	**0.4069**	**3.0700e-003**	**0.4100**	**0.1081**	**2.8300e-003**	**0.1109**	**0.0000**	**354.8270**	**354.8270**	**9.5500e-003**	**0.0000**	**355.0657**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1282					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.1282**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1542	0.1144	1.2944	3.9200e-003	0.4069	3.0700e-003	0.4100	0.1081	2.8300e-003	0.1109	0.0000	354.8270	354.8270	9.5500e-003	0.0000	355.0657
Total	**0.1542**	**0.1144**	**1.2944**	**3.9200e-003**	**0.4069**	**3.0700e-003**	**0.4100**	**0.1081**	**2.8300e-003**	**0.1109**	**0.0000**	**354.8270**	**354.8270**	**9.5500e-003**	**0.0000**	**355.0657**

3.10 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6251**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1105	0.0789	0.9127	2.8900e-003	0.3107	2.2800e-003	0.3130	0.0825	2.1000e-003	0.0846	0.0000	261.2338	261.2338	6.5900e-003	0.0000	261.3984
Total	**0.1105**	**0.0789**	**0.9127**	**2.8900e-003**	**0.3107**	**2.2800e-003**	**0.3130**	**0.0825**	**2.1000e-003**	**0.0846**	**0.0000**	**261.2338**	**261.2338**	**6.5900e-003**	**0.0000**	**261.3984**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.6251					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.6251**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1105	0.0789	0.9127	2.8900e-003	0.3107	2.2800e-003	0.3130	0.0825	2.1000e-003	0.0846	0.0000	261.2338	261.2338	6.5900e-003	0.0000	261.3984
Total	**0.1105**	**0.0789**	**0.9127**	**2.8900e-003**	**0.3107**	**2.2800e-003**	**0.3130**	**0.0825**	**2.1000e-003**	**0.0846**	**0.0000**	**261.2338**	**261.2338**	**6.5900e-003**	**0.0000**	**261.3984**

3.11 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2646	2.4979	3.1708	5.8100e-003		0.1206	0.1206		0.1145	0.1145	0.0000	504.4556	504.4556	0.1191	0.0000	507.4330
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.2646**	**2.4979**	**3.1708**	**5.8100e-003**		**0.1206**	**0.1206**		**0.1145**	**0.1145**	**0.0000**	**504.4556**	**504.4556**	**0.1191**	**0.0000**	**507.4330**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0122	8.6900e-003	0.1005	3.2000e-004	0.0342	2.5000e-004	0.0345	9.0900e-003	2.3000e-004	9.3200e-003	0.0000	28.7646	28.7646	7.3000e-004	0.0000	28.7828
Total	**0.0122**	**8.6900e-003**	**0.1005**	**3.2000e-004**	**0.0342**	**2.5000e-004**	**0.0345**	**9.0900e-003**	**2.3000e-004**	**9.3200e-003**	**0.0000**	**28.7646**	**28.7646**	**7.3000e-004**	**0.0000**	**28.7828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0746	0.3397	3.8219	5.8100e-003		0.0109	0.0109		0.0109	0.0109	0.0000	504.4550	504.4550	0.1191	0.0000	507.4324
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0746**	**0.3397**	**3.8219**	**5.8100e-003**		**0.0109**	**0.0109**		**0.0109**	**0.0109**	**0.0000**	**504.4550**	**504.4550**	**0.1191**	**0.0000**	**507.4324**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0122	8.6900e-003	0.1005	3.2000e-004	0.0342	2.5000e-004	0.0345	9.0900e-003	2.3000e-004	9.3200e-003	0.0000	28.7646	28.7646	7.3000e-004	0.0000	28.7828
Total	**0.0122**	**8.6900e-003**	**0.1005**	**3.2000e-004**	**0.0342**	**2.5000e-004**	**0.0345**	**9.0900e-003**	**2.3000e-004**	**9.3200e-003**	**0.0000**	**28.7646**	**28.7646**	**7.3000e-004**	**0.0000**	**28.7828**

LA Times - Vibratory Pile Driver

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	1,935.93	1000sqft	1.84	1,935,927.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - see construction assumptions

Construction Phase - see construction assumptions

Off-road Equipment - see construction assumptions

Construction Off-road Equipment Mitigation - see construction assumptions

Trips and VMT - see construction assumptions

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	200.00	228.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	PhaseEndDate	8/17/2020	6/26/2020
tblConstructionPhase	PhaseStartDate	11/12/2019	10/5/2019
tblLandUse	LandUseSquareFeet	1,935,930.00	1,935,927.00
tblLandUse	LotAcreage	44.44	1.84
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblTripsAndVMT	VendorTripNumber	317.00	0.00
tblTripsAndVMT	WorkerTripNumber	620.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0165	0.2093	0.1231	5.5000e-004	1.6500e-003	5.9300e-003	7.5800e-003	4.4000e-004	5.4600e-003	5.8900e-003	0.0000	49.0842	49.0842	0.0151	0.0000	49.4616
2020	0.0334	0.4073	0.2516	1.1200e-003	3.3600e-003	0.0117	0.0151	8.9000e-004	0.0108	0.0117	0.0000	98.2092	98.2092	0.0309	0.0000	98.9809
Maximum	**0.0334**	**0.4073**	**0.2516**	**1.1200e-003**	**3.3600e-003**	**0.0117**	**0.0151**	**8.9000e-004**	**0.0108**	**0.0117**	**0.0000**	**98.2092**	**98.2092**	**0.0309**	**0.0000**	**98.9809**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	7.3300e-003	0.0292	0.2486	5.5000e-004	1.6500e-003	8.9000e-004	2.5400e-003	4.4000e-004	8.9000e-004	1.3300e-003	0.0000	49.0842	49.0842	0.0151	0.0000	49.4615
2020	0.0149	0.0595	0.5061	1.1200e-003	3.3600e-003	1.8200e-003	5.1800e-003	8.9000e-004	1.8200e-003	2.7100e-003	0.0000	98.2090	98.2090	0.0309	0.0000	98.9808
Maximum	**0.0149**	**0.0595**	**0.5061**	**1.1200e-003**	**3.3600e-003**	**1.8200e-003**	**5.1800e-003**	**8.9000e-004**	**1.8200e-003**	**2.7100e-003**	**0.0000**	**98.2090**	**98.2090**	**0.0309**	**0.0000**	**98.9808**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**55.54**	**85.61**	**-101.43**	**0.00**	**0.00**	**84.65**	**65.95**	**0.00**	**83.32**	**77.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-5-2019**	**1-4-2020**	0.2370	0.0385
2	**1-5-2020**	**4-4-2020**	0.2247	0.0380
3	**4-5-2020**	**7-4-2020**	0.2048	0.0345
		Highest	0.2370	0.0385

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Subterranean Parking Structure	Building Construction	10/5/2019	6/26/2020	6	228	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Subterranean Parking Structure	Bore/Drill Rigs	1	12.00	221	0.50
Subterranean Parking Structure	Generator Sets	0	8.00	84	0.74
Subterranean Parking Structure	Cranes	0	6.00	231	0.29
Subterranean Parking Structure	Forklifts	0	6.00	89	0.20
Subterranean Parking Structure	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Subterranean Parking Structure	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Subterranean Parking Structure	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Subterranean Parking Structure - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0158	0.2087	0.1169	5.3000e-004		5.9200e-003	5.9200e-003		5.4500e-003	5.4500e-003	0.0000	47.5539	47.5539	0.0151	0.0000	47.9300
Total	**0.0158**	**0.2087**	**0.1169**	**5.3000e-004**		**5.9200e-003**	**5.9200e-003**		**5.4500e-003**	**5.4500e-003**	**0.0000**	**47.5539**	**47.5539**	**0.0151**	**0.0000**	**47.9300**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.8000e-004	6.2600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5304	1.5304	5.0000e-005	0.0000	1.5316
Total	**7.2000e-004**	**5.8000e-004**	**6.2600e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5304**	**1.5304**	**5.0000e-005**	**0.0000**	**1.5316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.6100e-003	0.0286	0.2424	5.3000e-004		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	47.5538	47.5538	0.0151	0.0000	47.9300
Total	**6.6100e-003**	**0.0286**	**0.2424**	**5.3000e-004**		**8.8000e-004**	**8.8000e-004**		**8.8000e-004**	**8.8000e-004**	**0.0000**	**47.5538**	**47.5538**	**0.0151**	**0.0000**	**47.9300**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.8000e-004	6.2600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5304	1.5304	5.0000e-005	0.0000	1.5316
Total	**7.2000e-004**	**5.8000e-004**	**6.2600e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.5304**	**1.5304**	**5.0000e-005**	**0.0000**	**1.5316**

3.2 Subterranean Parking Structure - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0320	0.4062	0.2400	1.0800e-003		0.0117	0.0117		0.0108	0.0108	0.0000	95.1840	95.1840	0.0308	0.0000	95.9536
Total	**0.0320**	**0.4062**	**0.2400**	**1.0800e-003**		**0.0117**	**0.0117**		**0.0108**	**0.0108**	**0.0000**	**95.1840**	**95.1840**	**0.0308**	**0.0000**	**95.9536**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	1.0500e-003	0.0116	3.0000e-005	3.3600e-003	3.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.0252	3.0252	9.0000e-005	0.0000	3.0274
Total	**1.3600e-003**	**1.0500e-003**	**0.0116**	**3.0000e-005**	**3.3600e-003**	**3.0000e-005**	**3.3800e-003**	**8.9000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**3.0252**	**3.0252**	**9.0000e-005**	**0.0000**	**3.0274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0135	0.0584	0.4945	1.0800e-003		1.8000e-003	1.8000e-003		1.8000e-003	1.8000e-003	0.0000	95.1838	95.1838	0.0308	0.0000	95.9534
Total	**0.0135**	**0.0584**	**0.4945**	**1.0800e-003**		**1.8000e-003**	**1.8000e-003**		**1.8000e-003**	**1.8000e-003**	**0.0000**	**95.1838**	**95.1838**	**0.0308**	**0.0000**	**95.9534**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	1.0500e-003	0.0116	3.0000e-005	3.3600e-003	3.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	3.0252	3.0252	9.0000e-005	0.0000	3.0274
Total	**1.3600e-003**	**1.0500e-003**	**0.0116**	**3.0000e-005**	**3.3600e-003**	**3.0000e-005**	**3.3800e-003**	**8.9000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**3.0252**	**3.0252**	**9.0000e-005**	**0.0000**	**3.0274**

F-3 Project Operational Emissions

Onni Times Square last update: 2/12/2018
Air Quality and Greenhouse Gas Assessment - Construction Assumptions

Table 1: CalEEMod Land Use Inputs

Land Use	CalEEMod Land Use Type	Units [a]				Res. Pop.
Existing Uses to be Demolished/Removed						
Executive Building	General Office	176.26	gross ksf	176,258	gross sf	
Executive Building Bank	Bank (With Drive Through)	7.50	gross ksf	7,500	gross sf	
Corporate Garage	Parking Structure	44.31	gross ksf	44,306	gross sf	
Total Existing Uses to be Demolished/Removed		***228.06***	***gross ksf***	***228,064***	***gross sf***	
Existing Uses to Remain						
Times Building	General Office	116.11	gross ksf	116,113	gross sf	
Plant Building	General Office	79.34	gross ksf	79,340	gross sf	
Cafeteria	High-turnover (Sit-down) Restaurant	11.25	gross ksf	11,250	gross sf	
Mirror Building	General Office	169.40	gross ksf	169,402	gross sf	
Total Existing Uses to Remain		376.11	gross ksf	376,105	gross sf	
Total Existing Uses		***604.17***	***gross ksf***	***604,169***	***gross sf***	
Renovation of Existing Buildings						
Times (Times North) rooftop restoration of old design						
Plants Building (Rooftop:Mechanical Equipment to Office Terrace)						
Times (Times North), Plant and Mirror (Times South) Buildings Renovation - Commercial (grocery store, retail with office space on 2nd-4th floor)						
Renovations		1,406.000				
Commerical Office use	General Office	285.088	ksf	285,088	gross sf	
Ground-floor Restaurant	High-Turnover Restaurant	18.817	ksf	18,817	gross sf	
Upper-floor Office (Conservatively Modeled as Restaurant)	Quality Restaurant	22.200	ksf	22,200	gross sf	
Grocery Store	Supermarket	50.000	ksf	50,000	gross sf	
	Total	**376.105**	**ksf**	**376,105**	**gross sf**	
Project						
North Tower (location of Executive Building)	High-Rise Apartment	450	DU			
South Tower (location of former Parking Garage)	High-Rise Apartment	677	DU			
Total Residential		1,127	DU	1,071,692	sf	1,894
Loading	Other Non-Asphalt Surfaces	2.586	ksf	2,586	sf	
Podium Retail/Commercial	High-Turnover Restaurant	34.572	ksf	34,572	sf	
Total Towers Floor Area				***1,108,850***	***sf***	
Project Common Space/Common Space Amenities						
Residential Private Amenities						
Private Balconies (50 sf each)	Other Non-Asphalt Surfaces	56.349	ksf	56,349	sf	
Residential Outdoor Amenities						
Level 6 - Residential Terrace	City Park	28.777	ksf	28,777	sf	
Level 1 - Paseo/Plaza	Other Non-Asphalt Surfaces	15.708	ksf	15,708	sf	
Residential Indoor Amenities						
Level 1 - Lounge (North Tower)	General Office	3.025	ksf	3,025	sf	
Level 6 - Amenity (N Tower) + Level 6 - Amenity (S Tower)	Health Club	25.618	ksf	25,618	sf	
Total Residential Common Space/Common Space Amenities		***129.477***	***ksf***	***129,477***	***sf***	
Subterranean Parking Structure	Enclosed Parking with Elevator	1,410	spaces	**564,000**	**sf**	
Podium Parking Structure	Enclosed Parking with Elevator	334	spaces	**133,600**	**sf**	
Total Parking		***1,744***	***spaces***			
Total Floor Area				***1,935,927***	***sf***	
Residential Bicycle Parking	N/A	1,274	bicycle spaces			
Trees	N/A	194	provided			
Lot Area		3.69	acres	160,578	sf	

22

Notes:
a. Square footage values may be rounded up to provide a conservative analysis.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Table 2: Construction Schedule and California Emissions Estimator Model (CalEEMod) Inputs

CalEEMod Construction Phase	Start Date	End Date	No. Work Days	Site Prep/ Demo (Tons)[b]	Truck Capacity (Tons)	Truck Total One-Way Trips	Trucks One-Way Distance	Truck Daily One-Way Trips	Soil Export (CY)[b]	Soil Import (CY)	Soil Haul Truck Capacity (CY)	Soil Haul Truck Total One-Way Trips	Trucks One-Way Distance	Soil Haul Truck Daily One-Way Trips	Concrete Mat Volume (CY)[b]	Concrete Truck Capacity (CY)	Concrete Truck Total One-Way Trips	Concrete Truck Daily One-Way Trips	Vendor One-Way Trips/Max Day[c]	Worker One-Way Trips/Max Day[c]
Project																				
Demolition	7/1/2018	1/31/2019	184	35,000	20	3,500	22.1	20												58
Site Preparation	2/1/2019	2/28/2019	24																	58
Grading and Excavation	3/1/2019	9/30/2019	183						364,000	-	14.25	51,088	22.1	280						60
Foundations/Concrete Pour (North Tower)	10/1/2019	10/2/2019	2												9,366	10	1,874	1,406		38
Foundations/Concrete Pour (South Tower)	10/3/2019	10/4/2019	2												7,817	10	1,564	1,173		38
Subterranean Parking Structure	10/5/2019	6/26/2020	228												45,702	10	9,141	40	262	1,190
Podium Construction	6/29/2020	8/28/2020	53												25,106	10	5,022	95	262	1,186
Building Construction	8/31/2020	10/8/2022	660												28,577	10	5,716	9	262	1,186
Paving	3/1/2022	10/8/2022	191																	33
Architectural Coating	1/1/2021	10/8/2022	554																	237
Renovation [a]	7/1/2018	8/8/2020	660																	124

Notes:
a. Renovation activity could occur at a later time. In order to provide a conservative assessment, renovation activity was modeled at the earliest possible time since emission factors are higher in earlier years compared to later years.
b. Demolition debris quantities, Soil export quantities and concrete quantities provided by the Omni Group.
c. Vendor Trips and Worker trips are based on CalEEMod assumptions.
Sources: AC Martin, Plans for Onni Times Square, 2017; ESA, 2018

Omni Times Square
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

No Action Taken

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	
Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	
Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction =	**2.69%**	Cap:	75%
(Includes double counting correction.)			
Total LUT/SDT/PDT/TST VMT Reduction =	**2.69%**	Cap:	70%
Total LUT % VMT Reduction =	**0.70%**	Cap:	65%

Land Use/Location Transportation Measures (65% Reduction Cap)

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction =	0.70%	Cap:	30%
Number of DU/acre:	305.4	A =	500%
Number of Jobs/acre:	425.7	A =	500%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap:	65%
Compact Infill LUT % VMT Reduction Cap:	30%
Suburban Center LUT % VMT Reduction Cap:	10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction =	0.00%	Cap:	30%
Single family sqft:	-	a_1 =	-
Multi-family sqft:	-	a_2 =	-
Commercial sqft:	-	a_3 =	-
Industrial sqft:	-	a_4 =	-
Institutional sqft:	-	a_5 =	-
Park sqft:	-	a_6 =	-
Total sqft:	-		

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction =	0.00%	Cap:	20%
Miles to downtown or job center:	-		

(Average distance to: Beverly Hills, Century City, Hollywood and Downtown L.A.
These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5 Increase Transit Accessibility

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Transit × B [not to exceed 30%]
Transit = % project transit - % typical ITE transit
% project transit = -50x + 38 [where x = 0 - 0.5 miles to transit]
-4.4x + 15.2 [where x = 0.5 - 3 miles to transit]
% typical ITE transit = 1.3%
B = 0.67

% VMT Reduction = 0.00% Cap: 30%
Miles to transit:
(Note: Only effective for 3 miles or less)

LUT-6 Integrated Affordable and Below Market Rate Housing

% VMT Reduction = 4% × % units BMR

% VMT Reduction = 0.00%
% of units below market rate: 0.0%
(Note: Only effective up to 30%)

LUT-7 Orient Project Toward Non-Auto Corridor

Not quantified separately; Assumed to be included in LUT-3
(If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)

LUT-8 Locate Project near Bike Path/Bike Lanes

Not quantified separately; Assumed to be included in LUT-4
(If included in LUT-4, VMT reduction should be at least 0.625%)

LUT-9 Improve Design of Development

% VMT Reduction = Intersections × B
Intersections = % increase vs. typical ITE suburban
= (Intersections per square mile of project - 36) / 36
B = 0.12

% VMT Reduction = 0.00%
Intersections per square mile: -
(Estimated based on count of 4-way intersections within 1 mile radius of project site.)
(Note: Only effective up to 100)

Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)

Total SDT % VMT Reduction = 2.00% Cap: 5% without NEV
Cap: 15% With NEV

SDT-1 Provide Pedestrian Network Improvements

VMT reduction based on urban/rural context and pedestrian accomodations

% VMT Reduction = 2.00%
Pedestrian network on-site and connecting off-site (urban/suburban): X 2%
Pedestrian network on-site (urban/suburban): 1%

(Mark an "X" in one of the above)

SDT-2 Provide Traffic Calming Measures

Marked crosswalks, count-down signal timers, curb extensions, speed tables, rasied crosswalks, raised intersections, median islands, tight corner radii, roundabouts, on-street parking, planter strips with trees, chicanes/chokers, and others.

% VMT Reduction = 0.00%

25% of streets with improvements:	A
50% of streets with improvements:	B
75% of streets with improvements:	C
100% of streets with improvements:	D

25% of intersctions with improvements:	W
50% of intersctions with improvements:	X
75% of intersctions with improvements:	Y
100% of intersctions with improvements:	Z

(Mark an "X" in one of the above for each group)

% of intersections with improvements

	% of streets with improvements: A	B	C	D
W	0.25%	0.25%	0.50%	0.50%
X	0.25%	0.50%	0.50%	0.75%
Y	0.50%	0.50%	0.75%	0.75%
Z	0.50%	0.75%	0.75%	1.00%

SDT-3	Neighborhood Electric Vehicle Network	% VMT Reduction = Pop × Number × NEV Pop × Number = NEVs per household [0.04 to 1.0] NEV = VMT reduction rate per household [12.7%]	% VMT Reduction =	0.00%	
			Low NEVs per Household:	0.04	
			High NEVs per Household:	1.0	
			(Mark an "X" in one of the above)		
SDT-4	Create Urban Non-Motorized Zones	Not quantified separately; Assumed to be included in SDT-1 (If included in SDT-1, VMT reduction should be at least 0.01% to 0.2%)			
SDT-5	Incorporate Bike Lane Street Design	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 1% of worker commute per additional mile of bike lanes per square mile)			
SDT-6	Provide Bike Parking in Non-Residential Projects	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 0.625%)			
SDT-7	Provide Bike Parking in Multi-Unit Residential Projects	Not quantified separately; Assumed to be included in LUT-9			
SDT-8	Provide Electric Vehicle Parking	Not quantified separately; Assumed to be included in SDT-3			
SDT-9	Dedicated Land for Bike Trails	Not quantified separately; Assumed to be included in LUT-9			
Parking Policy/Pricing (20% Reduction Cap)			**Total PDT % VMT Reduction =**	**0.00%**	Cap: 20%
PDT-1	Limit Parking Supply	% VMT Reduction = = (Actual Parking - ITE Parking) / ITE Parking × 0.5	% VMT Reduction =	0.00%	Cap: 12.50%
			Actual Parking Spaces:	-	
			ITE Parking Spaces:	-	
PDT-2	Unbunble Parking Costs from Property	% VMT Reduction = Change in vehicle cost × elasticity × A Change in vehicle cost = Monthly parking cost × (12/$4000) Elasticity = 0.4 A = 85%	% VMT Reduction =	0.00%	Cap: 13%
			Monthly parking cost:	$ -	
PDT-3	Implement Market Price Public Parking (On-Street)	% VMT Reduction = Park$ × B Park$ = Percent increase in on-street parking prices [minimum of 25%] B = 0.11	% VMT Reduction =	0.00%	Cap: 5.5%
			Actual On-Street Parking Price:	$ -	
			Baseline On-Street Parking Price:	$ -	
PDT-4	Require Residential Area Parking Permits	Not quantified separately; Assumed to be included in PDT-1, -2-, and -3 (If included in LUT-9, VMT reduction should be at least 0.09% to 0.36% depending on land use)			

Transit System Improvements (10% Reduction Cap)

Total TST % VMT Reduction = 0.00% Cap: 10%

TST-1	Provide a Bus Rapid Transit System	% VMT Reduction = Riders × Mode × Lines × D Riders = 28% Mode = 17% Urban Center 4% Urban 1.30% Suburban Lines = Percent of lines serving project converting to BRT D = 0.67	% VMT Reduction = 0.00% Cap: 3.2% Urban Center: 17% Urban: 4% Suburban: 1.30% (Mark an "X" in one of the above) Lines Converting to BRT: 0% Total Baseline Lines:			
TST-2	Implement Transit Access Improvements	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-3	Expand Transit Network	% VMT Reduction = Coverage × B × Mode × D Coverage = % increase in transit network coverage B = 0.65 Urban Center 0.72 Urban 1.01 Suburban Mode = 17% Urban Center 4% Urban 1.30% Suburban D = 0.67	% VMT Reduction = 0.00% Cap: 8.2% Urban Center: 17% 0.65 Urban: 4% 0.72 Suburban: 1.30% 1.01 (Mark an "X" in one of the above) Coverage:			
TST-4	Increase Transit Service Frequency/Speed	% VMT Reduction = Headway × B × C × Mode × E Headway = % reduction in headways [15% - 80%] B = 0.32 Urban 0.36 Suburban C = 50% < 50% lines improved 85% >= 50% lines improved Mode = 17% Urban Center 4% Urban 1.30% Suburban E = 0.67	% VMT Reduction = 0.00% Cap: 2.5% Urban Center: 17% 0.32 Urban: 4% 0.32 Suburban: 1.30% 0.36 (Mark an "X" in one of the above) Headway: Percent of Lines Improved:			
TST-5	Provide Bike Parking Near Transit	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-6	Provide Local Shuttles	Not quantified separately; Assumed to be included in TST-3 and -4				

Commute Trip Reduction (25% Reduction Cap - WORK VMT ONLY)

Total TRT % Work VMT Reduction = 0.00% Cap: 25%
% Work VMT of Total VMT: 2.5%
Total TRT % Overall VMT Reduction = 0.00% Cap: 15%

TRT-1	Implement Voluntary Commute Trip Reduction Program	% Work VMT Reduction = A × B A = 6.2% Urban 5.4% Suburban Center 5.2% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 6.2% Urban: 6.2% Suburban Center: 5.4% Suburban: 5.2% (Mark an "X" in one of the above) % Employees Eligible:			

TRT-2 — Implement Required Commute Trip Reduction Program

% Work VMT Reduction = A × B
A = 21%
B = % employees eligible

% Work VMT Reduction = 0.00% Cap: 21.0%

% Employees Eligible:

TRT-3 — Provide Ride-Sharing Programs

% Work VMT Reduction = Commute × Employee
Commute = 15% Urban
10% Suburban Center
5% Suburban
Employee = % employees eligible

% Work VMT Reduction = 0.00% Cap: 15.0%

Urban:		15%
Suburban Center:		10%
Suburban:		5%

(Mark an "X" in one of the above)

% Employees Eligible:

TRT-4 — Implement Subsidized or Discounted Transit Program

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 20.0%

Urban:		A
Suburban Center:		B
Suburban:		C
Transit Subsidy: $0.75		W
Transit Subsidy: $1.49		X
Transit Subsidy: $2.98		Y
Transit Subsidy: $5.96		Z

(Mark an "X" in one of the above for each group)

% Employees Eligible:

Daily Transit Subsidy

Setting	W	X	Y	Z
A	6.2%	12.9%	20%	20%
B	3.4%	7.3%	16.4%	20%
C	1.5%	3.3%	7.9%	20%

TRT-5 — Provide End of Trip Facilities

Not quantified separately; Assumed to be included in TRT-1 through -3
(If included, Work VMT reduction should be 2% to 5%, or total VMT reduction should be 0.02% to 0.625%)

TRT-6 — Encourage Telecommuting and Alternate Work Schedules

% Reduction in Commute VMT

% Work VMT Reduction = 0.00% Cap: 5.5%

9-day/80-hour Work Week:		A
4-day/40-hour Work Week:		B
Telecommuting 1.5 Days:		C
Employee Participation: 1%		V
Employee Participation: 3%		W
Employee Participation: 5%		X
Employee Participation: 10%		Y
Employee Participation: 25%		Z

(Mark an "X" in one of the above for each group)

Employee Participation

Schedule	V	W	X	Y	Z
A	0.07%	0.21%	0.35%	0.70%	1.75%
B	0.15%	0.45%	0.75%	1.50%	3.75%
C	0.22%	0.66%	1.10%	2.20%	5.50%

TRT-7 — Implement Commute Trip Reduction Marketing

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips [4%]
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 4.0%

% Employees Eligible:

TRT-8 — Implement Preferential Permit Parking Program

Not quantified separately; Assumed to be included in TRT-1 through -3

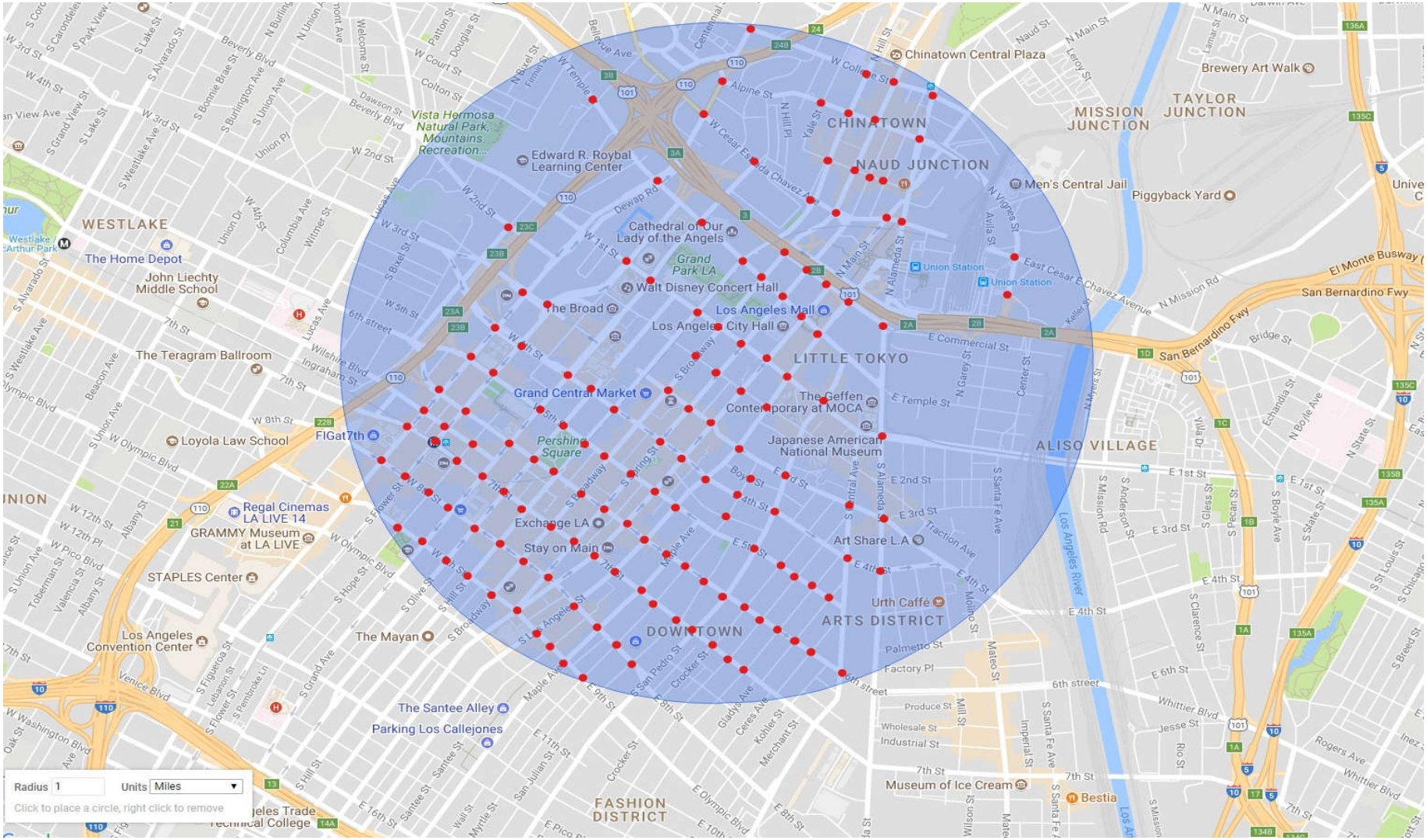
TRT-9	Implement Car-Sharing Program	% Work VMT Reduction = A × B / C A = % reduction in car-share member annual VMT [37%] B = number of car share members per shared car [20] C = 1,000 Urban 2,000 Suburban	% Work VMT Reduction = 0.00% Cap: 0.74% Urban: 1,000 Suburban: 2,000 (Mark an "X" in one of the above)
TRT-10	Implement a School Pool Program	Not applicable.	
TRT-11	Provide Employer-Sponsored Vanpool/Shuttle	% Work VMT Reduction = A × B × C A = % shift in vanpool mode share of commute trips = 2% to 20% B = % employees eligible C = 0.67	% Work VMT Reduction = 0.00% Cap: 13.4% A: Shift in Vanpool Mode Share: B: Employees Eligible:
TRT-12	Implement Bike Sharing Program	Not quantified separately; Assumed to be included in LUT-9 and SDT-5 (If included, total VMT reduction should be at least 0.03%)	
TRT-13	Implement School Bus Program	Not applicable.	
TRT-14	Price Workplace Parking	% Work VMT Reduction = A × B A = % reduction in commute VMT B = % employees subject to priced parking	% Work VMT Reduction = 0.00% Cap: 19.7% Urban: A Suburban Center: B Suburban: C Daily Parking Charge: $1 W Daily Parking Charge: $2 X Daily Parking Charge: $3 Y Daily Parking Charge: $6 Z (Mark an "X" in one of the above for each group) % Employees Subject to Priced Parking:
TRT-15	Implement Employee Parking Cash-Out	% Work VMT Reduction = A × B A = 7.7% Urban 4.5% Suburban Center 3.0% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 7.7% Urban: 7.7% Suburban Center: 4.5% Suburban: 3.0% (Mark an "X" in one of the above) % Employees Eligible:

Daily Parking Charge

Setting	W	X	Y	Z
A	6.9%	12.5%	16.8%	19.7%
B	1.8%	3.7%	5.4%	6.8%
C	0.5%	1.2%	1.9%	2.8%

Project: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

LUT-9 Improve Design of Development
Number of Four-way Intersections Around Project Site



Omni Times Square
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

NAT Project Trips and Vehicle Miles Traveled

Land Use (CalEEMod Land Use)	Unit Amount	Daily Project Trips
PROJECT		
Residential Units	1,127 DU	4.20 Baseline trip rate per DU -25.0% Deductions (Traffic Study) **3.15 Trip rate per DU less Adjustments** -2.7% VMT Reduction (CAPCOA) 14.7 H-W Trip Length (Baseline) 5.9 H-S Trip Length (Baseline) 8.7 H-O Trip Length (Baseline) **14.3 H-W Trip Length (Project)** **5.7 H-S Trip Length (Project)** **8.5 H-O Trip Length (Project)**
Recreational (Quality Restaurant)	22,200 sf	89.95 Baseline trip rate per 1000 sf -32.5% Deductions (Traffic Study) **60.72 Trip rate per 1000 sf less Adjustments** -2.7% VMT Reduction (CAPCOA) 8.4 C-C Trip Length (Baseline) 16.6 C-W Trip Length (Baseline) 6.9 C-NW Trip Length (Baseline) **8.2 C-C Trip Length (Project)** **16.2 C-W Trip Length (Project)** **6.7 C-NW Trip Length (Project)**
Recreational (High Turnover Restaurant)	53,389 sf	127.15 Baseline trip rate per 1000 sf -37.6% Deductions (Traffic Study) **79.34 Trip rate per 1000 sf less Adjustments** -2.7% VMT Reduction (CAPCOA) 8.4 C-C Trip Length (Baseline) 16.6 C-W Trip Length (Baseline) 6.9 C-NW Trip Length (Baseline) **8.2 C-C Trip Length (Project)** **16.2 C-W Trip Length (Project)** **6.7 C-NW Trip Length (Project)**
Retail (Supermarket)	50,000 sf	102.24 Baseline trip rate per 1000 sf -62.8% Deductions (Traffic Study) **38.03 Trip rate per 1000 sf less Adjustments** -2.7% VMT Reduction (CAPCOA) 8.4 C-C Trip Length (Baseline) 16.6 C-W Trip Length (Baseline) 6.9 C-NW Trip Length (Baseline) **8.2 C-C Trip Length (Project)** **16.2 C-W Trip Length (Project)** **6.7 C-NW Trip Length (Project)**
Office	285,088 sf	11.03 Baseline trip rate per 1000 sf -18.0% Deductions (Traffic Study) **9.04 Trip rate per 1000 sf less Adjustments** -2.7% VMT Reduction (CAPCOA) 8.4 C-C Trip Length (Baseline) 16.6 C-W Trip Length (Baseline) 6.9 C-NW Trip Length (Baseline) **8.2 C-C Trip Length (Project)** **16.2 C-W Trip Length (Project)** **6.7 C-NW Trip Length (Project)**

Source: Fehr and Peers 2017; ESA 2017.

LA Times - Operational (BAU) - South Coast Air Basin, Annual

LA Times - Operational (BAU)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
User Defined Commercial	3.02	User Defined Unit	0.04	3,025.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.08	74,643.00	0
City Park	0.92	Acre	0.08	40,027.00	0
Health Club	49.57	1000sqft	0.08	49,574.00	0
High Turnover (Sit Down Restaurant)	53.39	1000sqft	0.28	53,389.00	0
Quality Restaurant	22.20	1000sqft	0.20	22,200.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1145	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - LADWP CO2 emission factor adjusted to 2009 value for BAU from LADWP IRP 2016.

Land Use - see operational assumptions

Vehicle Trips - see operational assumptions

Woodstoves - see operational assumptions - no fireplaces and stoves

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Solid Waste - see operational assumptions - based solid waste generation rate of user defined on general office building

Energy Mitigation - see operational assumptions

Waste Mitigation -

Stationary Sources - Process Boilers -

Trips and VMT -

Architectural Coating -

Area Coating -

Table Name	Column Name	Default Value	New Value
tblApplianceMitigation	PercentImprovement	30.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblApplianceMitigation	PercentImprovement	50.00	0.00
tblApplianceMitigation	PercentImprovement	15.00	0.00
tblEnergyUse	LightingElect	0.00	3.77
tblEnergyUse	NT24E	0.00	4.62
tblEnergyUse	NT24NG	0.00	0.39
tblEnergyUse	T24E	0.00	4.60
tblEnergyUse	T24NG	0.00	10.02
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	957.95	0.00
tblFireplaces	NumberNoFireplace	112.70	0.00
tblFireplaces	NumberWood	56.35	0.00
tblLandUse	LandUseSquareFeet	285,090.00	285,088.00
tblLandUse	LandUseSquareFeet	0.00	3,025.00
tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
tblLandUse	LandUseSquareFeet	74,640.00	74,643.00
tblLandUse	LandUseSquareFeet	40,075.20	40,027.00

tblLandUse	LandUseSquareFeet	49,570.00	49,574.00
tblLandUse	LandUseSquareFeet	53,390.00	53,389.00
tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.00	0.04
tblLandUse	LotAcreage	15.79	0.68
tblLandUse	LotAcreage	1.71	0.08
tblLandUse	LotAcreage	0.92	0.08
tblLandUse	LotAcreage	1.14	0.08
tblLandUse	LotAcreage	1.23	0.28
tblLandUse	LotAcreage	0.51	0.20
tblLandUse	LotAcreage	18.18	0.80
tblLandUse	LotAcreage	1.15	0.50
tblLandUse	Population	3,223.00	1,894.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	1145
tblSolidWaste	SolidWasteGenerationRate	0.00	2.81
tblVehicleTrips	CC_TL	8.40	8.20
tblVehicleTrips	CC_TL	8.40	8.20
tblVehicleTrips	CC_TL	8.40	8.20
tblVehicleTrips	CC_TL	8.40	8.20
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	64.10	0.00
tblVehicleTrips	CNW_TL	6.90	6.70
tblVehicleTrips	CNW_TL	6.90	6.70
tblVehicleTrips	CNW_TL	6.90	6.70
tblVehicleTrips	CNW_TL	6.90	6.70
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	16.20
tblVehicleTrips	CW_TL	16.60	16.20

tblVehicleTrips	CW_TL	16.60	16.20
tblVehicleTrips	CW_TL	16.60	16.20
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.90	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	8.50
tblVehicleTrips	HS_TL	5.90	5.70
tblVehicleTrips	HW_TL	14.70	14.30
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	52.00	0.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	38.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	4.98	3.15
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	9.04
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	158.37	79.34
tblVehicleTrips	ST_TR	94.36	60.72
tblVehicleTrips	ST_TR	177.59	38.03
tblVehicleTrips	SU_TR	3.65	3.15

tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	9.04
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	131.84	79.34
tblVehicleTrips	SU_TR	72.16	60.72
tblVehicleTrips	SU_TR	166.44	38.03
tblVehicleTrips	WD_TR	4.20	3.15
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	9.04
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	127.15	79.34
tblVehicleTrips	WD_TR	89.95	60.72
tblVehicleTrips	WD_TR	102.24	38.03
tblWater	IndoorWaterUseRate	73,428,586.88	42,502,790.00
tblWater	IndoorWaterUseRate	50,670,114.22	23,241,485.13
tblWater	IndoorWaterUseRate	2,931,725.65	4,324,443.38
tblWater	IndoorWaterUseRate	16,205,664.91	4,628,274.75
tblWater	IndoorWaterUseRate	6,738,448.42	1,809,830.54
tblWater	IndoorWaterUseRate	6,163,410.74	4,076,194.92
tblWater	IndoorWaterUseRate	0.00	525,311.62
tblWater	OutdoorWaterUseRate	46,291,935.20	0.00
tblWater	OutdoorWaterUseRate	1,096,162.84	268,640.00
tblWater	OutdoorWaterUseRate	0.00	237,250.00
tblWater	OutdoorWaterUseRate	31,055,876.45	0.00
tblWater	OutdoorWaterUseRate	1,796,864.11	0.00
tblWater	OutdoorWaterUseRate	1,034,404.14	0.00
tblWater	OutdoorWaterUseRate	430,113.73	0.00
tblWater	OutdoorWaterUseRate	190,620.95	0.00
tblWoodstoves	NumberCatalytic	56.35	0.00
tblWoodstoves	NumberNoncatalytic	56.35	0.00

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.5106	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020
Energy	0.1877	1.6703	1.1667	0.0102		0.1297	0.1297		0.1297	0.1297	0.0000	11,285.4847	11,285.4847	0.2744	0.0835	11,317.2165
Mobile	3.5270	16.5354	47.9334	0.1879	16.4657	0.1354	16.6011	4.4116	0.1259	4.5375	0.0000	17,376.9966	17,376.9966	0.7903	0.0000	17,396.7549
Waste						0.0000	0.0000		0.0000	0.0000	407.3203	0.0000	407.3203	24.0719	0.0000	1,009.1187
Water						0.0000	0.0000		0.0000	0.0000	25.7319	551.4246	577.1565	2.6569	0.0653	663.0364
Total	**10.2253**	**18.3399**	**60.7543**	**0.1988**	**16.4657**	**0.3295**	**16.7952**	**4.4116**	**0.3200**	**4.7317**	**433.0522**	**29,232.9478**	**29,666.0000**	**27.8120**	**0.1488**	**30,405.6284**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.5106	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020
Energy	0.1877	1.6703	1.1667	0.0102		0.1297	0.1297		0.1297	0.1297	0.0000	11,285.4847	11,285.4847	0.2744	0.0835	11,317.2165
Mobile	3.5270	16.5354	47.9334	0.1879	16.4657	0.1354	16.6011	4.4116	0.1259	4.5375	0.0000	17,376.9966	17,376.9966	0.7903	0.0000	17,396.7549
Waste						0.0000	0.0000		0.0000	0.0000	97.7569	0.0000	97.7569	5.7773	0.0000	242.1885
Water						0.0000	0.0000		0.0000	0.0000	25.7319	551.4246	577.1565	2.6569	0.0653	663.0364
Total	**10.2253**	**18.3399**	**60.7543**	**0.1988**	**16.4657**	**0.3295**	**16.7952**	**4.4116**	**0.3200**	**4.7317**	**123.4888**	**29,232.9478**	**29,356.4366**	**9.5173**	**0.1488**	**29,638.6982**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.48	0.00	1.04	65.78	0.00	2.52

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.5270	16.5354	47.9334	0.1879	16.4657	0.1354	16.6011	4.4116	0.1259	4.5375	0.0000	17,376.9966	17,376.9966	0.7903	0.0000	17,396.7549
Unmitigated	3.5270	16.5354	47.9334	0.1879	16.4657	0.1354	16.6011	4.4116	0.1259	4.5375	0.0000	17,376.9966	17,376.9966	0.7903	0.0000	17,396.7549

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,550.05	3,550.05	3550.05	11,809,485	11,809,485
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	2,577.21	2,577.21	2577.21	8,098,397	8,098,397
Health Club	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	4,235.96	4,235.96	4235.96	13,252,548	13,252,548
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	1,347.98	1,347.98	1347.98	4,354,662	4,354,662
Supermarket	1,901.50	1,901.50	1901.50	5,838,252	5,838,252
User Defined Commercial	0.00	0.00	0.00		
Total	13,612.71	13,612.71	13,612.71	43,353,344	43,353,344

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	14.30	5.70	8.50	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	16.20	8.20	6.70	33.00	48.00	19.00	77	19	4
Health Club	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down Restaurant)	16.20	8.20	6.70	8.50	72.50	19.00	100	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

Quality Restaurant	16.20	8.20	6.70	12.00	69.00	19.00	100	0	0
Supermarket	16.20	8.20	6.70	6.50	74.50	19.00	100	0	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
City Park	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Enclosed Parking with Elevator	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
General Office Building	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Health Club	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
High Turnover (Sit Down Restaurant)	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Other Non-Asphalt Surfaces	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Quality Restaurant	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Supermarket	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
User Defined Commercial	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9,427.6039	9,427.6039	0.2388	0.0494	9,448.2952
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	9,427.6039	9,427.6039	0.2388	0.0494	9,448.2952
NaturalGas Mitigated	0.1877	1.6703	1.1667	0.0102		0.1297	0.1297		0.1297	0.1297	0.0000	1,857.8809	1,857.8809	0.0356	0.0341	1,868.9213
NaturalGas Unmitigated	0.1877	1.6703	1.1667	0.0102		0.1297	0.1297		0.1297	0.1297	0.0000	1,857.8809	1,857.8809	0.0356	0.0341	1,868.9213

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.23724e+007	0.0667	0.5701	0.2426	3.6400e-003		0.0461	0.0461		0.0461	0.0461	0.0000	660.2389	660.2389	0.0127	0.0121	664.1623
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.96777e+006	0.0160	0.1455	0.1222	8.7000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	158.3713	158.3713	3.0400e-003	2.9000e-003	159.3124
Health Club	897289	4.8400e-003	0.0440	0.0370	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003	0.0000	47.8828	47.8828	9.2000e-004	8.8000e-004	48.1673
High Turnover (Sit Down Restaurant)	1.232e+007	0.0664	0.6039	0.5073	3.6200e-003		0.0459	0.0459		0.0459	0.0459	0.0000	657.4446	657.4446	0.0126	0.0121	661.3514
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.12287e+006	0.0276	0.2511	0.2109	1.5100e-003		0.0191	0.0191		0.0191	0.0191	0.0000	273.3760	273.3760	5.2400e-003	5.0100e-003	275.0005
Supermarket	1.1035e+006	5.9500e-003	0.0541	0.0454	3.2000e-004		4.1100e-003	4.1100e-003		4.1100e-003	4.1100e-003	0.0000	58.8870	58.8870	1.1300e-003	1.0800e-003	59.2369
User Defined Commercial	31490.3	1.7000e-004	1.5400e-003	1.3000e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.6804	1.6804	3.0000e-005	3.0000e-005	1.6904
Total		**0.1877**	**1.6702**	**1.1667**	**0.0102**		**0.1297**	**0.1297**		**0.1297**	**0.1297**	**0.0000**	**1,857.8808**	**1,857.8808**	**0.0356**	**0.0341**	**1,868.9213**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.23724e+007	0.0667	0.5701	0.2426	3.6400e-003		0.0461	0.0461		0.0461	0.0461	0.0000	660.2389	660.2389	0.0127	0.0121	664.1623
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.96777e+006	0.0160	0.1455	0.1222	8.7000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	158.3713	158.3713	3.0400e-003	2.9000e-003	159.3124

Health Club	897289	4.8400e-003	0.0440	0.0370	2.6000e-004		3.3400e-003	3.3400e-003		3.3400e-003	3.3400e-003	0.0000	47.8828	47.8828	9.2000e-004	8.8000e-004	48.1673
High Turnover (Sit Down Restaurant)	1.232e+007	0.0664	0.6039	0.5073	3.6200e-003		0.0459	0.0459		0.0459	0.0459	0.0000	657.4446	657.4446	0.0126	0.0121	661.3514
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.12287e+006	0.0276	0.2511	0.2109	1.5100e-003		0.0191	0.0191		0.0191	0.0191	0.0000	273.3760	273.3760	5.2400e-003	5.0100e-003	275.0005
Supermarket	1.1035e+006	5.9500e-003	0.0541	0.0454	3.2000e-004		4.1100e-003	4.1100e-003		4.1100e-003	4.1100e-003	0.0000	58.8870	58.8870	1.1300e-003	1.0800e-003	59.2369
User Defined Commercial	31490.3	1.7000e-004	1.5400e-003	1.3000e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.6804	1.6804	3.0000e-005	3.0000e-005	1.6904
Total		**0.1877**	**1.6702**	**1.1667**	**0.0102**		**0.1297**	**0.1297**		**0.1297**	**0.1297**	**0.0000**	**1,857.8808**	**1,857.8808**	**0.0356**	**0.0341**	**1,868.9213**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	4.56844e+006	2,372.6804	0.0601	0.0124	2,377.8879
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	4.08794e+006	2,123.1238	0.0538	0.0111	2,127.7835
General Office Building	3.70329e+006	1,923.3544	0.0487	0.0101	1,927.5757
Health Club	550271	285.7908	7.2400e-003	1.5000e-003	286.4180
High Turnover (Sit Down Restaurant)	2.35659e+006	1,223.9265	0.0310	6.4100e-003	1,226.6127
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	979908	508.9282	0.0129	2.6700e-003	510.0452
Supermarket	1.8665e+006	969.3915	0.0246	5.0800e-003	971.5191
User Defined Commercial	39294.7	20.4083	5.2000e-004	1.1000e-004	20.4530
Total		**9,427.6039**	**0.2388**	**0.0494**	**9,448.2952**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	4.56844e+006	2,372.6804	0.0601	0.0124	2,377.8879
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	4.08794e+006	2,123.1238	0.0538	0.0111	2,127.7835
General Office Building	3.70329e+006	1,923.3544	0.0487	0.0101	1,927.5757
Health Club	550271	285.7908	7.2400e-003	1.5000e-003	286.4180
High Turnover (Sit Down Restaurant)	2.35659e+006	1,223.9265	0.0310	6.4100e-003	1,226.6127
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	979908	508.9282	0.0129	2.6700e-003	510.0452
Supermarket	1.8665e+006	969.3915	0.0246	5.0800e-003	971.5191
User Defined Commercial	39294.7	20.4083	5.2000e-004	1.1000e-004	20.4530
Total		**9,427.6039**	**0.2388**	**0.0494**	**9,448.2952**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.5106	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020
Unmitigated	6.5106	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5969					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3529	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020
Total	**6.5106**	**0.1343**	**11.6542**	**6.2000e-004**		**0.0645**	**0.0645**		**0.0645**	**0.0645**	**0.0000**	**19.0418**	**19.0418**	**0.0184**	**0.0000**	**19.5020**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5608					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5969					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3529	0.1343	11.6542	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0418	19.0418	0.0184	0.0000	19.5020
Total	**6.5106**	**0.1343**	**11.6542**	**6.2000e-004**		**0.0645**	**0.0645**		**0.0645**	**0.0645**	**0.0000**	**19.0418**	**19.0418**	**0.0184**	**0.0000**	**19.5020**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	577.1565	2.6569	0.0653	663.0364
Unmitigated	577.1565	2.6569	0.0653	663.0364

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	42.5028 / 0	300.9148	1.3922	0.0342	345.9146
City Park	0 / 0.26864	1.5501	4.0000e-005	1.0000e-005	1.5535
Enclosed Parking with Elevator	0 / 0.23725	1.3690	3.0000e-005	1.0000e-005	1.3720
General Office Building	23.2415 / 0	164.5470	0.7613	0.0187	189.1539
Health Club	4.32444 / 0	30.6166	0.1417	3.4800e-003	35.1951
High Turnover (Sit Down Restaurant)	4.62827 / 0	32.7676	0.1516	3.7300e-003	37.6678
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.80983 / 0	12.8134	0.0593	1.4600e-003	14.7296
Supermarket	4.07619 / 0	28.8590	0.1335	3.2800e-003	33.1747
User Defined Commercial	0.525312 / 0	3.7191	0.0172	4.2000e-004	4.2753
Total		**577.1565**	**2.6569**	**0.0653**	**663.0364**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	42.5028 / 0	300.9148	1.3922	0.0342	345.9146
City Park	0 / 0.26864	1.5501	4.0000e-005	1.0000e-005	1.5535
Enclosed Parking with Elevator	0 / 0.23725	1.3690	3.0000e-005	1.0000e-005	1.3720
General Office Building	23.2415 / 0	164.5470	0.7613	0.0187	189.1539
Health Club	4.32444 / 0	30.6166	0.1417	3.4800e-003	35.1951
High Turnover (Sit Down Restaurant)	4.62827 / 0	32.7676	0.1516	3.7300e-003	37.6678
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.80983 / 0	12.8134	0.0593	1.4600e-003	14.7296
Supermarket	4.07619 / 0	28.8590	0.1335	3.2800e-003	33.1747
User Defined Commercial	0.525312 / 0	3.7191	0.0172	4.2000e-004	4.2753
Total		**577.1565**	**2.6569**	**0.0653**	**663.0364**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	97.7569	5.7773	0.0000	242.1885
Unmitigated	407.3203	24.0719	0.0000	1,009.1187

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	518.42	105.2346	6.2192	0.0000	260.7142
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	265.13	53.8190	3.1806	0.0000	133.3343
Health Club	282.55	57.3551	3.3896	0.0000	142.0948
High Turnover (Sit Down Restaurant)	635.34	128.9683	7.6218	0.0000	319.5135
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	20.26	4.1126	0.2431	0.0000	10.1888
Supermarket	282	57.2435	3.3830	0.0000	141.8182
User Defined Commercial	2.813	0.5710	0.0338	0.0000	1.4147
Total		**407.3202**	**24.0720**	**0.0000**	**1,009.1187**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	124.421	25.2563	1.4926	0.0000	62.5714
City Park	0.0192	3.9000e-003	2.3000e-004	0.0000	9.6600e-003
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	63.6312	12.9166	0.7634	0.0000	32.0002

Health Club	67.812	13.7652	0.8135	0.0000	34.1028
High Turnover (Sit Down Restaurant)	152.482	30.9524	1.8292	0.0000	76.6832
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	4.8624	0.9870	0.0583	0.0000	2.4453
Supermarket	67.68	13.7384	0.8119	0.0000	34.0364
User Defined Commercial	0.67512	0.1370	8.1000e-003	0.0000	0.3395
Total		**97.7569**	**5.7773**	**0.0000**	**242.1885**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Project: Omni Times Square
Draft Environmental Impact Report
Quantifying Greenhouse Gas Mitigation Measures - Transportation (Based on CAPCOA Guidance (August 2010))

PROJECT

Location Type	Global % VMT Reduction Cap
Urban:	75%
Less than 5 miles from central business district	
Jobs-rich (jobs/housing ratio greater than 1.5)	
Typical buildings are 6 stories or higher	
Grid street pattern	
Minimal setbacks	
Parking constrained on- and off-street	
Parking prices high/highest in the region	
High-quality rail; bus service at 10 min or less in peak hours	
Compact Infill:	40%
Typically 5 - 15 miles from central business district	
Balanced jobs-housing (jobs/housing ratio from 0.9 to 1.2)	
Typical buildings are 2 - 4 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking constrained	
Parking prices low/moderate	
Rail w/in 2 miles; bus service at 15 min or less in peak hours	

Location Type	Global % VMT Reduction Cap
Suburban Center:	20%
Typically 20 miles or more from central business district	
Balanced jobs-housing	
Typical buildings are 2 stories	
Grid street pattern	
Setbacks 0 - 20 feet	
Parking somewhat constrained on-street; ample off-street	
Parking prices low (if priced at all)	
Bus service at 20 - 30 min and/or commuter rail station	
Suburban:	15%
Typically 20 miles or more from central business district	
Housing-rich	
Typical buildings are 1 - 2 stories	
Curvilinear street pattern (cul-de-sac based)	
Parking between street and buildings; large lot residential	
Parking ample; largely surface lot-based	
No parking prices	
Limited bus service at 30 minute headways or more	

Total Global Transportation VMT Reduction =	**29.06%**	Cap:	75%
(Includes double counting correction.)			
Total LUT/SDT/PDT/TST VMT Reduction =	**29.06%**	Cap:	70%
Total LUT % VMT Reduction =	**27.61%**	Cap:	65%

Land Use/Location Transportation Measures (65% Reduction Cap)

LUT-1 Increase Density

% VMT Reduction = A × B [not to exceed 30%]

A (housing) = (Number of DU/acre - 7.6) / 7.6
A (jobs) = (Number of Jobs/acre - 20) / 20
B = 0.07%

% VMT Reduction =	0.70%	Cap:	30%
Number of DU/acre:	305.4	A =	500%
Number of Jobs/acre:	425.7	A =	500%

LUT-2 Increase Location Efficiency

% VMT Reduction Cap for all LUT measures

Urban LUT % VMT Reduction Cap:	65%
Compact Infill LUT % VMT Reduction Cap:	30%
Suburban Center LUT % VMT Reduction Cap:	10%

LUT-3 Increase Diversity of Urban and Suburban Developments (Mixed Use)

Urban: The urban project will be predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.

Suburban: The suburban project will have at least three uses of the following on site and/or offsite within ¼-mile: Residential Development, Retail Development, Park, Open Space, or Office.

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Land Use × B [not to exceed 30%]
Land Use = % increase in land use index vs. single use
= (Land Use Index - 0.15) / 0.15
Land Use Index = -a / ln(6)
$a = \sum a_i \times \ln(a_i)$
a_i = building floor area / total square feet of area considered
a_1 = single family
a_2 = multi-family
a_3 = commercial B = 0.09
a_4 = industrial
a_5 = institutional
a_6 = park

% VMT Reduction =	0.00%	Cap:	30%
Single family sqft:	-	a_1 =	-
Multi-family sqft:	-	a_2 =	-
Commercial sqft:	-	a_3 =	-
Industrial sqft:	-	a_4 =	-
Institutional sqft:	-	a_5 =	-
Park sqft:	-	a_6 =	-
Total sqft:	-		

(Note: If $a_i = 0$, then set $a_i = 0.0000001$)

LUT-4 Increase Destination Accessibility

% VMT Reduction = Center Distance × B [not to exceed 20%]
Center Distance = (12 - Miles to downtown or job center) / 12
B = 0.20

% VMT Reduction =	7.33%	Cap:	20%
Miles to downtown or job center:	7.6		

(Average distance to: Beverly Hills, Century City, Hollywood and Downtown L.A. These locations are identified as job centers by Metro and by SCAG.)
(Note: Only effective for 8 miles or less)

LUT-5 Increase Transit Accessibility

(ACOUNTED FOR IN TRAFFIC STUDY)

% VMT Reduction = Transit × B [not to exceed 30%]
Transit = % project transit - % typical ITE transit
% project transit = -50x + 38 [where x = 0 - 0.5 miles to transit]
-4.4x + 15.2 [where x = 0.5 - 3 miles to transit]
% typical ITE transit = 1.3%
B = 0.67

% VMT Reduction = 0.00% Cap: 30%
Miles to transit:
(Note: Only effective for 3 miles or less)

LUT-6 Integrated Affordable and Below Market Rate Housing

% VMT Reduction = 4% × % units BMR

% VMT Reduction = 0.00%
% of units below market rate: 0.0%
(Note: Only effective up to 30%)

LUT-7 Orient Project Toward Non-Auto Corridor

Not quantified separately; Assumed to be included in LUT-3
(If included in LUT-3, VMT reduction should be at least 0.5% per 1% inprovement in transit frequency and 0.5% per 10% increase in transit ridership)

LUT-8 Locate Project near Bike Path/Bike Lanes

Not quantified separately; Assumed to be included in LUT-4
(If included in LUT-4, VMT reduction should be at least 0.625%)

LUT-9 Improve Design of Development

% VMT Reduction = Intersections × B
Intersections = % increase vs. typical ITE suburban
= (Intersections per square mile of project - 36) / 36
B = 0.12

% VMT Reduction = 21.33%
Intersections per square mile: 100
(Estimated based on count of 4-way intersections within 1 mile radius of project site.)
(Note: Only effective up to 100)

Neighborhood/Site Enhancement Measures (5% Reduction Cap without NEV; 15% Reduction Cap with NEV)

Total SDT % VMT Reduction = 2.00% Cap: 5% without NEV
Cap: 15% With NEV

SDT-1 Provide Pedestrian Network Improvements

VMT reduction based on urban/rural context and pedestrian accomodations

% VMT Reduction = 2.00%

Pedestrian network on-site and connecting off-site (urban/suburban):	X	2%
Pedestrian network on-site (urban/suburban):		1%

(Mark an "X" in one of the above)

SDT-2 Provide Traffic Calming Measures

Marked crosswalks, count-down signal timers, curb extensions, speed tables, rasied crosswalks, raised intersections, median islands, tight corner radii, roundabouts, on-street parking, planter strips with trees, chicanes/chokers, and others.

% VMT Reduction = 0.00%

25% of streets with improvements:		A
50% of streets with improvements:		B
75% of streets with improvements:		C
100% of streets with improvements:		D
25% of intersctions with improvements:		W
50% of intersctions with improvements:		X
75% of intersctions with improvements:		Y
100% of intersctions with improvements:		Z

(Mark an "X" in one of the above for each group)

% of intersections with improvements	% of streets with improvements: A	B	C	D
W	0.25%	0.25%	0.50%	0.50%
X	0.25%	0.50%	0.50%	0.75%
Y	0.50%	0.50%	0.75%	0.75%
Z	0.50%	0.75%	0.75%	1.00%

SDT-3	Neighborhood Electric Vehicle Network	% VMT Reduction = Pop × Number × NEV Pop × Number = NEVs per household [0.04 to 1.0] NEV = VMT reduction rate per household [12.7%]	% VMT Reduction =	0.00%	
			Low NEVs per Household:	0.04	
			High NEVs per Household:	1.0	
			(Mark an "X" in one of the above)		
SDT-4	Create Urban Non-Motorized Zones	Not quantified separately; Assumed to be included in SDT-1 (If included in SDT-1, VMT reduction should be at least 0.01% to 0.2%)			
SDT-5	Incorporate Bike Lane Street Design	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 1% of worker commute per additional mile of bike lanes per square mile)			
SDT-6	Provide Bike Parking in Non-Residential Projects	Not quantified separately; Assumed to be included in LUT-9 (If included in LUT-9, VMT reduction should be at least 0.625%)			
SDT-7	Provide Bike Parking in Multi-Unit Residential Projects	Not quantified separately; Assumed to be included in LUT-9			
SDT-8	Provide Electric Vehicle Parking	Not quantified separately; Assumed to be included in SDT-3			
SDT-9	Dedicated Land for Bike Trails	Not quantified separately; Assumed to be included in LUT-9			
Parking Policy/Pricing (20% Reduction Cap)			**Total PDT % VMT Reduction =**	**0.00%**	Cap: 20%
PDT-1	Limit Parking Supply	% VMT Reduction = = (Actual Parking - ITE Parking) / ITE Parking × 0.5	% VMT Reduction =	0.00%	Cap: 12.50%
			Actual Parking Spaces:	-	
			ITE Parking Spaces:	-	
PDT-2	Unbunble Parking Costs from Property	% VMT Reduction = Change in vehicle cost × elasticity × A Change in vehicle cost = Monthly parking cost × (12/$4000) Elasticity = 0.4 A = 85%	% VMT Reduction =	0.00%	Cap: 13%
			Monthly parking cost:	$ -	
PDT-3	Implement Market Price Public Parking (On-Street)	% VMT Reduction = Park$ × B Park$ = Percent increase in on-street parking prices [minimum of 25%] B = 0.11	% VMT Reduction =	0.00%	Cap: 5.5%
			Actual On-Street Parking Price:	$ -	
			Baseline On-Street Parking Price:	$ -	
PDT-4	Require Residential Area Parking Permits	Not quantified separately; Assumed to be included in PDT-1, -2-, and -3 (If included in LUT-9, VMT reduction should be at least 0.09% to 0.36% depending on land use)			

Transit System Improvements (10% Reduction Cap)

Total TST % VMT Reduction = 0.00% Cap: 10%

TST-1	Provide a Bus Rapid Transit System	% VMT Reduction = Riders × Mode × Lines × D Riders = 28% Mode = 17% Urban Center 4% Urban 1.30% Suburban Lines = Percent of lines serving project converting to BRT D = 0.67	% VMT Reduction = 0.00% Cap: 3.2% Urban Center: 17% Urban: 4% Suburban: 1.30% (Mark an "X" in one of the above) Lines Converting to BRT: 0% Total Baseline Lines:			
TST-2	Implement Transit Access Improvements	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-3	Expand Transit Network	% VMT Reduction = Coverage × B × Mode × D Coverage = % increase in transit network coverage B = 0.65 Urban Center 0.72 Urban 1.01 Suburban Mode = 17% Urban Center 4% Urban 1.30% Suburban D = 0.67	% VMT Reduction = 0.00% Cap: 8.2% Urban Center: 17% 0.65 Urban: 4% 0.72 Suburban: 1.30% 1.01 (Mark an "X" in one of the above) Coverage:			
TST-4	Increase Transit Service Frequency/Speed	% VMT Reduction = Headway × B × C × Mode × E Headway = % reduction in headways [15% - 80%] B = 0.32 Urban 0.36 Suburban C = 50% < 50% lines improved 85% >= 50% lines improved Mode = 17% Urban Center 4% Urban 1.30% Suburban E = 0.67	% VMT Reduction = 0.00% Cap: 2.5% Urban Center: 17% 0.32 Urban: 4% 0.32 Suburban: 1.30% 0.36 (Mark an "X" in one of the above) Headway: Percent of Lines Improved:			
TST-5	Provide Bike Parking Near Transit	Not quantified separately; Assumed to be included in TST-3 and -4				
TST-6	Provide Local Shuttles	Not quantified separately; Assumed to be included in TST-3 and -4				

Commute Trip Reduction (25% Reduction Cap - WORK VMT ONLY)

Total TRT % Work VMT Reduction = 0.00% Cap: 25%
% Work VMT of Total VMT: 2.5%
Total TRT % Overall VMT Reduction = 0.00% Cap: 15%

TRT-1	Implement Voluntary Commute Trip Reduction Program	% Work VMT Reduction = A × B A = 6.2% Urban 5.4% Suburban Center 5.2% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 6.2% Urban: 6.2% Suburban Center: 5.4% Suburban: 5.2% (Mark an "X" in one of the above) % Employees Eligible:			

TRT-2 — Implement Required Commute Trip Reduction Program

% Work VMT Reduction = A × B
A = 21%
B = % employees eligible

% Work VMT Reduction = 0.00% Cap: 21.0%

% Employees Eligible:

TRT-3 — Provide Ride-Sharing Programs

% Work VMT Reduction = Commute × Employee
Commute = 15% Urban
10% Suburban Center
5% Suburban
Employee = % employees eligible

% Work VMT Reduction = 0.00% Cap: 15.0%

Urban:		15%
Suburban Center:		10%
Suburban:		5%

(Mark an "X" in one of the above)

% Employees Eligible:

TRT-4 — Implement Subsidized or Discounted Transit Program

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 20.0%

Urban:		A
Suburban Center:		B
Suburban:		C
Transit Subsidy: $0.75		W
Transit Subsidy: $1.49		X
Transit Subsidy: $2.98		Y
Transit Subsidy: $5.96		Z

(Mark an "X" in one of the above for each group)

% Employees Eligible:

Daily Transit Subsidy

Setting	W	X	Y	Z
A	6.2%	12.9%	20%	20%
B	3.4%	7.3%	16.4%	20%
C	1.5%	3.3%	7.9%	20%

TRT-5 — Provide End of Trip Facilities

Not quantified separately; Assumed to be included in TRT-1 through -3
(If included, Work VMT reduction should be 2% to 5%, or total VMT reduction should be 0.02% to 0.625%)

TRT-6 — Encourage Telecommuting and Alternate Work Schedules

% Reduction in Commute VMT

% Work VMT Reduction = 0.00% Cap: 5.5%

9-day/80-hour Work Week:		A
4-day/40-hour Work Week:		B
Telecommuting 1.5 Days:		C
Employee Participation: 1%		V
Employee Participation: 3%		W
Employee Participation: 5%		X
Employee Participation: 10%		Y
Employee Participation: 25%		Z

(Mark an "X" in one of the above for each group)

Employee Participation

Schedule	V	W	X	Y	Z
A	0.07%	0.21%	0.35%	0.70%	1.75%
B	0.15%	0.45%	0.75%	1.50%	3.75%
C	0.22%	0.66%	1.10%	2.20%	5.50%

TRT-7 — Implement Commute Trip Reduction Marketing

% Work VMT Reduction = A × B × C
A = % reduction in commute vehicle trips [4%]
B = % employees eligible
C = Adjustment from VT to VMT [1.0]

% Work VMT Reduction = 0.00% Cap: 4.0%

% Employees Eligible:

TRT-8 — Implement Preferential Permit Parking Program

Not quantified separately; Assumed to be included in TRT-1 through -3

TRT-9	Implement Car-Sharing Program	% Work VMT Reduction = A × B / C A = % reduction in car-share member annual VMT [37%] B = number of car share members per shared car [20] C = 1,000 Urban 2,000 Suburban	% Work VMT Reduction = 0.00% Cap: 0.74% Urban: 1,000 Suburban: 2,000 (Mark an "X" in one of the above)
TRT-10	Implement a School Pool Program	Not applicable.	
TRT-11	Provide Employer-Sponsored Vanpool/Shuttle	% Work VMT Reduction = A × B × C A = % shift in vanpool mode share of commute trips = 2% to 20% B = % employees eligible C = 0.67	% Work VMT Reduction = 0.00% Cap: 13.4% A: Shift in Vanpool Mode Share: B: Employees Eligible:
TRT-12	Implement Bike Sharing Program	Not quantified separately; Assumed to be included in LUT-9 and SDT-5 (If included, total VMT reduction should be at least 0.03%)	
TRT-13	Implement School Bus Program	Not applicable.	
TRT-14	Price Workplace Parking	% Work VMT Reduction = A × B A = % reduction in commute VMT B = % employees subject to priced parking	% Work VMT Reduction = 0.00% Cap: 19.7% Urban: A Suburban Center: B Suburban: C Daily Parking Charge: $1 W Daily Parking Charge: $2 X Daily Parking Charge: $3 Y Daily Parking Charge: $6 Z (Mark an "X" in one of the above for each group) % Employees Subject to Priced Parking:
TRT-15	Implement Employee Parking Cash-Out	% Work VMT Reduction = A × B A = 7.7% Urban 4.5% Suburban Center 3.0% Suburban B = % employees eligible	% Work VMT Reduction = 0.00% Cap: 7.7% Urban: 7.7% Suburban Center: 4.5% Suburban: 3.0% (Mark an "X" in one of the above) % Employees Eligible:

Daily Parking Charge

Setting	W	X	Y	Z
A	6.9%	12.5%	16.8%	19.7%
B	1.8%	3.7%	5.4%	6.8%
C	0.5%	1.2%	1.9%	2.8%

Project: Omni Times Sqaure
Draft Environmental Impact Report
Air Quality and Greenhouse Gas Assessment

Project Trips and Vehicle Miles Traveled

Land Use (CalEEMod Land Use)	Unit Amount	Daily Project Trips
PROJECT		
Residential Units	1,127 DU	4.20 Baseline trip rate per DU
		-25.0% Deductions (Traffic Study)
		3.15 Trip rate per DU less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		14.7 H-W Trip Length (Baseline)
		5.9 H-S Trip Length (Baseline)
		8.7 H-O Trip Length (Baseline)
		10.4 H-W Trip Length (Project)
		4.2 H-S Trip Length (Project)
		6.2 H-O Trip Length (Project)
Recreational (Quality Restaurant)	22,200 sf	89.95 Baseline trip rate per 1000 sf
		-41.3% Deductions (Traffic Study)
		52.82 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Recreational (High Turnover Restaurant)	53,389 sf	127.15 Baseline trip rate per 1000 sf
		-45.7% Deductions (Traffic Study)
		69.03 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Retail (Supermarket)	50,000 sf	102.24 Baseline trip rate per 1000 sf
		-66.1% Deductions (Traffic Study)
		34.61 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)
Office	285,088 sf	11.03 Baseline trip rate per 1000 sf
		-29.5% Deductions (Traffic Study)
		7.78 Trip rate per 1000 sf less Adjustments
		-29.1% VMT Reduction (CAPCOA)
		8.4 C-C Trip Length (Baseline)
		16.6 C-W Trip Length (Baseline)
		6.9 C-NW Trip Length (Baseline)
		6.0 C-C Trip Length (Project)
		11.8 C-W Trip Length (Project)
		4.9 C-NW Trip Length (Project)

Source: Fehr and Peers, 2018; ESA 2018.

LA Times - Operational

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	285.09	1000sqft	0.95	285,088.00	0
User Defined Commercial	3.02	User Defined Unit	0.04	3,025.00	0
Enclosed Parking with Elevator	1,754.00	Space	0.68	697,600.00	0
Other Non-Asphalt Surfaces	74.64	1000sqft	0.08	74,643.00	0
City Park	0.92	Acre	0.08	28,777.00	0
Health Club	25.62	1000sqft	0.08	25,618.00	0
High Turnover (Sit Down Restaurant)	53.39	1000sqft	0.28	53,389.00	0
Quality Restaurant	22.20	1000sqft	0.20	22,200.00	0
Apartments High Rise	1,127.00	Dwelling Unit	0.80	1,071,692.00	1894
Supermarket	50.00	1000sqft	0.50	50,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2023
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	849	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - LADWP CO2 emission factor calculated using 2016 Briefing Book and Utility Energy Supply Plans from 2015: see AQGHG calcs

Land Use - see operational assumptions

Architectural Coating -

Vehicle Trips - see operational assumptions

Woodstoves - see operational assumptions - no fireplaces and stoves

Area Coating -

Energy Use - see operational assumptions

Water And Wastewater - see operational assumptions

Solid Waste - see operational assumptions - based solid waste generation rate of user defined on general office building

Energy Mitigation -

Waste Mitigation -

Stationary Sources - Process Boilers -

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	0.00	3.77
tblEnergyUse	NT24E	0.00	4.62
tblEnergyUse	NT24NG	0.00	0.39
tblEnergyUse	T24E	0.00	4.60
tblEnergyUse	T24NG	0.00	10.02
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	957.95	0.00
tblFireplaces	NumberNoFireplace	112.70	0.00
tblFireplaces	NumberWood	56.35	0.00
tblLandUse	LandUseSquareFeet	285,090.00	285,088.00
tblLandUse	LandUseSquareFeet	0.00	3,025.00
tblLandUse	LandUseSquareFeet	701,600.00	697,600.00
tblLandUse	LandUseSquareFeet	74,640.00	74,643.00
tblLandUse	LandUseSquareFeet	40,075.20	28,777.00
tblLandUse	LandUseSquareFeet	25,620.00	25,618.00
tblLandUse	LandUseSquareFeet	53,390.00	53,389.00
tblLandUse	LandUseSquareFeet	1,127,000.00	1,071,692.00
tblLandUse	LotAcreage	6.54	0.95
tblLandUse	LotAcreage	0.00	0.04
tblLandUse	LotAcreage	15.79	0.68

tblLandUse	LotAcreage	1.71	0.08
tblLandUse	LotAcreage	0.92	0.08
tblLandUse	LotAcreage	0.59	0.08
tblLandUse	LotAcreage	1.23	0.28
tblLandUse	LotAcreage	0.51	0.20
tblLandUse	LotAcreage	18.18	0.80
tblLandUse	LotAcreage	1.15	0.50
tblLandUse	Population	3,223.00	1,894.00
tblProjectCharacteristics	CO2IntensityFactor	1227.89	849
tblSolidWaste	SolidWasteGenerationRate	146.03	282.55
tblSolidWaste	SolidWasteGenerationRate	0.00	2.81
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TL	8.40	6.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CC_TTP	64.10	0.00
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TL	6.90	4.90
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TL	16.60	11.80
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	CW_TTP	16.90	0.00
tblVehicleTrips	DV_TP	28.00	0.00

tblVehicleTrips	DV_TP	39.00	0.00
tblVehicleTrips	DV_TP	20.00	0.00
tblVehicleTrips	DV_TP	18.00	0.00
tblVehicleTrips	DV_TP	30.00	0.00
tblVehicleTrips	HO_TL	8.70	6.20
tblVehicleTrips	HS_TL	5.90	4.20
tblVehicleTrips	HW_TL	14.70	10.40
tblVehicleTrips	PB_TP	6.00	0.00
tblVehicleTrips	PB_TP	9.00	0.00
tblVehicleTrips	PB_TP	43.00	0.00
tblVehicleTrips	PB_TP	44.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	PR_TP	52.00	0.00
tblVehicleTrips	PR_TP	37.00	100.00
tblVehicleTrips	PR_TP	38.00	100.00
tblVehicleTrips	PR_TP	34.00	100.00
tblVehicleTrips	ST_TR	4.98	3.15
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	2.46	7.78
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	158.37	69.03
tblVehicleTrips	ST_TR	94.36	52.82
tblVehicleTrips	ST_TR	177.59	34.61
tblVehicleTrips	SU_TR	3.65	3.15
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	1.05	7.78
tblVehicleTrips	SU_TR	26.73	0.00
tblVehicleTrips	SU_TR	131.84	69.03
tblVehicleTrips	SU_TR	72.16	52.82

tblVehicleTrips	SU_TR	166.44	34.61
tblVehicleTrips	WD_TR	4.20	3.15
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	11.03	7.78
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	127.15	69.03
tblVehicleTrips	WD_TR	89.95	52.82
tblVehicleTrips	WD_TR	102.24	34.61
tblWater	IndoorWaterUseRate	73,428,586.88	41,370,819.10
tblWater	IndoorWaterUseRate	50,670,114.22	22,622,497.88
tblWater	IndoorWaterUseRate	1,515,247.35	4,209,271.08
tblWater	IndoorWaterUseRate	16,205,664.91	4,236,560.43
tblWater	IndoorWaterUseRate	6,738,448.42	1,761,629.58
tblWater	IndoorWaterUseRate	6,163,410.74	3,967,634.18
tblWater	IndoorWaterUseRate	0.00	511,321.06
tblWater	OutdoorWaterUseRate	46,291,935.20	0.00
tblWater	OutdoorWaterUseRate	1,096,162.84	261,485.35
tblWater	OutdoorWaterUseRate	0.00	230,931.35
tblWater	OutdoorWaterUseRate	31,055,876.45	0.00
tblWater	OutdoorWaterUseRate	928,699.99	0.00
tblWater	OutdoorWaterUseRate	1,034,404.14	0.00
tblWater	OutdoorWaterUseRate	430,113.73	0.00
tblWater	OutdoorWaterUseRate	190,620.95	0.00
tblWoodstoves	NumberCatalytic	56.35	0.00
tblWoodstoves	NumberNoncatalytic	56.35	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.4128	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013
Energy	0.1854	1.6490	1.1489	0.0101		0.1281	0.1281		0.1281	0.1281	0.0000	8,722.7638	8,722.7638	0.2705	0.0823	8,754.0549
Mobile	2.8352	12.9169	33.9354	0.1274	10.9319	0.0933	11.0251	2.9290	0.0867	3.0156	0.0000	11,785.9509	11,785.9509	0.5584	0.0000	11,799.9116
Waste						0.0000	0.0000		0.0000	0.0000	407.3196	0.0000	407.3196	24.0719	0.0000	1,009.1172
Water						0.0000	0.0000		0.0000	0.0000	24.9615	396.6374	421.5988	2.5773	0.0633	504.9072
Total	**9.4334**	**14.7001**	**46.7382**	**0.1381**	**10.9319**	**0.2858**	**11.2177**	**2.9290**	**0.2792**	**3.2082**	**432.2811**	**20,924.3932**	**21,356.6743**	**27.4965**	**0.1457**	**22,087.4923**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.4128	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013
Energy	0.1854	1.6490	1.1489	0.0101		0.1281	0.1281		0.1281	0.1281	0.0000	8,676.6904	8,676.6904	0.2689	0.0820	8,707.8452
Mobile	2.8352	12.9169	33.9354	0.1274	10.9319	0.0933	11.0251	2.9290	0.0867	3.0156	0.0000	11,785.9509	11,785.9509	0.5584	0.0000	11,799.9116
Waste						0.0000	0.0000		0.0000	0.0000	97.7567	0.0000	97.7567	5.7773	0.0000	242.1881
Water						0.0000	0.0000		0.0000	0.0000	24.9615	396.6374	421.5988	2.5773	0.0633	504.9072
Total	**9.4334**	**14.7001**	**46.7382**	**0.1381**	**10.9319**	**0.2858**	**11.2177**	**2.9290**	**0.2792**	**3.2082**	**122.7182**	**20,878.3198**	**21,001.0380**	**9.2003**	**0.1453**	**21,274.3535**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	71.61	0.22	1.67	66.54	0.23	3.68

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.8352	12.9169	33.9354	0.1274	10.9319	0.0933	11.0251	2.9290	0.0867	3.0156	0.0000	11,785.9509	11,785.9509	0.5584	0.0000	11,799.9116
Unmitigated	2.8352	12.9169	33.9354	0.1274	10.9319	0.0933	11.0251	2.9290	0.0867	3.0156	0.0000	11,785.9509	11,785.9509	0.5584	0.0000	11,799.9116

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	3,550.05	3,550.05	3550.05	8,610,250	8,610,250
City Park	0.00	0.00	0.00		
Enclosed Parking with Elevator	0.00	0.00	0.00		
General Office Building	2,218.00	2,218.00	2218.00	5,088,609	5,088,609
Health Club	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	3,685.51	3,685.51	3685.51	8,430,151	8,430,151
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Quality Restaurant	1,172.60	1,172.60	1172.60	2,768,832	2,768,832
Supermarket	1,730.50	1,730.50	1730.50	3,885,236	3,885,236
User Defined Commercial	0.00	0.00	0.00		
Total	12,356.67	12,356.67	12,356.67	28,783,078	28,783,078

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.40	4.20	6.20	40.20	19.20	40.60	86	11	3
City Park	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Enclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
General Office Building	11.80	6.00	4.90	33.00	48.00	19.00	77	19	4
Health Club	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
High Turnover (Sit Down	11.80	6.00	4.90	8.50	72.50	19.00	100	0	0

Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Quality Restaurant	11.80	6.00	4.90	12.00	69.00	19.00	100	0	0
Supermarket	11.80	6.00	4.90	6.50	74.50	19.00	100	0	0
User Defined Commercial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
City Park	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Enclosed Parking with Elevator	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
General Office Building	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Health Club	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
High Turnover (Sit Down Restaurant)	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Other Non-Asphalt Surfaces	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Quality Restaurant	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
Supermarket	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869
User Defined Commercial	0.552712	0.042774	0.202769	0.116939	0.015078	0.005847	0.021692	0.031910	0.002110	0.001769	0.004822	0.000710	0.000869

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install Energy Efficient Appliances

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,841.9483	6,841.9483	0.2337	0.0484	6,862.2001
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	6,888.0217	6,888.0217	0.2353	0.0487	6,908.4099
NaturalGas Mitigated	0.1854	1.6490	1.1489	0.0101		0.1281	0.1281		0.1281	0.1281	0.0000	1,834.7421	1,834.7421	0.0352	0.0336	1,845.6451
NaturalGas Unmitigated	0.1854	1.6490	1.1489	0.0101		0.1281	0.1281		0.1281	0.1281	0.0000	1,834.7421	1,834.7421	0.0352	0.0336	1,845.6451

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.23724e+007	0.0667	0.5701	0.2426	3.6400e-003		0.0461	0.0461		0.0461	0.0461	0.0000	660.2389	660.2389	0.0127	0.0121	664.1623
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.96777e+006	0.0160	0.1455	0.1222	8.7000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	158.3713	158.3713	3.0400e-003	2.9000e-003	159.3124
Health Club	463686	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7440	24.7440	4.7000e-004	4.5000e-004	24.8911
High Turnover (Sit Down Restaurant)	1.232e+007	0.0664	0.6039	0.5073	3.6200e-003		0.0459	0.0459		0.0459	0.0459	0.0000	657.4446	657.4446	0.0126	0.0121	661.3514
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.12287e+006	0.0276	0.2511	0.2109	1.5100e-003		0.0191	0.0191		0.0191	0.0191	0.0000	273.3760	273.3760	5.2400e-003	5.0100e-003	275.0005
Supermarket	1.1035e+006	5.9500e-003	0.0541	0.0454	3.2000e-004		4.1100e-003	4.1100e-003		4.1100e-003	4.1100e-003	0.0000	58.8870	58.8870	1.1300e-003	1.0800e-003	59.2369
User Defined Commercial	31490.3	1.7000e-004	1.5400e-003	1.3000e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.6804	1.6804	3.0000e-005	3.0000e-005	1.6904
Total		**0.1854**	**1.6490**	**1.1489**	**0.0101**		**0.1281**	**0.1281**		**0.1281**	**0.1281**	**0.0000**	**1,834.7421**	**1,834.7421**	**0.0352**	**0.0336**	**1,845.6451**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	1.23724e+007	0.0667	0.5701	0.2426	3.6400e-003		0.0461	0.0461		0.0461	0.0461	0.0000	660.2389	660.2389	0.0127	0.0121	664.1623
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
General Office Building	2.96777e+006	0.0160	0.1455	0.1222	8.7000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	158.3713	158.3713	3.0400e-003	2.9000e-003	159.3124

Health Club	463686	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7300e-003	1.7300e-003		1.7300e-003	1.7300e-003	0.0000	24.7440	24.7440	4.7000e-004	4.5000e-004	24.8911
High Turnover (Sit Down Restaurant)	1.232e+007	0.0664	0.6039	0.5073	3.6200e-003		0.0459	0.0459		0.0459	0.0459	0.0000	657.4446	657.4446	0.0126	0.0121	661.3514
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	5.12287e+006	0.0276	0.2511	0.2109	1.5100e-003		0.0191	0.0191		0.0191	0.0191	0.0000	273.3760	273.3760	5.2400e-003	5.0100e-003	275.0005
Supermarket	1.1035e+006	5.9500e-003	0.0541	0.0454	3.2000e-004		4.1100e-003	4.1100e-003		4.1100e-003	4.1100e-003	0.0000	58.8870	58.8870	1.1300e-003	1.0800e-003	59.2369
User Defined Commercial	31490.3	1.7000e-004	1.5400e-003	1.3000e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.6804	1.6804	3.0000e-005	3.0000e-005	1.6904
Total		**0.1854**	**1.6490**	**1.1489**	**0.0101**		**0.1281**	**0.1281**		**0.1281**	**0.1281**	**0.0000**	**1,834.7421**	**1,834.7421**	**0.0352**	**0.0336**	**1,845.6451**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	4.56844e+006	1,759.3063	0.0601	0.0124	1,764.5137
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	4.08794e+006	1,574.2638	0.0538	0.0111	1,578.9236
General Office Building	3.70329e+006	1,426.1379	0.0487	0.0101	1,430.3592
Health Club	284360	109.5069	3.7400e-003	7.7000e-004	109.8311
High Turnover (Sit Down Restaurant)	2.35659e+006	907.5228	0.0310	6.4100e-003	910.2090
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	979908	377.3625	0.0129	2.6700e-003	378.4795
Supermarket	1.8665e+006	718.7890	0.0246	5.0800e-003	720.9166
User Defined Commercial	39294.7	15.1324	5.2000e-004	1.1000e-004	15.1772
Total		**6,888.0217**	**0.2353**	**0.0487**	**6,908.4099**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	4.4488e+006	1,713.2329	0.0585	0.0121	1,718.3040
City Park	0	0.0000	0.0000	0.0000	0.0000
Enclosed Parking with Elevator	4.08794e+006	1,574.2638	0.0538	0.0111	1,578.9236
General Office Building	3.70329e+006	1,426.1379	0.0487	0.0101	1,430.3592
Health Club	284360	109.5069	3.7400e-003	7.7000e-004	109.8311
High Turnover (Sit Down Restaurant)	2.35659e+006	907.5228	0.0310	6.4100e-003	910.2090
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	979908	377.3625	0.0129	2.6700e-003	378.4795
Supermarket	1.8665e+006	718.7890	0.0246	5.0800e-003	720.9166
User Defined Commercial	39294.7	15.1324	5.2000e-004	1.1000e-004	15.1772
Total		**6,841.9483**	**0.2337**	**0.0484**	**6,862.2001**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.4128	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013
Unmitigated	6.4128	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5497					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3529	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013
Total	**6.4128**	**0.1343**	**11.6539**	**6.2000e-004**		**0.0645**	**0.0645**		**0.0645**	**0.0645**	**0.0000**	**19.0412**	**19.0412**	**0.0184**	**0.0000**	**19.5013**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5497					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.5102					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.3529	0.1343	11.6539	6.2000e-004		0.0645	0.0645		0.0645	0.0645	0.0000	19.0412	19.0412	0.0184	0.0000	19.5013
Total	**6.4128**	**0.1343**	**11.6539**	**6.2000e-004**		**0.0645**	**0.0645**		**0.0645**	**0.0645**	**0.0000**	**19.0412**	**19.0412**	**0.0184**	**0.0000**	**19.5013**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	421.5988	2.5773	0.0633	504.9072
Unmitigated	421.5988	2.5773	0.0633	504.9072

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	41.3708 / 0	220.5743	1.3552	0.0333	264.3757
City Park	0 / 0.261485	1.1188	4.0000e-005	1.0000e-005	1.1221
Enclosed Parking with Elevator	0 / 0.230931	0.9880	3.0000e-005	1.0000e-005	0.9910
General Office Building	22.6225 / 0	120.6150	0.7410	0.0182	144.5666
Health Club	4.20927 / 0	22.4423	0.1379	3.3900e-003	26.8989
High Turnover (Sit Down Restaurant)	4.23656 / 0	22.5878	0.1388	3.4100e-003	27.0733
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.76163 / 0	9.3924	0.0577	1.4200e-003	11.2575
Supermarket	3.96763 / 0	21.1540	0.1300	3.1900e-003	25.3547
User Defined Commercial	0.511321 / 0	2.7262	0.0168	4.1000e-004	3.2675
Total		**421.5988**	**2.5773**	**0.0634**	**504.9072**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	41.3708 / 0	220.5743	1.3552	0.0333	264.3757
City Park	0 / 0.261485	1.1188	4.0000e-005	1.0000e-005	1.1221
Enclosed Parking with Elevator	0 / 0.230931	0.9880	3.0000e-005	1.0000e-005	0.9910
General Office Building	22.6225 / 0	120.6150	0.7410	0.0182	144.5666
Health Club	4.20927 / 0	22.4423	0.1379	3.3900e-003	26.8989
High Turnover (Sit Down Restaurant)	4.23656 / 0	22.5878	0.1388	3.4100e-003	27.0733
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	1.76163 / 0	9.3924	0.0577	1.4200e-003	11.2575
Supermarket	3.96763 / 0	21.1540	0.1300	3.1900e-003	25.3547
User Defined Commercial	0.511321 / 0	2.7262	0.0168	4.1000e-004	3.2675
Total		**421.5988**	**2.5773**	**0.0634**	**504.9072**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	97.7567	5.7773	0.0000	242.1881
Unmitigated	407.3196	24.0719	0.0000	1,009.1172

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	518.42	105.2346	6.2192	0.0000	260.7142
City Park	0.08	0.0162	9.6000e-004	0.0000	0.0402
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	265.13	53.8190	3.1806	0.0000	133.3343
Health Club	282.55	57.3551	3.3896	0.0000	142.0948
High Turnover (Sit Down Restaurant)	635.34	128.9683	7.6218	0.0000	319.5135
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	20.26	4.1126	0.2431	0.0000	10.1888
Supermarket	282	57.2435	3.3830	0.0000	141.8182
User Defined Commercial	2.81	0.5704	0.0337	0.0000	1.4132
Total		**407.3196**	**24.0719**	**0.0000**	**1,009.1172**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	124.421	25.2563	1.4926	0.0000	62.5714
City Park	0.0192	3.9000e-003	2.3000e-004	0.0000	9.6600e-003
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
General Office Building	63.6312	12.9166	0.7634	0.0000	32.0002

Health Club	67.812	13.7652	0.8135	0.0000	34.1028
High Turnover (Sit Down Restaurant)	152.482	30.9524	1.8292	0.0000	76.6832
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Quality Restaurant	4.8624	0.9870	0.0583	0.0000	2.4453
Supermarket	67.68	13.7384	0.8119	0.0000	34.0364
User Defined Commercial	0.6744	0.1369	8.0900e-003	0.0000	0.3392
Total		**97.7567**	**5.7773**	**0.0000**	**242.1881**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Times Mirror Square Project
Air Quality Assessment
Greenhouse Gas Assessment

Emergency Generator Emissions

updated: 1/10/2018

Conversion Factors

HP/kW	1.3410	
PM10 Fraction of Total PM	0.960	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
PM2.5 Fraction of Total PM	0.937	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
CO2 g/gal	10.21	Climate Registry, Table 13.1: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
CH4 g/gal	0.58	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
N2O g/gal	0.26	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
GWP CH4	25	IPCC AR4
GWP N2O	298	IPCC AR4
CO2e g/gal	10,302	
CO2 g/gal	10,210	
CO2/CO2e	0.9911	

North Tower Emergency Generator

Ratings:	414	kW	*(based on engineering assumptions)*
	555	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

South Tower Emergency Generator

Ratings:	623	kW	*(based on engineering assumptions)*
	835	HP	*(based on engineering assumptions; conversion from kW to hp)*
		kW	*(based on engineering assumptions)*
	-	HP	*(conversion from kW to hp)*
Load Factor:	0.74		*(based on CalEEMod Generator Set Load Factor)*
Engine Emissions Tier:	Rule 1470 Compliant		*(compliance with CARB and AQMD diesel regulations)*
Operating Hours per Unit:	2	hours/day	*(testing/maintenance)*
	50	hours/year	*(testing/maintenance, Regulatory Limit per SCAQMD Rule 1470)*

Emergency Generator Emissions - North Tower

Units	Greenhouse Gases [1]	
	CO_2	CO_2e
g/kW-hr	—	—
g/HP-hr	526.17	530.91
lbs/hr	476.41	480.70
lbs/day	952.82	961.41
lbs/yr	23,820.60	24,035.20
tons/yr	11.91	12.02
metric tons/yr	**10.80**	**10.90**

Emergency Generator Emissions - South Tower

Units	Greenhouse Gases [1]	
	CO_2	CO_2e
g/kW-hr	—	—
g/HP-hr	526.17	530.91
lbs/hr	716.76	723.22
lbs/day	1433.53	1446.44
lbs/yr	35838.20	36161.06
tons/yr	17.92	18.08
metric tons/yr	16.26	16.40

Total Emergency Generator Emissions

Units	Greenhouse Gases [1]	
	CO_2	CO_2e
lbs/hr	1193.18	1203.93
lbs/day	2386.35	2407.85
lbs/yr	59658.80	60196.26
tons/yr	29.83	30.10
metric tons/yr	**27.06**	**27.30**

Notes:

1. Emission factors for VOC and NOX: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
2. Emission factors for CO, PM10, and PM2.5: Regulatory Limit per SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines).
3. Emission factor for SO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emission Factor for SO2 is based on 15 ppm (0.0015%) S1 from the EPA Nonroad Diesel Fuel Program, and assumes complete conversion to SO2.
1. Emission factor for CO2: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1.
   Emissions of GHGs assume 99.11% of the CO2e emissions occur as CO2, which is typical for off-road diesel engines.

Source: ESA 2017.

Times Mirror Square Project
Cooling Towers
Greenhouse Gas Analysis

Cooling Towers Daily Emissions

High Flow Rate:	12.4	Gallons per Minute
Number of Units:	1	Cooling Towers
Operating Hours:	24	hr/day
	17,820	gal/day
	6,504,300	gal/year
	6.5043	mgal/year

CalEEMod Water Electricity Factors	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
	9727	111	1272	1911

		GHG Emissions (lbs/yr)				
Source	Electricity Demand from Water Demand (million kWh)	CO2	CH4	N20	CO2e	MTCO2e (MT/yr)
Cooling Tower	0.0847	71,904	2.46	0.51	72,117	32.7

GHG	Intensity factor (lbs/MWh)
CO2	849
CH4	0.029
N2O	0.006

APPENDIX G

Phase I and II Environmental Site Assessment

ESA

PHASE I AND II ENVIRONMENTAL SITE ASSESSMENT

LA Times Property
Los Angeles, California 90012

AEC Project No. 16-151SD
July 19, 2018

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ADVANTAGE
ENVIRONMENTAL
CONSULTANTS, LLC.

July 19, 2018

Mr. Daniel Bell
Onni Group
Suite 300-550 Robson Street
Vancouver, B.C. Canada V6B 2B7

Subject: **Phase I and II Environmental Site Assessment**
LA Times Property
Los Angeles, California 90012

Dear Mr. Bell:

Advantage Environmental Consultants, LLC (AEC) has performed a Phase I and II Environmental Site Assessment (ESA) in conformance with the scope and limitations of American Society for Testing and Materials Practice E 1527-13 and 40 Code of Federal Regulations Part 312, of the LA Times property located at 202 and 234 W 1st Street, 118 and 140 S Broadway, and 145 S Spring Street, in the City of Los Angeles, California. This ESA included public environmental agency and historical record reviews, interviews, site observations, and report preparation. This report includes AEC's findings, conclusions, recommendations, and supporting documentation.

We appreciate the opportunity to be of service on this project. If you should have any questions regarding this report, or if we can be of further assistance, please contact us at (760) 744-3363.

Sincerely,

ADVANTAGE ENVIRONMENTAL CONSULTANTS, LLC

Todd Jacquay
Project Manager

Daniel Weis, R.E.H.S.
Branch Manager
Western Regional Office

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1.0 Introduction

1.1 Purpose

The purpose of this Phase I Environmental Site Assessment (ESA) prepared by Advantage Environmental Consultants, LLC (AEC) is to provide a professional opinion on the presence of recognized environmental conditions (RECs) and other suspect environmental conditions in connection with the Site, as they existed on the date of the site inspection, and to recommend whether further investigation is required. American Society for Testing and Materials (ASTM) Standard Practice E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (the Pracitce), defines good commercial and customary practice for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants pertinent to the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as well as petroleum products. As such, this ESA is intended to satisfy one of the threshold criteria for satisfying the landowner liability protections to CERCLA liability assuming compliance with other elements of the defense. In other words, this ESA represents one of the practices that constitute “all appropriate inquiry” into the previous ownership and uses of the property consistent with good commercial or customary practice, as defined in 42 USC Section 9601(35)(B) and 40 CFR Part 312.

The goal of the process is to identify RECs, which are defined by the Practice as “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: 1) due to any release to the environment; 2) under conditions indicative of a release to the environment; or 3) under conditions that pose a material threat of a future release to the environment. The term recognized environmental condition includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The term "environment" is defined in CERCLA 42 USC 9601(8) as "(A) the navigable waters, the water of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Magnuson-Stevens Fishery conservation and Management Act, and (B) any other surface water, ground water, drinking water supply, land surface or subsurface strata, or ambient air within the United States or under the jurisdiction of the United States.

The term “release” means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles containing any hazardous substance or pollutant or contaminant), but excludes (A) any release which results in exposure to persons solely within a workplace, with respect to a claim which such persons may assert against the employer of such persons, (B) emissions from the engine exhaust of a motor vehicle, rolling stock, aircraft, vessel, or pipeline pumping station engine, (C) release of source, byproduct, or special nuclear material from a nuclear incident, as those terms are defined in the Atomic Energy Act of 1954 [42 U.S.C. 2011 et seq.], if such release is subject to requirements with respect to financial protection established by the Nuclear Regulatory Commission under section 170 of such Act [42 U.S.C. 2210], or, for the purposes of 42 USC 9604 or any other response action, any release of source byproduct, or special nuclear material from any processing

site designated under section 7912(a)(1) or 7942(a) of this title, and (D) the normal application of fertilizer.

1.2 Detailed Scope of Services

The Phase I ESA was conducted in accordance with generally accepted Phase I industry standards using ASTM Standard Practice E 1527-13, 40 Code of Federal Regulations (CFR) Part 312, and the Scope of Work proposed by AEC (Proposal Number P16-074SD) dated April 20, 2016. The following services were provided for this assessment:

- A review of title information pertaining to the Site.
- Review and summary of prior environmental documents pertaining to the Site.
- An evaluation of standard environmental record sources contained within Federal, State and local environmental databases within specific search distances.
- An evaluation of additional environmental record sources obtained from local regulatory departments/agencies.
- A qualitative evaluation of the physical characteristics of the Site through a review of published topographic, geologic, and hydrogeologic maps; published groundwater data; and area observations to characterize surface water flow in the Site area.
- An evaluation of past Site and adjacent/nearby property uses through a review of historical resources.
- A physical inspection of the Site (interior and exterior) conducted to search for conditions indicative of potential environmental concerns including underground storage tanks (USTs), aboveground storage tanks (ASTs), associated tank piping; stained soil or pavement; equipment that may contain or have historically contained polychlorinated biphenyls (PCBs); and other potential environmental concerns as defined in the ASTM E 1527-13 standard.
- A physical assessment of indications of past uses and visual observations of adjacent and surrounding properties (from curbside or public spaces) to assess potential impacts to the Site.
- Interviews completed with the client, a representative of the Site owner and a local regulatory official.
- The preparation of this Phase I ESA report, which includes the findings of the study and our opinion regarding their level of significance. Conclusions have been drawn based on the significance levels of the findings with subsequent recommendations provided.

A Phase II ESA of the Site was also conducted concurrently with this Phase I ESA, the results of which are described in Section 7.0 of this report. The Phase II ESA consisted of the drilling of eight soil borings and sampling for soil, soil gas and/or sub-slab vapor for various constituents of potential concern.

1.3 Significant Assumptions

This Phase I ESA was conducted in accordance with ASTM guidelines, CFR Part 312, and the Scope of Work proposed by AEC (Proposal Number P16-074SD) dated April 20, 2016 for the performance of such assessment. No other warranties either express or implied are made by AEC. AEC's evaluations, analyses, and opinions should not be taken as representations regarding subsurface conditions or the actual value of the Site. Subsurface conditions may differ from the conditions implied by the surficial observations, and can only be reliably evaluated through intrusive techniques.

Documentation and data provided by the client, designated representatives, other interested third parties, or from the public domain, and referred to in the preparation of this assessment, are assumed to be complete and correct and have been used and referenced with the understanding that AEC assumes no responsibility or liability for their accuracy. AEC's conclusions are based upon such information and documentation and on our observations of Site conditions, as they existed on the date of the site inspection. Because Site conditions may change significantly over a short period of time and additional data may become available, data reported and conclusions drawn in this report are limited to current conditions and may not be relied upon on a significantly later date.

1.4 Limitations and Exceptions

Reasonable efforts have been made during this assessment to uncover evidence of USTs, ASTs and ancillary equipment associated with such features. "Reasonable efforts" are limited to information gained from visual observation of unobstructed areas, recorded database information held in public record, and available information gathered from interviews. Such methods may not identify subsurface equipment that may have been hidden from view due to paving, construction or debris pile storage, or incorrect information from sources.

This investigation was not an environmental compliance audit. While some observations and discussion in this report may address conditions and/or operations that may be regulated, the regulatory compliance of those conditions and/or operations is outside the scope of this investigation. Nothing in this report constitutes a legal opinion or legal advice. For information regarding specific individual or organizational liability, AEC recommends consultation with independent legal counsel.

According to 40 CFR Part 312, Standards and Practices for All Appropriate Inquiry: Final Rule, CERCLA liability rests with the owner or operator of a property and not with an environmental professional hired by the prospective landowner and who is not involved with the ownership or operation of the property. This report meets the requirements set forth in 40 CFR Part 312 Standards and Practices for All Appropriate Inquiries; Final Rule. However, in order to qualify for certain landowner liability protections under CERCLA. Bona Fide Prospective Purchasers, Contiguous Property Owners, and/or Innocent Landowners must meet additional requirements of CERCLA (42 U.S.C. 9601 (35)(B)).

This ESA does not address non-scope ASTM considerations including asbestos, lead-based paint, radon gas, mold, lead in drinking water, wetlands, protected environments and habitat, industrial hygiene concerns, indoor air quality (unrelated to releases of hazardous substances and petroleum products) and high voltage power lines.

1.5 Special Terms and Conditions

No special terms and conditions between AEC and the client pertinent to the findings of this ESA or methodology used to complete this assessment are noted. In addition, AEC does not have a financial interest in the Site.

1.6 User Reliance

This report was prepared for use solely and exclusively by the client and is not for the use or benefit of, nor may it be relied upon by, any other person or entity for any purpose without the advance written consent of AEC. AEC makes no representation to any third party except that it has used the degree of care and skill ordinarily exercised by a reasonable prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. No other use or disclosure is intended or authorized by AEC. In the preparation of this ESA, AEC has used the degree of care and skill ordinarily exercised by a reasonably prudent environmental professional in the same community and in the same time frame given the same or similar facts and circumstances. No other warranties are made to any third party, either express or implied.

1.7 Regulatory Setting

The City of Los Angeles (City) is preparing an Environmental Impact Report (EIR) for the proposed Times Mirror Square Project (Project), including the following entitlements from the City: (1) Transfer of Floor Area Rights (TFAR) of 548,440 sf from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site); (2) Vesting Conditional Use Permit to permit floor averaging within a unified development; (3) Master Conditional Use Permit (MCUB) to permit the on-site and off-site sale and consumption of alcoholic beverages within the Project's commercial retail spaces; (4) Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for condominium purposes (including parking per LAMC requirements in lieu of the parking requirements under the Advisory Agency's Parking Policy for Condominiums; (5) Construction permits, including building, grading, excavation, foundation, and associated permits; (6) Haul Route Permit; (7) certification of the EIR; and (8) other approvals and permits as needed.

2.0 Site Description

2.1 Location and Legal Description

The Site includes the city block bound generally to the north by W 1st Street, to the south by W 2nd Street, to the east by S Spring Street, and to the west by S Broadway. The Site consists of five rectangular-shaped parcels currently developed for commercial purposes that total a reported 160,578 square feet (3.6 acres) in size. The Site includes the following legal parcels:

Table 1

Addresses	APNs
145 S Spring Street 147 S Spring Street 205 W 2nd Street 211 W 2nd Street	5149-001-003
124 S Broadway 126 S Broadway 128 S Broadway 140 S Broadway 142 S Broadway 221 W 2nd Street	5149-001-004
110 S Broadway 118 S Broadway 120 S Broadway	5149-001-005
202 W 1st Street 212 W 1st Street 214 W 1st Street 220 W 1st Street 121 S Spring Street	5149-001-006
224 W 1st Street 228 W 1st Street 230 W 1st Street 234 W 1st Street 100 S Broadway 102 S Broadway 106 S Broadway 108 S Broadway	5149-001-007

A Vicinity Map depicting the general location of the Site is included in Section 12.1.

2.2 Site and Vicinity General Characteristics

The Site and its adjacent/nearby properties are comprised of commercial properties in the densely developed Center City/Historic Core District of Downtown Los Angeles. This district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets, includes Los Angeles City Hall, Los Angeles County courts and law library, federal offices and courts, LAPD Headquarters, CalTrans Regional Offices, Grand Park, and other civic facilities.

2.3 Current Use of the Site

The Site is currently developed for commercial purposes. The majority of the Site is occupied by varying divisions of the LA Times (i.e. offices, former production areas, service related, etc.). Other portions of the Site are leased by other entities (Bank of America and other various businesses). The Site building also includes a parking structure.

2.4 Description of Structures, Roads, Other Improvements on the Site

The Site is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building, resulting in a total of approximately 559,853 sf. Potable water and sanitary sewer service is provided to the area by the City of Los Angeles. Electricity and natural gas are supplied to the area by the Southern California Gas Company. Each building is underlain by a subterranean basement (one to three levels in depth). A Site Plan depicting each Site building is included in Section 12.2. Photographs taken of the Site are included in Section 12.3.

2.5 Current Uses of the Adjoining Properties

The area surrounding the Site consists generally of commercial businesses and residential properties. AEC performed a visual inspection of adjoining properties from adjacent sidewalks and other access points. The following table identifies the adjacent property uses:

Table 2

Direction	Adjoining Property Use
North	W 1st Street, then a vacant lot and commercial buildings
South	W 2nd Street, then a parking lot and commercial buildings.
East	S Main Street, then commercial buildings
West	S Spring Street, then a construction site (Federal courthouse building)

No significant environmental concerns to the Site relative to the adjacent properties were noted.

3.0 User Provided Information

3.1 Title Records

AEC was provided with a preliminary title report for the Site prepared by Chicago Title Insurance Company and dated September 27, 2016. The Site is currently vested in Onni Times Square LP, a Nevada limited partnership. No environmentally related liens, deed restrictions or activity and use limitations pertaining to the Site were noted in the title report or during research completed with the County of Los Angeles Tax Assessor. In addition, the client is unaware of such encumbrances recorded against the Site.

3.2 Environmental Liens or Activity and Use Limitations

The client is unaware of environmental related liens or activity use limitations (i.e. engineering or institutional controls) that are related to potential environmental issues at the Site.

3.3 Specialized Knowledge

The client is unaware of specialized knowledge pertinent to potential recognized environmental conditions at the Site.

3.4 Commonly Known or Reasonably Ascertainable Information

The client is unaware of commonly known or reasonably ascertainable information pertinent to potential recognized environmental conditions at the Site.

3.5 Valuation Reduction for Environmental Issues

The client is unaware of information pertaining to the relationship of the purchase price to the estimated fair market value of the Site that might indicate that significant contamination exists.

3.6 Owner, Property Manager, and Occupant Information

The Site is currently vested in CA Los Angeles Times Square LLC. The Site owner is considered to be the property manager. Site occupants include the Los Angeles Times, Bank of America and other various businesses (office related).

3.7 Reason for Performing Phase I ESA

AEC has been retained to conduct this Phase I ESA to identify environmental issues which may be present at the Site and in connection with the planned purchase of the Site.

3.8 Other

Prior environmental reports were provided to and reviewed by AEC during the preparation of this Phase I ESA. A summary of such reports follows:

Converse Environmental Consultants, 1988, Proposed Program for Permitting Underground Tanks at Times Mirror Square, Los Angeles, California

According to the report, a total of nine USTs are associated with the Times Mirror Square property and the parking lot located adjacent to the south of the Site across West 2nd Street. Of the nine USTs, two 6,000-gallon USTs of diesel fuel and one 3,000-gallon UST of gasoline are reportedly located beneath the sidewalk bordering the eastern adjacent South Spring Street. The remaining USTs are located off-Site to the south in a parking lot. The two 6,000-gallon USTs were reportedly installed at 40 feet below grade and encased in a concrete vault during the construction of the building in 1935.

Converse Environmental Consultants, April 26, 1989, UST Abandonment-In-Place, Los Angeles Times, Times Mirror Square Facility, 135 South Spring Street, Los Angeles, California

According to the report, a 3,000-gallon capacity UST is located beneath the eastern Site sidewalk bordering South Spring Street. On February 19, 1989, two soil borings were advanced near the UST to depths up to 40 feet below grade. Groundwater was not encountered in the borings. Soil samples collected from the borings were analyzed for total fuel hydrocarbons and BTEX via EPA Methods 8015 and 8020. The results of analytical testing revealed no detection of total fuel hydrocarbons above 5 milligrams per kilogram (mg/kg). Concentrations of BTEX in soil were reported by Converse as less than 0.05 mg/kg in all samples. Further evaluation of the analytical report indicates the soil samples from 15 feet below grade contain the highest reported concentrations of benzene at 0.021 mg/kg, toluene 0.011 mg/kg, ethylbenzene 0.031 mg/kg and xylenes at 0.041 mg/kg. Such concentrations are considered to be insignificant. On March 28, 1988, a precision test was performed on the UST indicating no evidence of leakage. As a result of the soil sampling activities and precision testing, Converse concluded that the UST had not leaked into the surrounding soils. No further abandonment documentation was found in the LAFD records (i.e. closure letter or tank closure inspection report).

Healy Environmental, Inc, May 25, 1990, Report on Tank Closure, Los Angeles Times, 130 South Broadway, Los Angeles, California

According to the report, two 5,000-gallon diesel USTs were closed in place at the Site (identified as the same tanks discussed previously as 6,000-gallon USTs). One soil boring was advanced near the USTs to a depth of 60 feet. Groundwater was not encountered in the boring. Soil samples were collected from 50 and 60 feet below grade and analyzed for EPA Methods 8015 and 8020. According to Healy, the analytical results revealed undetectable concentrations of all contaminants. The USTs were reportedly emptied, rinsed of diesel fuel, and filled with concrete slurry on May 8, 1990. The USTs are no longer used during the course of normal Site operations and are not considered to be current RECs in connection with the Site.

Geomatrix, March 2008, Phase I Environmental Site Assessment, Times Mirror Square, APNs 5149-001-003, -004, -005, -006, and -007, Los Angeles, California.

According to the report, the Site is identified as Times Mirror Square and is comprised of five multi-story buildings connected to one another at various floors. In addition to the buildings, the Site is also developed with concrete paved parking areas and includes six generators associated with six diesel ASTs, nine sumps, a paint storage room, and a hazardous waste storage area. At the time of the 2008 Phase I ESA, the Site buildings were identified as Times South at 145 S Spring Street (current Mirror Building), Times North at 202 W 1st Street (current Times Building), Times West at 220 W 1st Street and 100 S Broadway (current Executive Building), the Broadway

Building at 130 S Broadway (current Executive Building), and the Corporate Garage (221 W 2nd Street). Site operations included newspaper publishing administration, banking (Bank of America), and automobile parking. Printing of newspapers was reportedly conducted at the Site from 1935 to the early 1990s. By the time of the 2008 Phase I ESA, all equipment related to the former printing operations had been removed from the Site. In addition, an abandoned clarifier paved in concrete was reportedly observed in the Times South Building (currently considered the Mirror Building).

A review of records maintained by the City of Los Angeles Fire Department (LAFD) was conducted for the Site during the preparation of the 2008 Phase I ESA. The records identified the use of hazardous materials and three historical underground storage tanks at the Site. Records from 1989 and 1990 indicate the three USTs (two 6,000-gallon diesel USTs and one 3,000-gallon gasoline UST) were reportedly abandoned in place at the Site. Further details of the LAFD records for the Site are discussed below. No recognized environmental conditions in connection with the Site were identified during the completion of the prior Phase I ESA.

ARCADIS US Inc., December 8, 2014, Project Completion Report, Underground Storage Tank Removal, Los Angeles County Metropolitan Transportation Authority, Regional Connector Project – LA Time Location, 221 W. 2nd Street, Los Angeles, California

According to the report, a 15,000-gallon emergency generator diesel tank was removed from the Site parking structure at 221 W. 2nd Street. Concrete saw cutting and removal of the tank reportedly commenced on October 6, 2014. Product, return, and vent pipelines were reportedly cut and capped in the northeast portion of the work zone and left in place below W. 2nd Street. On October 8, 2014, the UST was removed from the excavation and transported for disposal at Ecology Auto Parks in Santa Fe Springs, California. The excavation was reportedly conducted to a maximum depth of 15 feet below ground surface with no staining observed in any portion of the material removed during the UST excavation. Following the removal of the UST and underground product lines, two soil samples were collected at a depth of approximately 5 feet bgs (2 feet below product and return lines). In addition, due to the presence of a concrete pad below the UST, three samples were collected using a hollow stem drill rig from below the UST at a depth of approximately 17 feet bgs. Excavated material and soil from beneath the UST were sampled and analyzed for total petroleum hydrocarbons as diesel (TPHd by USEPA Method 8015) and volatile organic compounds including BTEX and fuel oxygenates (VOCs by USEPA Method 8260B). TPHd and VOCs were not detected above laboratory reporting limits in any of the samples collected. Pea gravel was reportedly used as additional backfill material to level the excavation to within 10 inches of the surface, followed by six inches of compacted road base, and topped with four inches of asphalt to match existing surface conditions.

4.0 Records Review

4.1 Standard Environmental Record Sources

AEC reviewed Federal and State environmental databases provided by EDR of Shelton, Connecticut for information pertaining to documented and/or suspected releases of regulated hazardous substances and/or petroleum products within specified search distances. A copy of the EDR report is included in Section 12.4.

AEC also reviewed unmappable sites listed in the environmental database report by cross-referencing addresses and site names. Unmappable sites are sites that cannot be plotted with confidence, but can be located by zip code or city name. In general, a site cannot be mapped because of inaccurate or missing location information in the record provided by the regulatory agency. Any unmappable sites that AEC identifies within the specified search radii were evaluated as part of the preparation of this report.

The following Federal databases related to potential on-site and off-site sources of contamination were reviewed and interpreted by AEC:

Table 3	
Federal Databases	**Search Distance From Site**
National Priorities List (NPL)	One mile
Delisted NPL	One mile
Superfund Enterprise Management System, former CERCLIS - (SEMS)	One-half mile
Superfund Enterprise Management System Archive, former CERCLIS NFRAP - (SEMS ARCHIVE)	One-half mile
Resource Conservation and Recovery Act (RCRA) CORRACTS Hazardous Waste Treatment, Storage and Disposal (TSD) Facilities	One mile
RCRA non-CORRACTS Hazardous Waste TSD Facilities	One-half mile
RCRA Hazardous Waste Generators (RCRA GEN)	One-eighth mile
Emergency Response Notification System (ERNS)	One-eighth mile
Federal Institutional/Engineering Control Registries (IC/EC)	One-half mile

The following State/local databases related to potential on-site and off-site sources of contamination were also searched and reviewed:

Table 4	
State/Local Databases	**Search Distance From Site**
State-equivalent NPL and CERCLIS (RESPONSE and ENVIROSTOR)	One mile
State Voluntary Cleanup Sites (VCP)	One-half mile
State Landfill and/or Solid Waste Disposal Sites (SWF/LF)	One-half mile
State Leaking Storage Tank (LUST, SLIC)	One-half mile
State Registered Storage Tank (UST, AST)	One-eighth mile

Descriptions/sources of each of the above referenced regulatory databases and the dates these databases were last updated by the applicable regulatory agencies are included in the EDR report.

Subject Site

Several listings for the Site are identified in the standard ASTM regulatory databases search by EDR. The table below summarized the Site listings as presented in the EDR database report:

Table 5

Site Listing and Address	Database(s)	Details
Los Angeles Times 130 S Broadway	UST	Referenced with a historical UST and no indication of a reported release.
TransAmerica Occidental 150 S Broadway	UST	Referenced with a historical UST and no indication of a reported release.
LA Times Bldg 120 S Spring St	ERNS	Referenced with a "pint bomb exploded by city police and neutralized by the fire department." No indication of a reported release.
The Time Mirror Company 220 W 1st Street	RCRA-SQG	Referenced as a small quantity generator of hazardous waste with no violations found and no indication of a reported release.
Los Angeles Times 202 W 1st St	RCRA-SQG UST	Referenced as a small quantity generator of hazardous waste with a historical UST. No indication of a reported release.
Times Mirror Company 145 S Spring St	LUST	Referenced with a case closed regulatory status as of March 30, 1989.

Please refer to Section 3.8 of this report for additional information pertaining to prior environmental investigations completed at the Site.

Adjoining and Nearby Properties

Several listings were mapped in the standard regulatory databases within one-eighth mile of the Site. The table below presents a summary of the listed facility and an opinion regarding the potential impact to the Site.

Table 6

Listed Property and Address	Database(s)	Mapped Distance and Direction From Site	Details	Likely Concern To Site?
Los Angeles State Office Bldg, California Dept of Justice 107 S Broadway	UST, RCRA-SQG	0.006-mile North	Referenced as a small quantity generator with a historical UST and no indication of a reported release.	No
The Los Angeles Times 214 W 2nd St	UST	0.008-mile SSW	Referenced with a historical UST and no indication of a reported release.	No

Table 6				
Listed Property and Address	**Database(s)**	**Mapped Distance and Direction From Site**	**Details**	**Likely Concern To Site?**
Caltrans District 7, State of California, 07 District Office 120 S Spring St	UST, RCRA-SQG	0.008-mile East	Referenced as a small quantity generator with a historical UST and no indication of a reported release.	No
Los Angeles Air Force Base	LUST	0.072-mile ESE	Referenced as a LUST with no additional information.	No
Office of Fleet Administration, Calif State Garage 122 S Hill ST	UST, RCR-SQG	0.075-mile NW	Referenced as a small quantity generator with a historical UST and no indication of a reported release.	No
Current Occupant 208 S Hill St	UST	0.078-mile West	Referenced on the UST database with no indication of a reported release.	No
High Performance Magazine 240 S Broadway 5th Floor	RCRA-SQG	0.080-mile SW	Referenced as a small quantity generator with no violations found and no indication of a reported release.	No
Webster Career College 222 S Hill St	UST	0.083-mile West	Referenced on the UST database with no indication of a reported release.	No
Chandler Lease Property Main St	SLIC	0.084-mile ESE	Referenced with a case closed regulatory status as of August 12, 1995.	No
Caltrans Equipment Shop 100 S Main St	RCRA-SQG	0.087-mile ESE	Referenced as a small quantity generator with no violations found and no indication of a reported release.	No
County Courthouse, LA County FMD 111 N Hill St	UST	0.094-mile NNW	Referenced on the UST database with no indication of a reported release.	No
Times Mirror 240 S Hill St	LUST	0.097-mile West	Referenced with a case closed regulatory status as of August 19, 1997.	No
Los Angeles City Hall – South 111 E 1st St	UST RCRA-SQG	0.097-mile ESE	Referenced as a small quantity generator with four USTs and no indication of a reported release.	No
The Angelus Plaza 245 S Hill St	UST	0.102-mile West	Referenced on the UST database with no indication of a reported release.	No
Los Angeles City Bur Sanitation, LA City Repair Shops 200 N Main St	RCRA-SQG	0.103-mile East	Referenced as a small quantity generator with no violations found and no indication of a reported release.	No
City Hall East 200 N Main St	RCRA-LQG UST	0.103-mile East	Referenced as a large quantity generator with a historical UST. No indication of a reported release.	No
The RHF Bunker Hill Corp 255 S Hill St	UST	0.109-mile West	Referenced on the UST database with no indication of a reported release.	No

The properties listed in the table above are not considered to be significant environmental concerns to the Site. In addition, several properties mapped between one-eighth and one-mile from the Site also appear on various regulatory databases (1 SEMS ARCHIVE, 49

ENVIROSTOR, 2 SWL/LF, 19 LUST, and four SLIC). These properties are also not considered to be significant environmental concerns to the Site. These opinions are based on several factors including the nature of the regulatory database listings, distance of the off-Site listed properties from the Site, orientation of the listed properties relative to the Site, interpreted direction of groundwater flow, and/or regulatory case status information for the various properties as described in the database report.

Non-ASTM Database Reviews

Below is a list of non-ASTM databases searched by EDR and reviewed by AEC during the preparation of this assessment. The descriptions of each database and their data release frequency are included in the EDR report, included in Section 12.4.

Local Brownfield Lists
US BROWNFIELDS - A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites
DEBRIS REGION 9 - Torres Martinez Reservation Illegal Dump Site Locations
ODI - Open Dump Inventory
WMUDS/SWAT - Waste Management Unit Database
SWRCY - Recycler Database
HAULERS - Registered Waste Tire Haulers Listing

Local Lists of Hazardous Waste / Contaminated Sites
US CDL - Clandestine Drug Labs
HIST Cal-Sites - Historical Calsites Database
SCH - School Property Evaluation Program
Toxic Pits - Toxic Pits Cleanup Act Sites
CDL - Clandestine Drug Labs
US HIST CDL - National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks
SWEEPS UST – SWEEPS UST Listing
HIST UST – Hazardous Substance Storage Container Database
CA FID UST – Facility Inventory Database

Local Land Records
LIENS 2 - CERCLA Lien Information
LIENS - Environmental Liens Listing
DEED - Deed Restriction Listing

Records of Emergency Release Reports
HMIRS - Hazardous Materials Information Reporting System
CHMIRS - California Hazardous Material Incident Report System
LDS - Land Disposal Sites Listing
MCS - Military Cleanup Sites Listing
SPILLS 90 – SPILLS 90 data from FirstSearch

Other Ascertainable Records
RCRA-NonGen - RCRA - Non Generators

DOT OPS - Incident and Accident Data
DOD - Department of Defense Sites
FUDS - Formerly Used Defense Sites
CONSENT - Superfund (CERCLA) Consent Decrees
ROD - Records Of Decision
UMTRA - Uranium Mill Tailings Sites
MINES - Mines Master Index File
TRIS - Toxic Chemical Release Inventory System
TSCA - Toxic Substances Control Act
FTTS – FIFRA/TSCA Tracking System – FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS - FIFRA/TSCA Tracking System Administrative Case Listing
SSTS - Section 7 Tracking Systems
ICIS - Integrated Compliance Information System
PADS - PCB Activity Database System
MLTS - Material Licensing Tracking System
RADINFO - Radiation Information Database
FINDS - Facility Index System/Facility Registry System
RAATS - RCRA Administrative Action Tracking System
RMP - Risk Management Plans
CA BOND EXP. PLAN - Bond Expenditure Plan
UIC - UIC Listing
NPDES - NPDES Permits Listing
Cortese - "Cortese" Hazardous Waste & Substances Sites List
HIST CORTESE - Hazardous Waste & Substance Site List
CUPA Listings - CUPA Resources List
Notify 65 - Proposition 65 Records
DRYCLEANERS - Cleaner Facilities
WIP - Well Investigation Program Case List
ENF - Enforcement Action List
HAZNET - Facility and Manifest Data
EMI - Emissions Inventory Data
INDIAN RESERV - Indian Reservations
SCRD DRYCLEANERS - State Coalition for Remediation of Drycleaners Listing
MWMP - Medical Waste Management Program Listing
COAL ASDH DOE – Sleam Electric Plan Operation Data Listing
COAL ASH EPA – Coal Combustion Residues Surface Impoundments List
HWT - Registered Hazardous Waste Transporter Database
HWP - Envirostor Permitted Facilities List
FINANCIAL ASSURANCE - Financial Assurance Information Listing
LEAD SMELTERS - Lead Smelter Sites
2020 COR ACTION - 2020 Corrective Action Program List
US AIRS - Aerometric Information Retrieval System Facility Subsystem
PRP - Potentially Responsible Parties
WDS - Waste Discharge System
EPA WATCH LIST - EPA WATCH LIST
US FIN ASSUR - Financial Assurance Information
PCB TRANSFORMER - PCB Transformer Registration Database
PROC - Certified Processors Database
FUSRAP - Formerly Utilized Sites Remedial Action Program
US MINES – Mines Master Index File
PEST LIC – Pesticide Regulation Licenses Listing

WASTEWATER PITS – Oil Wastewater Pits Listing
ECHO – Enforcement and Compliance History Information
FUELS PROGRAM – EPA Fuels Program Registered Listing
Los Angeles Co. HMS
LA Co. Site Mitigation

Non-ASTM Database Listings

No non-ASTM database listings are mapped for the Site. Multiple off-Site properties (one Brownfields, four CHMIRS, one RCRA NonGen / NLR, and two Los Angeles Co. HMS) are identified on the non-ASTM databases within their respective search distances. The Brownfields listing is identified as Adelante Eastside at 100 Broadway S (mapped 0.003-mile northeast of the Site). Adelante Eastside is an approximately 2,200 acre industrial and commercial redevelopment project containing the areas south of Olympic Boulevard to the city limits of Vernon from the Los Angeles River to Indiana Street; North Main Street east to Valley Boulevard and Alhambra Avenue to the city limits of Alhambra; and all east - west commercial streets in Boyle Heights such as Cesar Chavez Avenue, First Street, Fourth Street and Whittier Boulevard from the Los Angeles River to Indiana Street. The western limits of this redevelopment area are situated at least one mile to the east of the subject Site. As such, the association of the Adelante Eastside redevelopment area to the Site and the address assigned to the Adelante Eastside is in error by the regulatory database provider. Regardless, the Brownfields database listing in question is associated with a federally funded grant issued to the City of Los Angeles for the completion of a Phase I ESA within the redevelopment area and is not related to the cleanup of hazardous waste or a reported release. As such, the Adelante Eastside regulatory database listing is not considered to be an environmental concern to the Site. The CHMIRS listings include Chandler Lease Property at Main Street (0.084 mile east-southeast) and three unnamed listings mapped at First St and Broadway (0.007-mile north), 120 South Spring Street (0.008-mile east), and 200 N. Main Street. City Hall East @ P2 (0.098-mile east). The RCRA NonGen / NLR listing is identified as Caltrans District 7 at 120 S Spring St (0.008-mile east). The Los Angeles Co. HMS listings include Caltrans-District 7 Referrals at 120 S Spring St (0.008-mile east) and LA Co ISD L A Court House at 111 N Hill St (0.094-mile north-northwest. The off-Site non-ASTM database listings are not expected to have adversely impacted the Site. This opinion is based on several factors including distance of the off-Site listed properties from the Site, orientation of the listed properties relative to the Site, interpreted direction of groundwater flow, and/or regulatory case status information for the various properties as described in the database report.

4.2 Additional Environmental Record Sources

Los Angeles Fire Department (LAFD) – Records Review

AEC reviewed LAFD records pertaining to the Site. The records identified the following hazardous materials at the Site: Freon gas, microcide 98, sulfuric acid, paint, waste paint, thinner, batteries, PCBs, waste oil/solvent, acetylene, argon, liquid soaps, nitrogen, oxygen, potassium hydroxide, sodium bisulfate, and sodium hydroxide. In addition, the LAFD records indicate three abandoned USTs are located on the eastern portion of the Site. Results of soil sampling adjacent to the USTs did not indicate significant evidence of a release from these tanks. Prior environmental activities related to the abandonment of the three on-Site USTS is included in Section 3.8 above.

City of Los Angeles Department of Building and Safety

AEC reviewed building records dating from 1905 to 1981 and provided in the prior Phase I ESA for the Site. Records for the Site date back to a 1905 building permit for the construction of a residence at the Site address of 101-111 S Spring Street. The Site address of 114 S Broadway was occupied by a printing shop in 1915. Times Mirror Company is identified in Site records dating from the early 1930s to the 1980s. None of the records were indicative of USTs or unauthorized releases of hazardous substances or petroleum products.

California State Water Resources Control Board (Geotracker)

AEC searched for information regarding a possible release at the Site on the Geotracker database maintained by the California Water Resources Control Board. Times Mirror Corporation, at the Site address of 145 S Spring Street, is identified on Geotracker as a cleanup site in which gasoline may have impacted soil. Details regarding the Site listing are limited, with no soil or groundwater data submitted to Geotracker. The case was initially reported on April 27, 1988 and has a case closed status as of March 30, 1989. Based on the dates of the regulatory activities, it appears the listing is associated with the abandonment of a 3,000-gallon UST as discussed in Section 3.8 above. No additional information for the Site was revealed in the Geotracker database.

4.3 Physical Setting Sources

The following physical setting sources were reviewed to provide information about the topographic, hydrologic, geologic and/or hydrogeologic characteristics of the Site.

4.3.1 Topography and Hydrology

USGS Topographic Quadrangle

The Site is depicted on the United States Geological Survey (USGS) 7.5 Minute Series, Hollywood, California topographic quadrangle map dated 1991 and Photorevised in 1994. The Site is shown on the map as being relatively level and located at an elevation of approximately 280 feet above mean sea level. Regional topography is shown as sloping to the south-southwest. No Site specific structures are depicted on the map. The Site and surrounding area are shaded red, indicating urban development. Streets/roadways bordering the Site are shown in their current configuration.

Hydrology/Storm Water Management

Surface drainage at the Site is facilitated by nearby municipal storm drains along public roadways and maintained by the City of Los Angeles. The Site does not appear to receive significant drainage from off-Site properties.

4.3.2 Geology

The Site lies within the Peninsular Ranges Geologic Province of California. This geomorphic province is traversed by a group of northwest trending sub-parallel fault zones and encompasses an area that extends 125 miles from the Transverse Ranges and the Los Angeles Basin south to the Mexican Border and beyond another 775 miles to the tip of Baja California. Rocks within the

Peninsular Range Province were emplaced during Cretaceous age orogenic events and uplifted into the present mountain ranges during the late Tertiary and Quaternary. Igneous, metamorphic and sedimentary rocks are all found within the Peninsular Ranges. The area is seismically active, with several known active faults crossing the Province.

The Site is located in the northern portion of the Los Angeles Basin on a gently east-southeast sloping alluvial surface. Site geology reportedly consists of artificial fill, Holocene age alluvium, and siltstone and sandstone bedrock of the Puente Formation.

4.3.3 Hydrogeology

According to the Water Quality Control Plan for the Los Angeles Basin, the Site is located within the Coastal Plain of Los Angeles-Central Hydrologic Sub-Area of the Los Angeles Hydrologic Area of the Los Angeles River Hydrologic Unit (RWQCB, 1994). Groundwater in the Coastal Plain of Los Angeles-Central Hydrologic Sub-Area has existing beneficial uses for municipal, industrial, process supply and agriculture purposes. Prior environmental investigations conducted at the Site indicate groundwater was not encountered in borings advanced to 40 feet and 60 feet below ground surface (bgs). According to a geotechnical report conducted for the Site, any groundwater identified at depths shallower than 150 feet to 200 feet bgs are likely to be perched. Groundwater flow direction beneath the Site is anticipated to the south-southwest. In addition, it should be noted that during AEC's reconnaissance of the Site, groundwater was observed to be infiltrating in to the 3rd level of the basement of the Executive Building. Such groundwater is reportedly captured by a series of piping systems that lead to sumps and ultimately the sanitary sewer system. No odors, sheens or other suspect conditions were noted in the areas of groundwater observed.

4.3.4 Radon Zone

The Site is located within US EPA Radon Zone 2 which has a moderate potential for radon accumulation with an indoor average level between 2 and 4 picoCuries per liter (pCi/L). The US EPA action level for radon is > 4 pCi/L. Therefore, radon is not considered to be a significant concern at the Site.

4.4 Historical Use Information

Historical sources (as described in the following sections) were reviewed to develop a history of the previous uses of the Site and adjacent/nearby properties to help identify the likelihood of past uses having led to recognized environmental conditions in connection with the Site.

4.4.1 Fire Insurance Maps

Sanborn fire insurance maps were reviewed for the years of 1888, 1894, 1906, 1920, 1950, 1953, 1954, 1959, 1960, 1967, and 1970. The results of the map review are summarized in the following table and the Sanborn maps are included in Section 12.5.

Table 7 Sanborn Review	
Year	**Observations**
1888	**SITE:** The Site is depicted as a developed city block comprised of storefronts, offices, and residences. The northern portion along W 1st Street includes the Los Angeles Real Estate & Stock Exchange, offices, a restaurant, carriage shed, and Nadeau Hotel. The southern portion along W 2nd Street includes a newly constructed building, City Hall, a police station/jail, and a bank. The western portion along S Fort Street (current S Broadway) includes dwellings, offices, a Chinese Laundry, and a Livery and Boarding stable. The eastern portion along S Spring Street includes storefronts and offices. **SURROUNDING AREA:** Surrounding roads are depicted similar to their current configurations with S Fort Street identified to the west (currently S Broadway). Properties to the west and south are not depicted on the map. Properties to the north across W 1st Street and to the east across S Spring Street are depicted with storefronts and offices.
1894	**SITE:** The Site is depicted similar to the 1888 map with storefronts in the previous location of dwellings in the southwest portion and printing identified in the previous location of the LA Real Estate & Stock Exchange in northwest portion. **SURROUNDING AREA:** Surrounding properties are depicted similar to the 1888 fire insurance map. S Broadway is identified west of the Site (formerly S Fort Street).
1906	**SITE:** The Site is depicted similar to the 1894 map with new storefronts and the Herald and Chamber of Commerce identified on the western portion along S Broadway. **SURROUNDING AREA:** The surrounding areas are not depicted on the map.
1920	**SITE:** The Site is depicted as a developed city block with multiple buildings. Detailed information is not depicted on the map for the Site or surrounding properties. **SURROUNDING AREA:** The surrounding properties are developed with multiple buildings beyond the current configuration of streets in all directions.
1950, 1953, 1954	**SITE:** The majority of the Site is depicted as the Times – Mirror Co. Newspaper Plant with several lofts and storefronts in the southwest portion and storefronts and restaurants in the northwest portion. **SURROUNDING AREA:** The surrounding properties are not depicted on the map with the exception of offices for the California State Division of Highways and the Wilson Bldg depicted to the east across S Spring Street.
1959, 1960, 1967	**SITE:** The Site is similar to the 1954 map with vacant land in the southwest portion and a bank in the northwest corner. **SURROUNDING AREA:** The surrounding properties are depicted similar to the 1954 map.
1970	**SITE:** The Site is similar to the 1967 map with vacant land in the southwest and corners. **SURROUNDING AREA:** The surrounding properties are depicted similar to the 1954 map.

4.4.2 Aerial Photographs

AEC reviewed aerial photographs from 1928, 1938, 1947, 1956, 1965, 1976, 1989, 1994, 2002, 2005, 2009, and 2012. The Site and surrounding areas appear to be developed with commercial buildings and associated parking areas in aerial photographs dating back to 1928. Streets in the vicinity of the Site appear similar to their current configurations in all of the aerial photographs.

The development of the Site and surrounding area is consistent with that identified during review of the fire insurance maps of similar time frames.

4.4.3 City Directories

AEC reviewed historical city directory listings provided in the prior Phase I ESA for the Site. Listings for the Site date back to at least 1924 in which the Site address of 118 S Broadway is identified as Times Mirror Printing & Binding House. Additional historical Site listings include multiple offices, restaurants, and stores. The surrounding area is also listed with stores and offices dating back to at least 1924 which is consistent with the findings of the fire insurance map and aerial photograph reviews.

4.4.4 State of California Division of Oil and Gas Records

According to online resources provided by the California Department of Conservation, Division of Oil, Gas and Geothermal Resources, there are no oil, gas or geothermal wells located on the Site or its adjacent properties.

5.0 Site Reconnaissance

The objective of the Site reconnaissance was to obtain information indicating the likelihood of recognized environmental conditions in connection with the Site. Multiple visits to the Site were conducted by Mr. Dan Weis of AEC's Western Regional office. Mr. Weis was escorted by designated representatives of the Site owner during each Site reconnaissance.

5.1 Methodology and Limiting Conditions

The Site reconnaissance consisted of walking the Site and along public sidewalks (for viewing of adjacent/nearby properties). AEC assessed the majority of the lowest levels of each basement area of the Site buildings and intermittent areas of basement levels above (where applicable). In addition, the ground-level (street grade) spaces were observed as were limited areas of above-grade levels above. The level of the Site reconnaissance was adequate for AEC to render opinions regarding environmental conditions at the Site. As stated previously, a Site Plan is included in Section 12.2. Photographs of the Site were taken to document existing Site conditions and are included and described in Section 12.3.

5.2 General Site Setting

The Site and its adjacent/nearby properties are comprised of commercial properties in the densely developed downtown area of the City of Los Angeles. The Site is currently developed for commercial purposes. The majority of the Site is occupied by varying divisions of the LA Times (i.e. offices, former production areas, service related, etc.). Other portions of the Site are leased by other entities (Bank of America and other various businesses). The Site building also includes a parking structure.

5.3 Site Observations

AEC examined accessible portions of the Site for evidence of the following potential environmental concerns:

Table 8

Conditions	Not Observed or Noted	Observed or Noted	Recognized Environmental Concern?
Hazardous Substances/Petroleum Products		X	No
Waste Generation/Storage/Disposal		X	No
ASTs		X	No
USTs		X	No
PCB Containing Equipment		X	No
Chemical/Petroleum Odors	X		
Pools of Liquid	X		
Floor Drains/Sumps/Wells		X	No
Drums		X	No
Stains or Corrosion	X		
Unidentified Substance Containers	X		
Stained Soil or Pavement	X		
Stressed Vegetation	X		

Table 8			
Conditions	**Not Observed or Noted**	**Observed or Noted**	**Recognized Environmental Concern?**
Pits, Ponds or Lagoons	X		
Wastewater Discharges/Disposal Systems		X	No
Septic Systems/Cesspools	X		
Non-Hazardous Solid Waste Disposal Areas		X	No
Drinking Water Systems/Water Wells	X		
Other Wells	X		
Asbestos and Lead-Based Paint		X	No

The noted items in the table above are discussed below:

Hazardous Substances/Petroleum Products - Waste Generation/Storage/Disposal - Drums

Containers of hazardous materials and wastes varying in capacity from retail-sized (5-gallons or less) to 55-gallons (drums) were observed in limited areas of each of the Site buildings. The majority of such containers were observed at the ground-level of the Parking Structure building. Substances stored included paints, paint thinners, sulfuric acid, biocides (algae control), various boiler treatment fluids, hydraulic oil, used oil, paint sludge/waste, batteries (new and used), universal waste (light ballasts, light tubes, etc.) and others. In addition, diesel fuel is stored in multiple emergency generators in each of the Site buildings. No staining, suspect conditions or indications of releases were noted in the areas of such containers.

Above Ground Storage Tanks (ASTs)

Multiple emergency generators are present at the Site (in each of the Site buildings). Such generators contain diesel fuel ASTs ranging in capacity from 55-gallons to 1,000 gallons. AEC observed emergency generators with associated diesel fuel ASTs. No evidence of staining or leakage adjacent to or below the ASTs was noted.

Underground Storage Tanks (USTs)

As stated in Section 3.7 of this report, three USTs associated with the Plant Building have been abandoned in place at the Site under oversight of the LAFD. The areas of the former tanks were noted by Site owner representatives and observed by AEC during our Site visits. No environmental concerns associated with the three abandoned in place USTs were observed during the field reconnaissance.

PCB Containing Equipment

It is possible that older light ballasts within the Site buildings contain PCBs. In addition, older transformers present within LADPW maintained electrical rooms in each of the Site buildings (no access granted) may also contain PCBs. Visible transformers observed appeared to be in good condition with no staining, suspect conditions or indications of releases noted in the areas of such systems.

Floor Drains/Sumps/Wells - Wastewater Discharges/Disposal Systems

There are numerous floor drains within the interior of each of the Site buildings and area drains in exterior portions of the Site. There are also a series of sumps in each of the Site buildings. The

interior drains and sumps reportedly lead to the sanitary sewer system. The sumps are reportedly used to capture both drainage from slab surfaces and also groundwater that may infiltrate in to the Site buildings, especially at the lowest levels of basements. Exterior area drains reportedly lead to the stormwater conveyance system. An abandoned clarifier (filled with concrete) was also observed in the Mirror Building. No significant staining, suspect conditions or indications of releases were noted in the areas of such systems.

Non-Hazardous Solid Waste Disposal Areas

Dumpsters were observed within the Parking Structure Building at the Site. With the exception of typical staining and odors (non-chemical in nature) commonly observed in the areas of large trash dumpsters, no significant staining or suspect conditions were noted. In addition, no evidence of unauthorized waste disposal was observed.

Asbestos and Lead-Based Paint

AEC was informed by the seller of the Site that significant abatement of asbestos and lead-based paint had been previously completed at the property. However, based on the size of the Site structures and observations made during our visits to the Site, it can be reasonably assumed that such materials remain in the Site buildings. Prior to the disturbance of building materials during future demolition and/or renovation activities, surveys for asbestos and lead-based paint should be completed, with abatement conducted as necessary prior to any construction work. Asbestos and lead-based paint are not considered to be RECs in connection with the Site, but are conditions that will require typical management during construction as necessary.

6.0 Interview Information

6.1. Interview With Owner

The Site is currently owned by CA Los Angeles Times Square LLC. The Site owner referred AEC to prior environmental reports pertaining to the Site for information pertaining to their knowledge of environmental conditions at the Site. In addition, during AEC's Site visits, representatives of the Site owner were interviewed and were unaware of RECs in connection with the Site.

6.2 Interview With Site Manager

The Site owner is also considered to be the Site Manager. Please refer to Section 6.1 above.

6.3 Interviews With Occupants

No formal interviews were conducted with Site occupants. Given the knowledge of Site owner representatives regarding Site history and facilities, the lack of formal interviews with Site occupants does not alter AECs conclusions and recommendations regarding the Site.

6.4 Interview With Local Government Official

During the preparation of this assessment, AEC consulted with various regulatory agency sources regarding potential environmental concerns at the Site.

6.5 Interview With Others

No interviews with other persons knowledgeable of the historical use of the Site were conducted during the preparation of this ESA.

7.0 Phase II Environmental Site Assessment

A Phase II ESA was performed to identify environmental issues which may be present at the Site and in connection with its historical use. Eight soil borings (identified as B1 through B8) were advanced at the Site using a stainless steel hand auger and an electric rotary hammer (where applicable). The soil borings were advanced by Astech Environmental of Santa Ana, California (H&P) at the following locations:

- B1 and B2 – Basement of Parking Structure
- B3 – Basement (third level below grade) of Executive Building
- B4 – Basement of Executive Building
- B5 - Basement (third level below grade) of Mirror Building
- B6 and B7 - Basement of Plant Building
- B8 – Basement of Times Building

Soil borings B1 through B3 were advanced to depths of five feet below the adjacent concrete slabs and soil borings B4 through B8 were advanced to depths of one foot below the adjacent concrete slabs. Soil borings B1 through B3 were advanced to depths of three feet using the hand auger, followed by driving using the electric rotary hammer to the total depth of 5 feet. The remaining soil borings (B4 through B8) were advanced using the hand auger. Drilling conditions at some boring locations were difficult due to the presence of pea gravel type material beneath the slabs that was consistently caving during advancement of the boreholes. A Boring Location Plan (three pages) is included in Section 12.6. The analytical laboratory reports (including quality control data) and chain of custody documentation are included in Section 12.7 of this report.

Pre-Field Activities

Prior to the commencement of field sampling, AEC prepared a health and safety plan that outlined the procedures that AEC's personnel followed to minimize the potential for health and safety hazards during the course of work performed at the Site. In addition, AEC notified Underground Service Alert (USA) utility marking service prior to drilling activities. USA member agencies identified known utility locations in the public right of way adjacent to the Site and on select areas of the Site. Concrete coring was also completed at the boring locations.

Geophysical Survey

Southwest Geophysics, Inc., a subcontractor to AEC, completed a geophysical survey to clear the proposed soil boring locations of subsurface conflicts by way of the geophysical survey methods. Geophysical survey methods utilized included ground-penetrating radar, electromagnetic technologies and other methods as described in the attached geophysical survey report.

Soil Sampling and Laboratory Analysis

Soil samples were retained for potential laboratory analysis from the following depths within each soil boring:

- B1 – 0.5, 1 and 3 feet
- B2 - 0.5, 1 and 3 feet
- B3 - 0.5, 1 and 3 feet
- B5, B6, B7 and B8 – 1 foot

Soil samples were collected from the teeth of the hand auger and transferred in to laboratory provided four ounce glass jars. The samples were then labeled, secured in Ziplock® bags, recorded onto chain-of-custody documentation, and placed into a chilled cooler for transport to a laboratory for analysis. All soil samples were screened for undifferentiated VOCs using a photo-ionization detector (PID) during the sampling event. Detectable concentrations of VOCs were not detected in most of the samples. Minor concentrations of VOCs (less than 5 parts per million) were detected in shallow soil samples obtained from borings B1 and B8. Soil sampling equipment was decontaminated between uses by washing with a non-phosphate detergent solution followed successive rinses in drinking water.

The samples obtained from the 0.5-foot depths of borings B1 and B8 were analyzed for total petroleum hydrocarbons (TPH) by EPA test Method 8015B. Four of the samples were also analyzed for VOCs by United States EPA test Method 8260B. Such samples included the 3-foot samples from borings B1, B2 and B3 and the 1-foot sample from boring B8. Ten of the samples were analyzed for Title 22 Metals by United States EPA test Methods 6010B/7471A as follows:

- B1, B2 and B3 - 0.5 and 3 feet
- B5, B6, B7 and B8 – 1 foot

Soil Gas Sampling and Laboratory Analysis

Soil gas probes were installed at depths of 5 feet below the bottom of the concrete slabs at boring locations B1, B2 and B3. One-eighth inch nylon tubing was inserted into the open boreholes. The probes were then gently lifted up from the bottom of the borehole and sand was poured down the borehole to encase the filter with a minimum of six inches of sand pack. Approximately six inches to one foot of dry granular bentonite was then placed on top of the sand pack. The temporary soil gas wells were then completed to the surface with hydrated bentonite. Sub-slab soil vapor probes were installed immediately below the concrete slabs at the remaining boring locations (B4 through B8). Such probes were constructed of similar materials to those described above (5 foot deep soil gas probes). The probes were allowed to set for at least two hours prior to sampling to allow the bentonite time to properly seal. All soil gas samples collected during this assessment were transported to an off-Site analytical laboratory under chain of custody documentation.

Soil gas was withdrawn from the end of the inert nylaflow tubing that runs from the sampling tip to the surface using evacuated Tedlar™ bags and associated vacuum and flow control systems. Soil gas samples were logged on to chain of custody forms and analyzed for VOCs by EPA test Method 8260B and methane by ASTM method D1946.

Upon completion of sampling, the probes were removed from the ground and the probe holes were backfilled with soil cuttings and hydrated bentonite to depth of approximately one to two inches below the bottom of the adjoining concrete slab. Following backfilling of the boreholes, the cold joints of the cored areas were lined with and adhesive followed by Waterstop-RX™. The remaining areas of the boreholes were then backfilled with concrete to meet adjacent slab grades. The used tubing along with other non-hazardous wastes generated during the field activities were bagged and are being disposed of by Astech Environmental.

Results

A summary of the TPH and VOC data is included in the table below.

Soil Analytical Data Summary

Table 9				
Soil Boring	**Soil Sample**	**Depth (Feet)**	**TPH**	**VOCs**
B1	B1-0.5	0.5	5.90 mg/kg - Diesel	--
B1	B1-3	3	--	None Detected
B2	B2-3	3	--	None Detected
B3	B3-3	3	--	None Detected
B8	B8-1	1	422 mg/kg – Diesel 377 mg/kg - Oil	None Detected

mg/kg – milligrams per kilogram

As shown in the table above, TPH in the diesel range were detected at 5.90 mg/kg and 422 mg/kg in soil borings B1 and B8. In addition, TPH in the oil range was detected at 377 mg/kg. VOCs were not detected at or above the laboratory reporting limits in any of the soil samples analyzed for such constituents. No hydrocarbon staining or odors were noted in soil sample B1-0.5 which had the reported detection of 5.90 mg/kg in the diesel range. This concentration is considered to be negligible and does not represent an REC. Evidence of low to moderate hydrocarbon staining was noted in soil obtained from boring B8. TPH concentrations in soil sample B8-1, while more elevated than those reported in sample B1-0.5, are not considered to be significant relative to potential human health risk as such soil is encapsulated by a concrete slab. In addition, such soil is unlikely to be displaced in the future as the potential for demolition of the Times building (location of boring B8) to occur is considered to be very low. Further, VOCs were not detected at or above the laboratory reporting limits in the same soil sample.

One or more metals were detected in each of the ten soil samples analyzed for such constituents. Detected metals included arsenic, barium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, vanadium and zinc. The highest detectable concentration for each respective metal constituent and the corresponding sample identification is as follows:

- Arsenic – 6.18 mg/kg (B2-3)
- Barium – 691 mg/kg (B2-3)
- Chromium – 41.9 mg/kg (B1-3)
- Cobalt – 30.6 mg/kg (B7-1)
- Copper – 39.8 mg/kg (B1-3)
- Lead – 95.8 mg/kg (B7-1)
- Mercury - 0.157 mg/kg (B8-1)
- Molybdenum – 3.60 mg/kg (B5-1)
- Nickel – 34.7 mg/kg (B2-3)
- Vanadium – 48.5 mg/kg (B1-3)
- Zinc – 74.3 mg/kg (B1-0.5)

Total arsenic concentrations are not considered to be elevated and are within the range of naturally concentrations of this element in southern California soils. For the remaining metals, concentrations are below applicable United States EPA Regional Screening Levels (RSLs) for

commercial soil. . None of the metals concentrations are considered to be elevated relative to potential human health risk. Also of note is that the highest concentration of lead (95.8 mg/kg) detected is situated within the Plant Building. Soil beneath this building is unlikely to be displaced in the future as the potential for demolition of the Plant Building to occur is considered to be very low.

VOCs were not detected in any of the soil gas or sub-slab vapor samples. In addition, methane was not detected in any of the samples.

Limitations

The services provided by AEC have been performed in accordance with practices and standards generally accepted by environmental scientists practicing in this industry. No other warranty, either express or implied, is made. The results and conclusions described herein are based on a limited subsurface evaluation and sampling program and do not purport to identify any and all sources or locations of potentially impacted soil, soil gas and sub-slab vapor that may exist at the Site. Levels of contaminants measured at a given location may not be representative of conditions in other areas on the Site. In addition, conditions may change at any particular location as a function of time in response to natural conditions, chemical reactions and other factors. Our conclusions regarding the condition of the Site does not represent a warranty that all areas of the Site are similar to those sampled. AEC is not responsible for the conclusions, opinions, or recommendations made by others based on this information.

8.0 Findings, Opinions, Conclusions and Recommendations

Advantage Environmental Consultants, LLC has performed a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM Practice E 1527-13 and 40 CFR Part 312 of the LA Times Property located in the City of Los Angeles, California. A Phase II ESA consisting of soil, soil gas and sub-slab vapor sampling and analysis was also conducted concurrently with the Phase I ESA. Any exceptions to, or deletions from, this practice are described in Section 8.0 of this report.

This Phase I ESA has revealed no evidence of current recognized environmental conditions in connection with the Site. Abandoned USTs, former processes associated with the production of newspapers and soil containing petroleum hydrocarbons noted in shallow soil of soil boring B8 (refer to Section 7.0) are considered to be historical recognized environmental conditions that do not require additional assessment at this time. Such areas are not present in portions of the Site that will be subject to future building demolition and excavation for the future subterranean parking garage. The Phase II ESA did not reveal current RECs in the areas evaluated. In the event that unforeseen suspect impacted soil is encountered during mass excavation activities for the future subterranean parking garage, such soil can be properly profiled and managed under a conventional soil management plan to be implemented by the project excavation contractor and environmental consultant.

9.0 Deviations and Data Gaps

The oldest historical resource reviewed during the preparation of this assessment was a Sanborn fire insurance map from 1888, which showed portions of the Site as being developed with storefronts, offices, and residences. The lack of review of historical sources dating back to a time when the Site was undeveloped is considered a data gap as defined by ASTM-2013 but does not alter AEC's conclusions and recommendations regarding the Site.

No deviations from the ASTM-2013 standard or other data gaps as defined in the ASTM-2013 standard are noted.

10.0 References

"All Appropriate Inquiry" as necessary to satisfy the defenses available under 42 U.S.C. §§ 9607(b)(3), 9607(r)(1), and 9607(q), relying on definitions provided at 42 U.S.C. §§ 9601(35)(B); and as further explained in 40 CFR §§ 312.1 – 312.31.

ASTM, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process," ASTM Designation E 1527-13.

California Geological Survey (CGS), 2002, California Geomorphic Provinces Note 36, Electronic Copy, Revised December.

California Regional Water Quality Control Board – Los Angeles Region 4, 1994, Water Quality Control Plan - San Diego Region: California State Water Resources Control Board Publication.

EDR regulatory database report and fire insurance map package;

Prior environmental documents referenced in Section 3.8 of this report;

State of California Department of Conservation, Division of Oil and Gas and Geothermal Resources: http://www.consrv.ca.gov/DOG/maps/index_map.htm.

State of California Water Resources Control Board (SWRCB) GeoTracker database: http://geotracker.swrcb.ca.gov/.

USGS topographic map, Hollywood, California Quadrangle 2015.

11.0 Signatures and Qualifications of Environmental Professionals

We declare that, to the best of my professional knowledge and belief, we meet the definition of Environmental Professional as defined in 40 CFR 312.10. We have the specific qualifications based on education, training and experience to assess a property of the nature, history and setting of the subject Site. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



Todd Jacquay
Project Manager

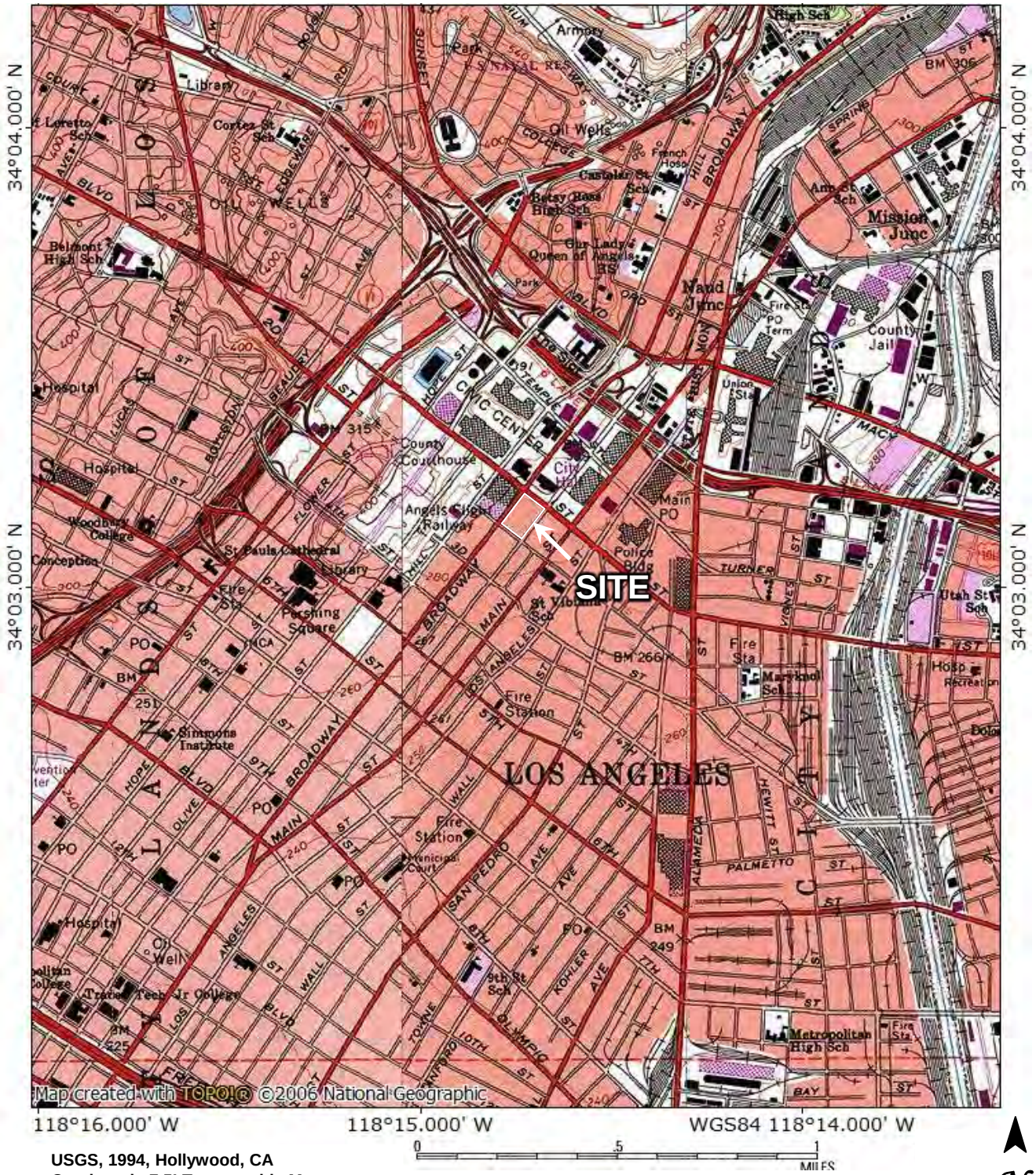


Daniel Weis, R.E.H.S.
Branch Manager
Western Regional Office

Qualifications for the environmental professionals involved in the performance of the Phase I ESA are included in Section 12.8.

12.0 Appendices

12.1 Vicinity Map



USGS, 1994, Hollywood, CA
Quadrangle 7.5' Topographic Map

Advantage Environmental Consultants, LLC

145 Vallecitos De Oro, Suite 201
San Marcos, CA 92069

Phone: 760-744-3363
Fax: 760-744-3383

Vicinity Map
LA Times Property
Los Angeles, California

Project No.:	Figure Date:	Drawn By:
16-151SD	June 2016	TJ

12.2 Site Plan



Site Boundary

0 75 150

Graphic Scale (Feet)

Advantage Environmental Consultants, LLC

145 Vallecitos De Oro, Suite 201
San Marcos, CA 92069
Phone: 760-744-3363 Fax: 760-744-3383

Site Plan
LA Times Property
Los Angeles, California

Work Order No.:	Report Date:	Drawn By:
16-151SD	June 2016	TJ

12.3 Site Photographs



1. View of the southern portion of the Site. Times South, Plant Building and Parking Structure are visible.



2. View of the northern portion of the Site. Times North, Plant Building and Times West are visible.



3. View of the southern portion of the Site. Times South, Plant Building and Parking Structure are visible.



4. Site building elevation.



5. Drainage along building perimeters.



6. Entrance to the parking structure.



7. Indications of utilities adjacent to the Site building.



8. Indications of utilities adjacent to the Site building.



9. Utility mark outs adjacent to the Site building.



10. Adjacent street and commercial properties.



11. Adjacent street and commercial properties.



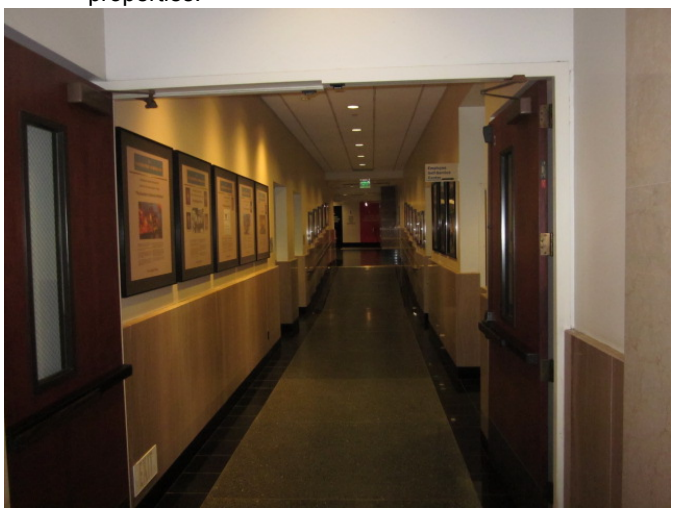
12. Adjacent street and commercial properties.



13. Adjacent street and vacant lot and commercial properties.



14. Adjacent new construction.



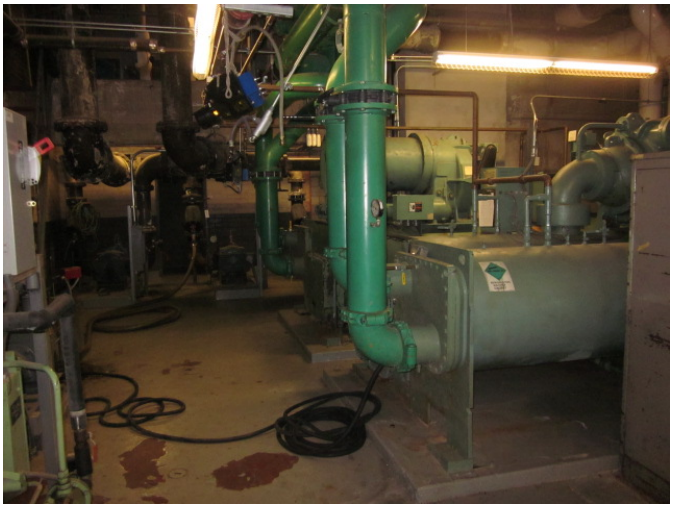
15. Typical corridor of Times South.



16. Typical corridor of Times South.



17. Times South utility systems.



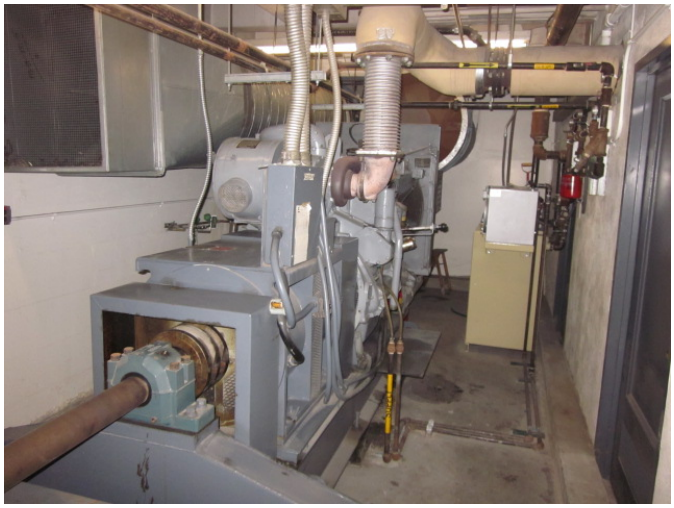
18. Times South utility systems.



19. Times South utility systems.



20. Former clarifier area.



21. Typical emergency diesel generator.



22. Typical storage area of the Plant Building.



23. Shaft leading to previously abandoned in place underground storage tank.



24. Typical office space.



25. Main utility room (Plant Building).



26. Main utility room (Plant Building). Note floor drains.



27. Main utility room (Plant Building).



28. Main utility room (Plant Building).



29. Typical storage area.



30. Typical corridor of Times North.



31. Utility systems in Times North.



32. Typical storage.



33. Server area in Times North.



34. Former printing area in Times North. Note treated wooden bricks.



35. Parking structure building.



36. Emergency diesel generators.



37. Hazardous waste storage area in the Parking Structure building.



38. Times West lobby.



39. Times West museum area.

12.4 Regulatory Database Report

LA Times Property
Broadway and W 1st Street
Los Angeles, CA 90012

Inquiry Number: 4627577.1s
May 24, 2016

The EDR Radius Map™ Report

EDR® Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

BROADWAY AND W 1ST STREET
LOS ANGELES, CA 90012

COORDINATES

Latitude (North):	34.0526230 - 34° 3' 9.44''
Longitude (West):	118.2455880 - 118° 14' 44.11''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	385037.6
UTM Y (Meters):	3768496.0
Elevation:	295 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5630795 LOS ANGELES, CA
Version Date:	2012
West Map:	5630741 HOLLYWOOD, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120505
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
BROADWAY AND W 1ST STREET
LOS ANGELES, CA 90012

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	LOS ANGELES TIMES	130 S BROADWAY	CA SWEEPS UST, CA FID UST	Higher	1 ft.
A2	TRANSAMERICA OCCIDEN	150 S BROADWAY	CA SWEEPS UST, CA FID UST	Higher	1 ft.
A3		L.A. TIMES BLDG 120	ERNS	Higher	1 ft.
A4	TIMES MIRROR COMPANY	220 W. 1ST STREET	RCRA-SQG	Higher	14, 0.003, NNE
B5	LOS ANGELES TIMES -	202 W. 1ST ST.	RCRA-SQG	Higher	14, 0.003, ENE
B6	THE TIMES MIRROR COM	202 W 1ST ST	CA FID UST	Higher	14, 0.003, ENE
B7	TIMES MIRROR CORPORA	145 SPRING ST S	CA LUST	Lower	15, 0.003, ESE
A8	ADELANTE EASTSIDE	100 BROADWAY S	US BROWNFIELDS	Higher	17, 0.003, NE
A9	LOS ANGELES STATE OF	107 S BROADWAY	CA SWEEPS UST, CA HIST UST, CA FID UST	Higher	31, 0.006, North
A10	CALIFORNIA DEPT OF J	107 S BROADWAY RM 31	RCRA-SQG	Higher	31, 0.006, North
A11		FIRST ST AND BROADWA	CA CHMIRS	Higher	36, 0.007, North
C12	THE TIMES MIRROR COM	214 W 2ND ST	CA SWEEPS UST	Lower	41, 0.008, SSW
C13	THE LOS ANGELES TIME	214 W 2ND ST	CA UST	Lower	41, 0.008, SSW
B14	CALTRANS DISTRICT 7	120 S SPRING ST	RCRA NonGen / NLR	Higher	43, 0.008, East
B15		120 SOUTH SPRING STR	CA CHMIRS	Higher	43, 0.008, East
B16	CALTRANS-DISTRICT 7	120 S SPRING ST	CA LOS ANGELES CO. HMS	Higher	43, 0.008, East
B17	STATE OF CALIFORNIA	120 S SPRING ST	CA UST, CA SWEEPS UST	Higher	43, 0.008, East
B18	07 DIST OFFICE	120 SOUTH SPRING ST	CA HIST UST	Higher	43, 0.008, East
B19	CALTRANS DISTRICT 7	120 S SPRING ST	RCRA-SQG	Higher	43, 0.008, East
D20	LOS ANGELES AIR FORC		CA LUST	Lower	381, 0.072, ESE
E21	OFFICE OF FLEET ADMI	122 S HILL ST	CA UST, CA SWEEPS UST	Higher	395, 0.075, NW
E22	CALIF STATE GARAGE	122 SO HILL ST	RCRA-SQG	Higher	395, 0.075, NW
E23	OFFICE OF FLEET ADMI	122 SO HILL STREET	CA HIST UST, CA FID UST	Higher	395, 0.075, NW
F24	CURRENT OCCUPANT	240 S HILL ST	CA SWEEPS UST, CA FID UST	Higher	403, 0.076, WSW
G25	CURRENT OCCUPANT	208 S HILL ST	CA SWEEPS UST, CA FID UST	Higher	412, 0.078, West
F26	HIGH PERFORMANCE MAG	240 S BROADWAY 5TH F	RCRA-SQG	Lower	425, 0.080, SW
G27	WEBSTER CAREER COLLE	222 S HILL ST	CA SWEEPS UST, CA FID UST	Higher	440, 0.083, West
D28	CHANDLER LEASE PROPE	MAIN ST	CA SLIC, CA CHMIRS	Lower	441, 0.084, ESE
D29	CALTRANS EQUIPMENT S	100 S MAIN ST	RCRA-SQG	Lower	460, 0.087, ESE
30	MUSSON'S SPORTING GO	103 SECOND	CA RGA LUST	Lower	476, 0.090, SSE
H31	COUNTY COURTHOUSE	111 N HILL ST	CA HIST UST	Higher	496, 0.094, NNW
H32	COUNTY COURT/LA CO.	111 N HILL ST	CA UST	Higher	496, 0.094, NNW
H33	LA CO ISD L A COURT	111 N HILL ST	CA LOS ANGELES CO. HMS	Higher	496, 0.094, NNW
H34	COUNTY COURT/LACO F.	111 N HILL ST	CA SWEEPS UST, CA FID UST	Higher	496, 0.094, NNW
G35	TIMES MIRROR	240 HILL ST S	CA LUST	Higher	510, 0.097, West
D36	LOS ANGELES CITY HAL	111 E 1ST ST	CA UST, CA SWEEPS UST	Lower	514, 0.097, ESE
D37	LA CITY HALL SOUTH	111 E 1ST ST	RCRA-SQG, CA FID UST	Lower	514, 0.097, ESE
D38		200 N. MAIN ST. CITY	CA CHMIRS	Lower	515, 0.098, East
G39	THE ANGELUS PLAZA	245 S HILL ST	CA UST	Higher	537, 0.102, West

MAPPED SITES SUMMARY

Target Property Address:
BROADWAY AND W 1ST STREET
LOS ANGELES, CA 90012

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
G40	THE ANGELUS PLAZA/RH	245 S HILL ST	CA SWEEPS UST, CA FID UST	Higher	537, 0.102, West
I41	LOS ANGELES CITY OF	200 N MAIN ST CHE RM	RCRA-SQG	Higher	543, 0.103, East
I42	CITY HALL EAST	200 N. MAIN STREET	RCRA-LQG, CA HIST UST	Higher	543, 0.103, East
I43	LA CITY REPAIR SHOPS	800 CITY HALL E 200	RCRA-SQG	Higher	543, 0.103, East
I44	LOS ANGELES CITY, BU	200 N MAIN ST, RM 15	RCRA-LQG	Higher	543, 0.103, East
G45	THE RHF BUNKER HILL	255 S HILL ST	CA SWEEPS UST, CA FID UST	Higher	577, 0.109, West
D46	BANDINI CANYON POCKE	O'FARRELL AND BANDIN	US BROWNFIELDS	Lower	589, 0.112, East
J47	BRADBURY BUILDING	304 BROADWAY S.	CA RGA LUST	Lower	716, 0.136, SW
J48	BRADBURY BUILDING	304 BROADWAY S.	CA LUST	Lower	716, 0.136, SW
49	LA CO HALL OF ADMINI	500 TEMPLE ST W	CA LUST	Higher	778, 0.147, North
50	LAPD SCIENTIFIC INVE	555 RAMIREZ STREET	NY MANIFEST	Lower	855, 0.162, ESE
51	LOS ANGELES TIMES	214 002ND ST E	CA LUST	Lower	980, 0.186, SE
K52	CITY OF LOS ANGELES	MULTIPLE PARCLES /SI	CA SWF/LF	Lower	1355, 0.257, SW
K53	LA BY-PRODUCTS HEWIT	LA	CA SWF/LF	Lower	1355, 0.257, SW
L54	BURBANK FIRE STATION	353 OLIVE AVE E	CA RGA LUST	Higher	1387, 0.263, WSW
M55	CATHEDRAL OF OUR LAD	555 W. TEMPLE STREET	CA SLIC	Higher	1406, 0.266, North
N56	AUTO PARK 18	145 N GRAND AVE	CA LUST	Higher	1415, 0.268, NNW
N57	AUTO PARK 18	145 N GRAND AVE	CA RGA LUST	Higher	1415, 0.268, NNW
L58	THE MUTUAL GARAGE BU	363 OLIVE STREET S.	CA RGA LUST	Higher	1429, 0.271, WSW
L59	THE MUTUAL GARAGE BU	363 OLIVE ST S	CA LUST	Higher	1429, 0.271, WSW
L60	THE MUTUAL GARAGE BU	363 OLIVE ST S	CA RGA LUST	Higher	1429, 0.271, WSW
O61	PARKER CENTER	151 SAN PEDRO ST N	CA RGA LUST	Lower	1430, 0.271, SE
P62	PARKER CENTER	151 JUDGE JOHN AISO	CA LUST	Lower	1456, 0.276, East
P63	PARKER CENTER	151 JUDGE JOHN AISO	CA RGA LUST	Lower	1456, 0.276, East
O64	PARKER CENTER (LADP)	150 SAN PEDRO ST	CA RGA LUST	Lower	1485, 0.281, SE
O65	PARKER CENTER (LADP)	150 SAN PEDRO ST.	CA RGA LUST	Lower	1485, 0.281, SE
O66	UNION BANK OF CALIFO	120 SAN PEDRO STREET	CA RGA LUST	Lower	1545, 0.293, SE
O67	UNION BANK OF CALIFO	120 SAN PEDRO STREET	CA LUST	Lower	1545, 0.293, SE
O68	UNION BANK OF CALIFO	120 SAN PEDRO STREET	CA RGA LUST	Lower	1545, 0.293, SE
69	TWIN SPRINGS LLC	433 SPRING STREET, S	CA LUST	Lower	1551, 0.294, SW
Q70	ORANGE LINE OIL CO	404 COMMERCIAL ST E	CA RGA LUST	Lower	1559, 0.295, ENE
Q71	ANGELICA HEALTHCARE	309 COMMERCIAL ST E	CA RGA LUST	Lower	1578, 0.299, ENE
R72	RELATED/LL BLOCK 8 L	235 SAN PEDRO	CA RGA LUST	Lower	1582, 0.300, SE
R73	RELATED/LL BLOCK 8 L	235 SAN PEDRO	CA LUST	Lower	1582, 0.300, SE
M74	CATHEDRAL CHURCH	555 TEMPLE	CA SLIC	Higher	1590, 0.301, North
R75	TEXACO #61-106-0380	106 AZUSA AVE S	CA RGA LUST	Lower	1634, 0.309, SE
R76	ARCO #1276	300 AZUSA AVE N	CA RGA LUST	Lower	1634, 0.309, SE
Q77	ANGELICA HEALTH CARE	300 COMMERCIAL ST E	CA RGA LUST	Lower	1636, 0.310, ENE
78	LA CITY DEPT WATER &	111 HOPE ST N	CA LUST	Higher	1661, 0.315, NW

MAPPED SITES SUMMARY

Target Property Address:
BROADWAY AND W 1ST STREET
LOS ANGELES, CA 90012

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
79	PILOT TIMBER	100 FLOWER-MCNEIL RO	CA RGA LUST	Higher	1674, 0.317, WNW
80	CITY OF LOS ANGELES	255 TEMPLE ST	CA SLIC	Lower	1695, 0.321, East
Q81	MODOC MINI MART #1	402 N. MAIN ST.	CA RGA LUST	Lower	1697, 0.321, NE
R82	THRIFTY #305	362 AZUSA AVE N	CA RGA LUST	Lower	1747, 0.331, SE
R83	ARCO #9678	362 AZUSA AVE. N.	CA RGA LUST	Lower	1747, 0.331, SE
R84	MARCHARDS EQUIPMENT	440 AZUSA AVE N	CA RGA LUST	Lower	1815, 0.344, SE
S85	WEEMES ELEMENTARY SC	1201-1203, 1205, 120	CA ENVIROSTOR	Higher	1848, 0.350, West
S86	EAST VALLEY MIDDLE S	LAUREL CANYON BOULEV	CA ENVIROSTOR	Higher	1848, 0.350, West
S87	EAST VALLEY AREA NEW	VINELAND AVENUE/CUMP	CA ENVIROSTOR	Higher	1848, 0.350, West
S88	MARSHALL NEW PRIMARY	LEXINGTON AVE/WESTMO	CA ENVIROSTOR	Higher	1848, 0.350, West
S89	CAHUENGA NEW ELEMENT	WESTERN AVENUE/OXFOR	CA ENVIROSTOR	Higher	1848, 0.350, West
S90	FREMONT NEW PRIMARY	MENLO AVENUE/BARING	CA ENVIROSTOR	Higher	1848, 0.350, West
S91	WILSON NEW ELEMENTAR	HUNTINGTON DR/LIFUR	CA ENVIROSTOR	Higher	1848, 0.350, West
S92	BELMONT NEW PRIMARY	LAKE STREET/ROSELAKE	CA ENVIROSTOR	Higher	1848, 0.350, West
S93	JEFFERSON NEW ELEMEN	WADWORTH AVENUE/52ND	CA ENVIROSTOR	Higher	1848, 0.350, West
S94	VINE NEW PRIMARY CEN	LA MIRADA AVE/CAHUEN	CA ENVIROSTOR	Higher	1848, 0.350, West
S95	SANTA MONICA NEW PRI	SANTA MONICA BLVD/GO	CA ENVIROSTOR	Higher	1848, 0.350, West
S96	CENTRAL LOS ANGELES	BROADWAY/GRAND AVE/3	CA ENVIROSTOR	Higher	1848, 0.350, West
S97	EAST LOS ANGELES HIG	BELVEDERE PARK/CESAR	CA ENVIROSTOR	Higher	1848, 0.350, West
T98	MOBIL #18-HDH	520 ALAMEDA ST N	CA LUST	Lower	2007, 0.380, East
T99	MOBIL #18-HDH	520 ALAMEDA ST N	CA LUST	Lower	2007, 0.380, East
100	PACIFIC BELL TELEPHO	420 S GRAND AVE	CA LUST	Higher	2011, 0.381, WSW
101	NORTHERN TRANSPORTAT		CA ENVIROSTOR	Lower	2038, 0.386, ESE
102	VETERANS AFFAIRS OUT	351 TEMPLE ST E	CA LUST	Lower	2086, 0.395, ESE
U103	MOBIL #18-GP2 FORMER	747 INDIAN HILL BLVD	CA RGA LUST	Lower	2086, 0.395, SSW
U104	UNOCAL #4782	797 INDIAN HILL BLVD	CA RGA LUST	Lower	2086, 0.395, SSW
105	SOUTHERN CA GAS CENT	501 005TH ST W	CA LUST	Lower	2257, 0.427, WSW
106	A & A TOWING CO	415 COMMERCIAL ST E	CA RGA LUST	Lower	2303, 0.436, East
V107	LIBRARY SQUARE CONST	633 5TH ST W	CA LUST	Higher	2418, 0.458, WSW
V108	LIBRARY SQUARE CONST	633 5TH ST W	CA RGA LUST	Higher	2418, 0.458, WSW
W109	UNION STATION	800 NORTH ALAMEDA ST	SEMS-ARCHIVE	Lower	2435, 0.461, ENE
V110	LA CITY GENERAL SERV	630 005TH ST W	CA LUST	Higher	2449, 0.464, WSW
W111	METRO RAIL	UNION STATION	CA SLIC	Lower	2499, 0.473, ENE
112	CALIFORNIA NATIONAL	221 FIGUEROA ST.	CA LUST	Higher	2513, 0.476, WNW
X113	ARCO PARKING STRUCTU	400 FLOWER ST S	CA RGA LUST	Higher	2519, 0.477, West
X114	ARCO PARKING STRUCTU	400 FLOWER STREET S.	CA RGA LUST	Higher	2519, 0.477, West
X115	ARCO PARKING STRUCTU	400 S FLOWER ST	CA LUST	Higher	2519, 0.477, West
Y116	FORMER LEACH CORP. F	444 FLOWER ST S	CA LUST	Higher	2592, 0.491, West
Y117	FORMER LEACH CORP. F	444 FLOWER ST S	CA RGA LUST	Higher	2592, 0.491, West

MAPPED SITES SUMMARY

Target Property Address:
BROADWAY AND W 1ST STREET
LOS ANGELES, CA 90012

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
Y118	CITIBANK CENTER,CONC	444 FLOWER ST S	CA RGA LUST	Higher	2592, 0.491, West
Z119	LAPD - CENTRAL FACIL	519 WALL ST	CA LUST	Lower	2602, 0.493, South
Z120	LAPD - CENTRAL FACIL	519 S WALL ST	CA RGA LUST	Lower	2602, 0.493, South
121	MOBIL #11-HPB (FORME	706 SUNSET BLVD W	CA LUST	Higher	2623, 0.497, North
122	MGR JEWELRY	314 W SIXTH STREET	CA ENVIROSTOR	Lower	2695, 0.510, SW
123	AMETEK INC, L A DIE	340 CROCKER ST	CA ENVIROSTOR	Lower	2708, 0.513, SSE
124	PARK CENTRAL BUILDIN	412 W 6TH ST	CA ENVIROSTOR	Lower	2750, 0.521, SW
AA125	M & M HOLDING, LLC	629 S. HILL STREET #	CA ENVIROSTOR	Lower	3037, 0.575, SW
AA126	LOS ANGELES UNITED I	650 S. HILL STREET #	CA ENVIROSTOR	Lower	3059, 0.579, SW
127	SO CAL GAS/ALISO MGP	KELLER ST., VIGNES S	CA ENVIROSTOR	Lower	3273, 0.620, East
128	UNITED BUILDING ASSO	707 S BROADWAY #411	CA ENVIROSTOR	Lower	3380, 0.640, SW
129	JEWELRY DESIGN CENTE	404 W. 7TH STREET #2	CA ENVIROSTOR	Lower	3393, 0.643, SW
130	BANK OF AMERICA DATA	1000 W TEMPLE ST	CA ENVIROSTOR	Higher	3406, 0.645, NNW
131	VISTA HERMOSA	1101 W. 1ST STREET	CA ENVIROSTOR	Higher	3427, 0.649, NW
AB132	SOUTH REGION ELEMENT	EAST 89TH STREET/EAS	CA ENVIROSTOR	Higher	3533, 0.669, WNW
AB133	CENTRAL REGION HIGH	EAST 52ND STREET/SAN	CA ENVIROSTOR	Higher	3533, 0.669, WNW
AC134	SO CAL GAS/ALISO SEC	CENTER ST @ COMMERCI	CA ENVIROSTOR	Lower	3711, 0.703, East
AD135	SO CAL GAS/ALISO SEC	SOUTHWEST CORNER OF	CA ENVIROSTOR	Lower	3750, 0.710, East
AC136	SO CAL GAS/ALISO SEC	NORTHWEST CORNER OF	CA ENVIROSTOR	Lower	3768, 0.714, East
137	SO CAL GAS/ALISO SIT	TEMPLE/VIGNES/LYON/K	CA ENVIROSTOR	Lower	3808, 0.721, East
AE138	ALISO SECTOR A DENNY	530 RAMIREZ STREET	CA ENVIROSTOR	Lower	3952, 0.748, East
AE139	SO CAL GAS/ALISO MGP	KELLER ST, VIGNES ST	CA ENVIROSTOR	Lower	3962, 0.750, East
AD140	LOS ANGELES COUNTY M	410 CENTER STREET	CA ENVIROSTOR	Lower	4010, 0.759, East
AF141	SO CAL GAS/ALISO SEC	SOUTHEAST AND SOUTHW	CA ENVIROSTOR	Lower	4012, 0.760, East
AE142	SO CAL GAS/ALISO B M	555 RAMIREZ STREET	CA ENVIROSTOR	Lower	4053, 0.768, East
143	MAGNUS COMPANY, INC	860 NORTH MAIN STREE	CA ENVIROSTOR	Lower	4059, 0.769, NE
AF144	ALISO SECTOR C BLOCK	820 EAST JACKSON STR	CA ENVIROSTOR	Lower	4130, 0.782, East
145	SO CAL GAS/ALISO SEC	NORTHEAST CORNER OF	CA ENVIROSTOR	Lower	4171, 0.790, East
146	JOHNSON BRONZE COMPA	1818 S. GRAND AVENUE	CA ENVIROSTOR	Lower	4277, 0.810, SW
147	MOGUL CORPORATION	967 VIGNES	CA ENVIROSTOR	Lower	4281, 0.811, ENE
148	BLOSSOM PLAZA	900 NORTH BROADWAY	CA ENVIROSTOR	Higher	4525, 0.857, NNE
149	CORNFIELD SITE	1245 N. SPRING STREE	CA ENVIROSTOR	Lower	4621, 0.875, NE
AG150	SO CAL GAS/ALISO D M	CESAR CHAVEZ AND LYO	CA ENVIROSTOR	Lower	4641, 0.879, ENE
151	ACE PLATING CO., INC	719 TOWNE AVENUE	CA ENVIROSTOR	Lower	4688, 0.888, South
AG152	ALISO STREET INVESTI	BAUCHET STREET, TEMP	CA ENVIROSTOR	Lower	4847, 0.918, ENE
153	SANTA FE/MACY STREET	MACY STREET/ALISO ST	CA ENVIROSTOR	Lower	5044, 0.955, East
154	GRATTS ELEMENTARY SC	309 LUCAS AVENUE	CA ENVIROSTOR	Higher	5056, 0.958, WNW
155	SO CAL GAS/ALISO E M	SECTOR E EXTENDS FRO	CA ENVIROSTOR	Lower	5062, 0.959, ENE
156	SOUTHERN CALIFORNIA	KELLER YARD IN VICIN	CA ENVIROSTOR	Lower	5112, 0.968, East

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

State- and tribal - equivalent NPL

CA RESPONSE ---------- State Response Sites

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

FEMA UST ---- Underground Storage Tank Listing
CA AST ---- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

CA BROWNFIELDS ---- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

CA WMUDS/SWAT ---- Waste Management Unit Database
CA SWRCY ---- Recycler Database
CA HAULERS ---- Registered Waste Tire Haulers Listing
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---- Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

CA AOCONCERN ---- San Gabriel Valley Areas of Concern
US HIST CDL ---- Delisted National Clandestine Laboratory Register
CA HIST Cal-Sites ---- Historical Calsites Database
CA CDL ---- Clandestine Drug Labs
CA Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Land Records

CA LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
CA LDS ---- Land Disposal Sites Listing
CA SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act

TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites
LEAD SMELTERS ---- Lead Smelter Sites
US AIRS ---- Aerometric Information Retrieval System Facility Subsystem
US MINES ---- Mines Master Index File
UXO ---- Unexploded Ordnance Sites
DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
CA Cortese ---- "Cortese" Hazardous Waste & Substances Sites List
CA CUPA Listings ---- CUPA Resources List
CA DRYCLEANERS ---- Cleaner Facilities
CA Financial Assurance ---- Financial Assurance Information Listing
CA HWP ---- EnviroStor Permitted Facilities Listing
CA HWT ---- Registered Hazardous Waste Transporter Database
CA MINES ---- Mines Site Location Listing
CA MWMP ---- Medical Waste Management Program Listing
CA PEST LIC ---- Pesticide Regulation Licenses Listing
CA PROC ---- Certified Processors Database
CA Notify 65 ---- Proposition 65 Records
CA UIC ---- UIC Listing
CA WASTEWATER PITS ---- Oil Wastewater Pits Listing
CA WDS ---- Waste Discharge System
CA WIP ---- Well Investigation Program Case List
FUELS PROGRAM ---- EPA Fuels Program Registered Listing

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CA RGA LF ---- Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 03/07/2016 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
UNION STATION	800 NORTH ALAMEDA ST	ENE 1/4 - 1/2 (0.461 mi.)	W109	133

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/09/2015 has revealed that there are 2 RCRA-LQG sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CITY HALL EAST	***200 N. MAIN STREET***	***E 0 - 1/8 (0.103 mi.)***	***I42***	***50***
LOS ANGELES CITY, BU	200 N MAIN ST, RM 15	E 0 - 1/8 (0.103 mi.)	I44	55

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/09/2015 has revealed that there are 10 RCRA-SQG sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TIMES MIRROR COMPANY	220 W. 1ST STREET	NNE 0 - 1/8 (0.003 mi.)	A4	9
LOS ANGELES TIMES -	202 W. 1ST ST.	ENE 0 - 1/8 (0.003 mi.)	B5	10
CALIFORNIA DEPT OF J	***107 S BROADWAY RM 31***	***N 0 - 1/8 (0.006 mi.)***	***A10***	***19***
CALTRANS DISTRICT 7	***120 S SPRING ST***	***E 0 - 1/8 (0.008 mi.)***	***B19***	***27***
CALIF STATE GARAGE	***122 SO HILL ST***	***NW 0 - 1/8 (0.075 mi.)***	***E22***	***31***
LOS ANGELES CITY OF	***200 N MAIN ST CHE RM***	***E 0 - 1/8 (0.103 mi.)***	***I41***	***49***
LA CITY REPAIR SHOPS	***800 CITY HALL E 200***	***E 0 - 1/8 (0.103 mi.)***	***I43***	***54***

Lower Elevation	Address	Direction / Distance	Map ID	Page
HIGH PERFORMANCE MAG	***240 S BROADWAY 5TH F***	***SW 0 - 1/8 (0.080 mi.)***	***F26***	***34***
CALTRANS EQUIPMENT S	100 S MAIN ST	ESE 0 - 1/8 (0.087 mi.)	D29	38
LA CITY HALL SOUTH	***111 E 1ST ST***	***ESE 0 - 1/8 (0.097 mi.)***	***D37***	***45***

Federal ERNS list

ERNS: The Emergency Response Notification System records and stores information on reported releases of oil and hazardous substances. The source of this database is the U.S. EPA.

A review of the ERNS list, as provided by EDR, and dated 03/28/2016 has revealed that there is 1 ERNS site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported	L.A. TIMES BLDG 120	0 - 1/8 (0.000 mi.)	A3	9

State- and tribal - equivalent CERCLIS

CA ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the CA ENVIROSTOR list, as provided by EDR, and dated 02/01/2016 has revealed that there are 49 CA ENVIROSTOR sites within approximately 1 mile of the target property.

EXECUTIVE SUMMARY

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
WEEMES ELEMENTARY SC Facility Id: 19880015 Status: Certified	***1201-1203, 1205, 120***	***W 1/4 - 1/2 (0.350 mi.)***	***S85***	***90***
EAST VALLEY MIDDLE S Facility Id: 19750089 Status: Certified	***LAUREL CANYON BOULEV***	***W 1/4 - 1/2 (0.350 mi.)***	***S86***	***92***
EAST VALLEY AREA NEW Facility Id: 19000011 Status: Certified	***VINELAND AVENUE/CUMP***	***W 1/4 - 1/2 (0.350 mi.)***	***S87***	***95***
MARSHALL NEW PRIMARY Facility Id: 19650016 Status: No Further Action	***LEXINGTON AVE/WESTMO***	***W 1/4 - 1/2 (0.350 mi.)***	***S88***	***97***
CAHUENGA NEW ELEMENT Facility Id: 19730195 Status: No Further Action	***WESTERN AVENUE/OXFOR***	***W 1/4 - 1/2 (0.350 mi.)***	***S89***	***99***
FREMONT NEW PRIMARY Facility Id: 19880023 Status: No Further Action	***MENLO AVENUE/BARING***	***W 1/4 - 1/2 (0.350 mi.)***	***S90***	***101***
WILSON NEW ELEMENTAR Facility Id: 19880033 Status: No Further Action	***HUNTINGTON DR/LIFUR***	***W 1/4 - 1/2 (0.350 mi.)***	***S91***	***102***
BELMONT NEW PRIMARY Facility Id: 19880022 Status: No Further Action	***LAKE STREET/ROSELAKE***	***W 1/4 - 1/2 (0.350 mi.)***	***S92***	***104***
JEFFERSON NEW ELEMEN Facility Id: 19880016 Status: Certified	***WADWORTH AVENUE/52ND***	***W 1/4 - 1/2 (0.350 mi.)***	***S93***	***106***
VINE NEW PRIMARY CEN Facility Id: 19650022 Status: Inactive - Action Required	***LA MIRADA AVE/CAHUEN***	***W 1/4 - 1/2 (0.350 mi.)***	***S94***	***108***
SANTA MONICA NEW PRI Facility Id: 19880035 Status: No Further Action	***SANTA MONICA BLVD/GO***	***W 1/4 - 1/2 (0.350 mi.)***	***S95***	***109***
CENTRAL LOS ANGELES Facility Id: 19390058 Status: Certified	***BROADWAY/GRAND AVE/3***	***W 1/4 - 1/2 (0.350 mi.)***	***S96***	***111***
EAST LOS ANGELES HIG Facility Id: 19820069 Status: Inactive - Needs Evaluation	***BELVEDERE PARK/CESAR***	***W 1/4 - 1/2 (0.350 mi.)***	***S97***	***115***
BANK OF AMERICA DATA Facility Id: 71003397 Status: Refer: Other Agency	***1000 W TEMPLE ST***	***NNW 1/2 - 1 (0.645 mi.)***	***130***	***159***
VISTA HERMOSA Facility Id: 60000001 Status: Certified / Operation & Maintenance	***1101 W. 1ST STREET***	***NW 1/2 - 1 (0.649 mi.)***	***131***	***160***
SOUTH REGION ELEMENT Facility Id: 60000393 Status: Certified	***EAST 89TH STREET/EAS***	***WNW 1/2 - 1 (0.669 mi.)***	***AB132***	***169***
CENTRAL REGION HIGH	***EAST 52ND STREET/SAN***	***WNW 1/2 - 1 (0.669 mi.)***	***AB133***	***171***

Facility Id: 60000392
Status: Certified

BLOSSOM PLAZA	***900 NORTH BROADWAY***	***NNE 1/2 - 1 (0.857 mi.)***	***148***	***199***
Facility Id: 60001902 Status: Certified				
GRATTS ELEMENTARY SC	***309 LUCAS AVENUE***	***WNW 1/2 - 1 (0.958 mi.)***	***154***	***213***
Facility Id: 19820074 Status: Certified / Operation & Maintenance				

Lower Elevation	Address	Direction / Distance	Map ID	Page
NORTHERN TRANSPORTAT Facility Id: 80001119 Status: Inactive - Needs Evaluation		ESE 1/4 - 1/2 (0.386 mi.)	101	124
MGR JEWELRY Facility Id: 71003112 Status: Refer: Other Agency	***314 W SIXTH STREET***	***SW 1/2 - 1 (0.510 mi.)***	***122***	***149***
AMETEK INC, L A DIE Facility Id: 71003622 Status: Refer: Other Agency	***340 CROCKER ST***	***SSE 1/2 - 1 (0.513 mi.)***	***123***	***150***
PARK CENTRAL BUILDIN Facility Id: 71003138 Status: Refer: Other Agency	***412 W 6TH ST***	***SW 1/2 - 1 (0.521 mi.)***	***124***	***151***
M & M HOLDING, LLC Facility Id: 71003306 Status: Refer: Other Agency	629 S. HILL STREET #	SW 1/2 - 1 (0.575 mi.)	AA125	152
LOS ANGELES UNITED I Facility Id: 71003114 Status: Refer: Other Agency	650 S. HILL STREET #	SW 1/2 - 1 (0.579 mi.)	AA126	153
SO CAL GAS/ALISO MGP Facility Id: 19490240 Status: Active	***KELLER ST., VIGNES S***	***E 1/2 - 1 (0.620 mi.)***	***127***	***154***
UNITED BUILDING ASSO Facility Id: 71003260 Status: Refer: Other Agency	707 S BROADWAY #411	SW 1/2 - 1 (0.640 mi.)	128	157
JEWELRY DESIGN CENTE Facility Id: 71003145 Status: Refer: Other Agency	404 W. 7TH STREET #2	SW 1/2 - 1 (0.643 mi.)	129	158
SO CAL GAS/ALISO SEC Facility Id: 19490242 Status: Certified O&M - Land Use Restrictions Only	***CENTER ST @ COMMERCI***	***E 1/2 - 1 (0.703 mi.)***	***AC134***	***174***
SO CAL GAS/ALISO SEC Facility Id: 60000169 Status: Active	***SOUTHWEST CORNER OF***	***E 1/2 - 1 (0.710 mi.)***	***AD135***	***177***
SO CAL GAS/ALISO SEC Facility Id: 60000173 Status: Active	***NORTHWEST CORNER OF***	***E 1/2 - 1 (0.714 mi.)***	***AC136***	***178***
SO CAL GAS/ALISO SIT Facility Id: 19490248 Status: Active	***TEMPLE/VIGNES/LYON/K***	***E 1/2 - 1 (0.721 mi.)***	***137***	***180***
ALISO SECTOR A DENNY	***530 RAMIREZ STREET***	***E 1/2 - 1 (0.748 mi.)***	***AE138***	***183***

Facility Id: 60001379 Status: Certified / Operation & Maintenance				
SO CAL GAS/ALISO MGP Facility Id: 19490235 Status: Active	***KELLER ST, VIGNES ST***	***E 1/2 - 1 (0.750 mi.)***	***AE139***	***184***
LOS ANGELES COUNTY M Facility Id: 60000170 Status: Certified O&M - Land Use Restrictions Only	***410 CENTER STREET***	***E 1/2 - 1 (0.759 mi.)***	***AD140***	***186***
SO CAL GAS/ALISO SEC Facility Id: 60000172 Status: Active	***SOUTHEAST AND SOUTHW***	***E 1/2 - 1 (0.760 mi.)***	***AF141***	***189***
SO CAL GAS/ALISO B M Facility Id: 19490244 Status: Active	***555 RAMIREZ STREET***	***E 1/2 - 1 (0.768 mi.)***	***AE142***	***190***
MAGNUS COMPANY, INC Facility Id: 19370356 Status: No Further Action	***860 NORTH MAIN STREE***	***NE 1/2 - 1 (0.769 mi.)***	***143***	***192***
ALISO SECTOR C BLOCK Facility Id: 60001890 Status: Active	***820 EAST JACKSON STR***	***E 1/2 - 1 (0.782 mi.)***	***AF144***	***193***
SO CAL GAS/ALISO SEC Facility Id: 60000171 Status: Active	***NORTHEAST CORNER OF***	***E 1/2 - 1 (0.790 mi.)***	***145***	***194***
JOHNSON BRONZE COMPA Facility Id: 19340506 Status: Refer: Other Agency	1818 S. GRAND AVENUE	SW 1/2 - 1 (0.810 mi.)	146	196
MOGUL CORPORATION Facility Id: 19510059 Status: No Further Action	***967 VIGNES***	***ENE 1/2 - 1 (0.811 mi.)***	***147***	***197***
CORNFIELD SITE Facility Id: 19400013 Status: Active	***1245 N. SPRING STREE***	***NE 1/2 - 1 (0.875 mi.)***	***149***	***201***
SO CAL GAS/ALISO D M Facility Id: 19490243 Status: Active	***CESAR CHAVEZ AND LYO***	***ENE 1/2 - 1 (0.879 mi.)***	***AG150***	***204***
ACE PLATING CO., INC Facility Id: 71002245 Status: Inactive - Needs Evaluation	***719 TOWNE AVENUE***	***S 1/2 - 1 (0.888 mi.)***	***151***	***208***
ALISO STREET INVESTI Facility Id: 60001142 Status: Active	***BAUCHET STREET, TEMP***	***ENE 1/2 - 1 (0.918 mi.)***	***AG152***	***209***
SANTA FE/MACY STREET Facility Id: 19400010 Status: Certified O&M - Land Use Restrictions Only	***MACY STREET/ALISO ST***	***E 1/2 - 1 (0.955 mi.)***	***153***	***210***
SO CAL GAS/ALISO E M Facility Id: 70000159 Status: Active	***SECTOR E EXTENDS FRO***	***ENE 1/2 - 1 (0.959 mi.)***	***155***	***221***
SOUTHERN CALIFORNIA Facility Id: 60001137	***KELLER YARD IN VICIN***	***E 1/2 - 1 (0.968 mi.)***	***156***	***223***

Status: No Further Action

State and tribal landfill and/or solid waste disposal site lists

CA SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the CA SWF/LF list, as provided by EDR, and dated 02/15/2016 has revealed that there are 2 CA SWF/LF sites within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
CITY OF LOS ANGELES Facility ID: 19-AR-1238 Operational Status: Clean Closed Regulation Status: Unpermitted	MULTIPLE PARCLES /SI	SW 1/4 - 1/2 (0.257 mi.)	K52	66
LA BY-PRODUCTS HEWIT Facility ID: 19-AR-5045	LA	SW 1/4 - 1/2 (0.257 mi.)	K53	67

State and tribal leaking storage tank lists

CA LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the CA LUST list, as provided by EDR, and dated 03/14/2016 has revealed that there are 25 CA LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TIMES MIRROR Status: Completed - Case Closed Facility Id: 900120107 Status: Case Closed Global Id: T0603700509 Global ID: T0603700509	***240 HILL ST S***	***W 0 - 1/8 (0.097 mi.)***	***G35***	***41***
LA CO HALL OF ADMINI Status: Completed - Case Closed Facility Id: 900120389 Status: Case Closed Global Id: T0603700533 Global ID: T0603700533	***500 TEMPLE ST W***	***N 1/8 - 1/4 (0.147 mi.)***	***49***	***61***
AUTO PARK 18 Status: Open - Site Assessment Global Id: T0603759109	145 N GRAND AVE	NNW 1/4 - 1/2 (0.268 mi.)	N56	69
THE MUTUAL GARAGE BU Status: Completed - Case Closed Facility Id: 900130025	***363 OLIVE ST S***	***WSW 1/4 - 1/2 (0.271 mi.)***	***L59***	***71***

Status: Case Closed
Global Id: T0603700540
Global ID: T0603700540

LA CITY DEPT WATER & Status: Completed - Case Closed Facility Id: 900120070 Status: Post remedial action monitoring Global Id: T0603700506 Global ID: T0603700506	111 HOPE ST N	NW 1/4 - 1/2 (0.315 mi.)	78	85
PACIFIC BELL TELEPHO Status: Completed - Case Closed Facility Id: 900710016 Status: Case Closed Global Id: T0603701232 Global ID: T0603701232	***420 S GRAND AVE***	***WSW 1/4 - 1/2 (0.381 mi.)***	***100***	***122***
LIBRARY SQUARE CONST Status: Completed - Case Closed Facility Id: 900710043 Status: Pollution Characterization Global Id: T0603701235 Global ID: T0603701235	***633 5TH ST W***	***WSW 1/4 - 1/2 (0.458 mi.)***	***V107***	***130***
LA CITY GENERAL SERV Status: Completed - Case Closed Facility Id: 900170016 Status: Case Closed Global Id: T0603700581 Global ID: T0603700581	***630 005TH ST W***	***WSW 1/4 - 1/2 (0.464 mi.)***	***V110***	***134***
CALIFORNIA NATIONAL Status: Completed - Case Closed Global Id: T10000001752	221 FIGUEROA ST.	WNW 1/4 - 1/2 (0.476 mi.)	112	137
ARCO PARKING STRUCTU Status: Completed - Case Closed Facility Id: 900710034 Status: Leak being confirmed Global Id: T0603701234 Global ID: T0603701234	***400 S FLOWER ST***	***W 1/4 - 1/2 (0.477 mi.)***	***X115***	***139***
FORMER LEACH CORP. F Status: Completed - Case Closed Facility Id: 900710025 Status: Case Closed Global Id: T0603701233 Global ID: T0603701233	***444 FLOWER ST S***	***W 1/4 - 1/2 (0.491 mi.)***	***Y116***	***141***
MOBIL #11-HPB (FORME Status: Completed - Case Closed Facility Id: 900120189 Status: Case Closed Global Id: T0603700514 Global ID: T0603700514	***706 SUNSET BLVD W***	***N 1/4 - 1/2 (0.497 mi.)***	***121***	***147***

Lower Elevation	Address	Direction / Distance	Map ID	Page
TIMES MIRROR CORPORA	***145 SPRING ST S***	***ESE 0 - 1/8 (0.003 mi.)***	***B7***	***13***

Status: Completed - Case Closed Facility Id: 900120061 Status: Case Closed Global Id: T0603700505 Global ID: T0603700505				
LOS ANGELES AIR FORC Global ID: T0603737987		***ESE 0 - 1/8 (0.072 mi.)***	***D20***	***29***
BRADBURY BUILDING Status: Completed - Case Closed Global Id: T0603783082	304 BROADWAY S.	SW 1/8 - 1/4 (0.136 mi.)	J48	60
LOS ANGELES TIMES Status: Completed - Case Closed Facility Id: 900120252 Status: Case Closed Global Id: T0603700521 Global ID: T0603700521	***214 002ND ST E***	***SE 1/8 - 1/4 (0.186 mi.)***	***51***	***64***
PARKER CENTER Status: Completed - Case Closed Facility Id: 900120352 Status: Preliminary site assessment underway Global Id: T0603700531 Global ID: T0603700531	151 JUDGE JOHN AISO	E 1/4 - 1/2 (0.276 mi.)	P62	74
UNION BANK OF CALIFO Status: Completed - Case Closed Global Id: T0603733281	120 SAN PEDRO STREET	SE 1/4 - 1/2 (0.293 mi.)	O67	79
TWIN SPRINGS LLC Status: Completed - Case Closed Global Id: T0603734500	433 SPRING STREET, S	SW 1/4 - 1/2 (0.294 mi.)	69	81
RELATED/LL BLOCK 8 L Status: Completed - Case Closed Global Id: T0603771623	235 SAN PEDRO	SE 1/4 - 1/2 (0.300 mi.)	R73	83
MOBIL #18-HDH Status: Completed - Case Closed Facility Id: 900120243 Status: Case Closed Global Id: T0603700519 Global Id: T0603700520 Global ID: T0603700519	***520 ALAMEDA ST N***	***E 1/4 - 1/2 (0.380 mi.)***	***T98***	***116***
MOBIL #18-HDH Facility Id: 900120243A Status: Pollution Characterization Global ID: T0603700520	520 ALAMEDA ST N	E 1/4 - 1/2 (0.380 mi.)	T99	121
VETERANS AFFAIRS OUT Status: Completed - Case Closed Facility Id: 900120261 Status: Case Closed Global Id: T0603700522 Global ID: T0603700522	***351 TEMPLE ST E***	***ESE 1/4 - 1/2 (0.395 mi.)***	***102***	***125***
SOUTHERN CA GAS CENT Status: Completed - Case Closed Facility Id: 900130052	***501 005TH ST W***	***WSW 1/4 - 1/2 (0.427 mi.)***	***105***	***128***

Status: Case Closed Global Id: T0603700542 Global ID: T0603700542				
LAPD - CENTRAL FACIL Status: Completed - Case Closed Global Id: T0603721851	519 WALL ST	S 1/4 - 1/2 (0.493 mi.)	Z119	144

CA SLIC: SLIC Region comes from the California Regional Water Quality Control Board.

A review of the CA SLIC list, as provided by EDR, and dated 03/14/2016 has revealed that there are 5 CA SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CATHEDRAL OF OUR LAD Facility Status: Completed - Case Closed Global Id: SLT4L8271878	555 W. TEMPLE STREET	N 1/4 - 1/2 (0.266 mi.)	M55	68
CATHEDRAL CHURCH Facility Status: No further action required	555 TEMPLE	N 1/4 - 1/2 (0.301 mi.)	M74	84

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHANDLER LEASE PROPE Facility Status: Completed - Case Closed Global Id: SLT43191189	***MAIN ST***	***ESE 0 - 1/8 (0.084 mi.)***	***D28***	***36***
CITY OF LOS ANGELES Facility Status: Completed - Case Closed Global Id: SLT4305856	255 TEMPLE ST	E 1/4 - 1/2 (0.321 mi.)	80	89
METRO RAIL Facility Status: Completed - Case Closed Facility Status: No further action required Global Id: SLT43207205	UNION STATION	ENE 1/4 - 1/2 (0.473 mi.)	W111	136

State and tribal registered storage tank lists

CA UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the CA UST list, as provided by EDR, and dated 03/14/2016 has revealed that there are 6 CA UST sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
STATE OF CALIFORNIA Facility Id: 24321	***120 S SPRING ST***	***E 0 - 1/8 (0.008 mi.)***	***B17***	***25***
OFFICE OF FLEET ADMI Facility Id: 24322	***122 S HILL ST***	***NW 0 - 1/8 (0.075 mi.)***	***E21***	***30***
COUNTY COURT/LA CO.	111 N HILL ST	NNW 0 - 1/8 (0.094 mi.)	H32	40

Facility Id: 24319				
THE ANGELUS PLAZA Facility Id: 24341	***245 S HILL ST***	***W 0 - 1/8 (0.102 mi.)***	***G39***	***48***

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE LOS ANGELES TIME Facility Id: 24337	214 W 2ND ST	SSW 0 - 1/8 (0.008 mi.)	C13	22
LOS ANGELES CITY HAL Facility Id: 24315	***111 E 1ST ST***	***ESE 0 - 1/8 (0.097 mi.)***	***D36***	***44***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 12/22/2015 has revealed that there are 2 US BROWNFIELDS sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ADELANTE EASTSIDE	***100 BROADWAY S***	***NE 0 - 1/8 (0.003 mi.)***	***A8***	***15***

Lower Elevation	Address	Direction / Distance	Map ID	Page
BANDINI CANYON POCKE	***O'FARRELL AND BANDIN***	***E 0 - 1/8 (0.112 mi.)***	***D46***	***57***

Local Lists of Registered Storage Tanks

CA SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the CA SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 13 CA SWEEPS UST sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOS ANGELES TIMES Comp Number: 7269	***130 S BROADWAY***	***0 - 1/8 (0.000 mi.)***	***A1***	***8***
TRANSAMERICA OCCIDEN Comp Number: 7183	***150 S BROADWAY***	***0 - 1/8 (0.000 mi.)***	***A2***	***8***
LOS ANGELES STATE OF Comp Number: 68138 Comp Number: 1882	***107 S BROADWAY***	***N 0 - 1/8 (0.006 mi.)***	***A9***	***17***
STATE OF CALIFORNIA	***120 S SPRING ST***	***E 0 - 1/8 (0.008 mi.)***	***B17***	***25***

Status: A
Tank Status: A
Comp Number: 3658

OFFICE OF FLEET ADMI	***122 S HILL ST***	***NW 0 - 1/8 (0.075 mi.)***	***E21***	***30***
Status: A Tank Status: A Comp Number: 2283				
CURRENT OCCUPANT	***240 S HILL ST***	***WSW 0 - 1/8 (0.076 mi.)***	***F24***	***33***
Comp Number: 5505				
CURRENT OCCUPANT	***208 S HILL ST***	***W 0 - 1/8 (0.078 mi.)***	***G25***	***33***
Comp Number: 5504				
WEBSTER CAREER COLLE	***222 S HILL ST***	***W 0 - 1/8 (0.083 mi.)***	***G27***	***35***
Comp Number: 4386				
COUNTY COURT/LACO F.	***111 N HILL ST***	***NNW 0 - 1/8 (0.094 mi.)***	***H34***	***41***
Status: A Comp Number: 5898				
THE ANGELUS PLAZA/RH	***245 S HILL ST***	***W 0 - 1/8 (0.102 mi.)***	***G40***	***48***
Status: A Tank Status: A Comp Number: 8128				
THE RHF BUNKER HILL	***255 S HILL ST***	***W 0 - 1/8 (0.109 mi.)***	***G45***	***56***
Status: A Comp Number: 7310				

Lower Elevation	Address	Direction / Distance	Map ID	Page
THE TIMES MIRROR COM	214 W 2ND ST	SSW 0 - 1/8 (0.008 mi.)	C12	22
Status: A Comp Number: 4286				
LOS ANGELES CITY HAL	***111 E 1ST ST***	***ESE 0 - 1/8 (0.097 mi.)***	***D36***	***44***
Status: A Tank Status: A Comp Number: 2458				

CA HIST UST: Historical UST Registered Database.

A review of the CA HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 5 CA HIST UST sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOS ANGELES STATE OF	***107 S BROADWAY***	***N 0 - 1/8 (0.006 mi.)***	***A9***	***17***
07 DIST OFFICE	***120 SOUTH SPRING ST***	***E 0 - 1/8 (0.008 mi.)***	***B18***	***26***
Facility Id: 00000068072				
OFFICE OF FLEET ADMI	***122 SO HILL STREET***	***NW 0 - 1/8 (0.075 mi.)***	***E23***	***32***
COUNTY COURTHOUSE	111 N HILL ST	NNW 0 - 1/8 (0.094 mi.)	H31	40
Facility Id: 00000020715				
CITY HALL EAST	***200 N. MAIN STREET***	***E 0 - 1/8 (0.103 mi.)***	***I42***	***50***
Facility Id: 00000047106				

EXECUTIVE SUMMARY

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 12 CA FID UST sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LOS ANGELES TIMES Facility Id: 19011693 Status: A	***130 S BROADWAY***	***0 - 1/8 (0.000 mi.)***	***A1***	***8***
TRANSAMERICA OCCIDEN Facility Id: 19005822 Status: A	***150 S BROADWAY***	***0 - 1/8 (0.000 mi.)***	***A2***	***8***
THE TIMES MIRROR COM Facility Id: 19055742 Status: A	202 W 1ST ST	ENE 0 - 1/8 (0.003 mi.)	B6	12
LOS ANGELES STATE OF Facility Id: 19019019 Status: I	***107 S BROADWAY***	***N 0 - 1/8 (0.006 mi.)***	***A9***	***17***
OFFICE OF FLEET ADMI Facility Id: 19023961 Status: A	***122 SO HILL STREET***	***NW 0 - 1/8 (0.075 mi.)***	***E23***	***32***
CURRENT OCCUPANT Facility Id: 19003277 Status: I	***240 S HILL ST***	***WSW 0 - 1/8 (0.076 mi.)***	***F24***	***33***
CURRENT OCCUPANT Facility Id: 19056058 Status: A	***208 S HILL ST***	***W 0 - 1/8 (0.078 mi.)***	***G25***	***33***
WEBSTER CAREER COLLE Facility Id: 19011640 Status: I	***222 S HILL ST***	***W 0 - 1/8 (0.083 mi.)***	***G27***	***35***
COUNTY COURT/LACO F. Facility Id: 19007548 Status: A	***111 N HILL ST***	***NNW 0 - 1/8 (0.094 mi.)***	***H34***	***41***
THE ANGELUS PLAZA/RH Facility Id: 19013153 Status: A	***245 S HILL ST***	***W 0 - 1/8 (0.102 mi.)***	***G40***	***48***
THE RHF BUNKER HILL Facility Id: 19056481 Status: A	***255 S HILL ST***	***W 0 - 1/8 (0.109 mi.)***	***G45***	***56***

Lower Elevation	Address	Direction / Distance	Map ID	Page
LA CITY HALL SOUTH Facility Id: 19003996 Status: A	***111 E 1ST ST***	***ESE 0 - 1/8 (0.097 mi.)***	***D37***	***45***

EXECUTIVE SUMMARY

Records of Emergency Release Reports

CA CHMIRS: The California Hazardous Material Incident Report System contains information on reported hazardous material incidents, i.e., accidental releases or spills. The source is the California Office of Emergency Services.

A review of the CA CHMIRS list, as provided by EDR, and dated 12/16/2015 has revealed that there are 4 CA CHMIRS sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
Not reported OES Incident Number: 13506	FIRST ST AND BROADWA	N 0 - 1/8 (0.007 mi.)	A11	20
Not reported Date Completed: 03-APR-91 OES Incident Number: 116179	120 SOUTH SPRING STR	E 0 - 1/8 (0.008 mi.)	B15	23

Lower Elevation	Address	Direction / Distance	Map ID	Page
CHANDLER LEASE PROPE OES Incident Number: 7-1921	***MAIN ST***	***ESE 0 - 1/8 (0.084 mi.)***	***D28***	***36***
Not reported OES Incident Number: 4-0444	200 N. MAIN ST. CITY	E 0 - 1/8 (0.098 mi.)	D38	46

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/09/2015 has revealed that there is 1 RCRA NonGen / NLR site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CALTRANS DISTRICT 7	***120 S SPRING ST***	***E 0 - 1/8 (0.008 mi.)***	***B14***	***22***

Los Angeles County Industrial Waste and Underground Storage Tank Sites.

A review of the CA LOS ANGELES CO. HMS list, as provided by EDR, and dated 03/30/2016 has revealed that there are 2 CA LOS ANGELES CO. HMS sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CALTRANS-DISTRICT 7 Facility ID: 017162-023078	120 S SPRING ST	E 0 - 1/8 (0.008 mi.)	B16	25
LA CO ISD L A COURT Facility ID: 012451-012599	111 N HILL ST	NNW 0 - 1/8 (0.094 mi.)	H33	40

NY MANIFEST: Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

A review of the NY MANIFEST list, as provided by EDR, has revealed that there is 1 NY MANIFEST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LAPD SCIENTIFIC INVE EPA ID: CAD980673180	***555 RAMIREZ STREET***	***ESE 1/8 - 1/4 (0.162 mi.)***	***50***	***63***

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

CA RGA LUST: The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

A review of the CA RGA LUST list, as provided by EDR, has revealed that there are 32 CA RGA LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BURBANK FIRE STATION	353 OLIVE AVE E	WSW 1/4 - 1/2 (0.263 mi.)	L54	68
AUTO PARK 18	145 N GRAND AVE	NNW 1/4 - 1/2 (0.268 mi.)	N57	71
THE MUTUAL GARAGE BU	363 OLIVE STREET S.	WSW 1/4 - 1/2 (0.271 mi.)	L58	71
THE MUTUAL GARAGE BU	363 OLIVE ST S	WSW 1/4 - 1/2 (0.271 mi.)	L60	74
PILOT TIMBER	100 FLOWER-MCNEIL RO	WNW 1/4 - 1/2 (0.317 mi.)	79	89
LIBRARY SQUARE CONST	633 5TH ST W	WSW 1/4 - 1/2 (0.458 mi.)	V108	133
ARCO PARKING STRUCTU	400 FLOWER ST S	W 1/4 - 1/2 (0.477 mi.)	X113	138
ARCO PARKING STRUCTU	400 FLOWER STREET S.	W 1/4 - 1/2 (0.477 mi.)	X114	139
FORMER LEACH CORP. F	444 FLOWER ST S	W 1/4 - 1/2 (0.491 mi.)	Y117	143
CITIBANK CENTER,CONC	444 FLOWER ST S	W 1/4 - 1/2 (0.491 mi.)	Y118	144

Lower Elevation	Address	Direction / Distance	Map ID	Page
MUSSON'S SPORTING GO	103 SECOND	SSE 0 - 1/8 (0.090 mi.)	30	39
BRADBURY BUILDING	304 BROADWAY S.	SW 1/8 - 1/4 (0.136 mi.)	J47	59
PARKER CENTER	151 SAN PEDRO ST N	SE 1/4 - 1/2 (0.271 mi.)	O61	74
PARKER CENTER	151 JUDGE JOHN AISO	E 1/4 - 1/2 (0.276 mi.)	P63	78
PARKER CENTER (LADP)	150 SAN PEDRO ST	SE 1/4 - 1/2 (0.281 mi.)	O64	78
PARKER CENTER (LADP)	150 SAN PEDRO ST.	SE 1/4 - 1/2 (0.281 mi.)	O65	79
UNION BANK OF CALIFO	120 SAN PEDRO STREET	SE 1/4 - 1/2 (0.293 mi.)	O66	79
UNION BANK OF CALIFO	120 SAN PEDRO STREET	SE 1/4 - 1/2 (0.293 mi.)	O68	80
ORANGE LINE OIL CO	404 COMMERCIAL ST E	ENE 1/4 - 1/2 (0.295 mi.)	Q70	82
ANGELICA HEALTHCARE	309 COMMERCIAL ST E	ENE 1/4 - 1/2 (0.299 mi.)	Q71	82
RELATED/LL BLOCK 8 L	235 SAN PEDRO	SE 1/4 - 1/2 (0.300 mi.)	R72	83
TEXACO #61-106-0380	106 AZUSA AVE S	SE 1/4 - 1/2 (0.309 mi.)	R75	84
ARCO #1276	300 AZUSA AVE N	SE 1/4 - 1/2 (0.309 mi.)	R76	85
ANGELICA HEALTH CARE	300 COMMERCIAL ST E	ENE 1/4 - 1/2 (0.310 mi.)	Q77	85
MODOC MINI MART #1	402 N. MAIN ST.	NE 1/4 - 1/2 (0.321 mi.)	Q81	89
THRIFTY #305	362 AZUSA AVE N	SE 1/4 - 1/2 (0.331 mi.)	R82	90
ARCO #9678	362 AZUSA AVE. N.	SE 1/4 - 1/2 (0.331 mi.)	R83	90
MARCHARDS EQUIPMENT	440 AZUSA AVE N	SE 1/4 - 1/2 (0.344 mi.)	R84	90

EXECUTIVE SUMMARY

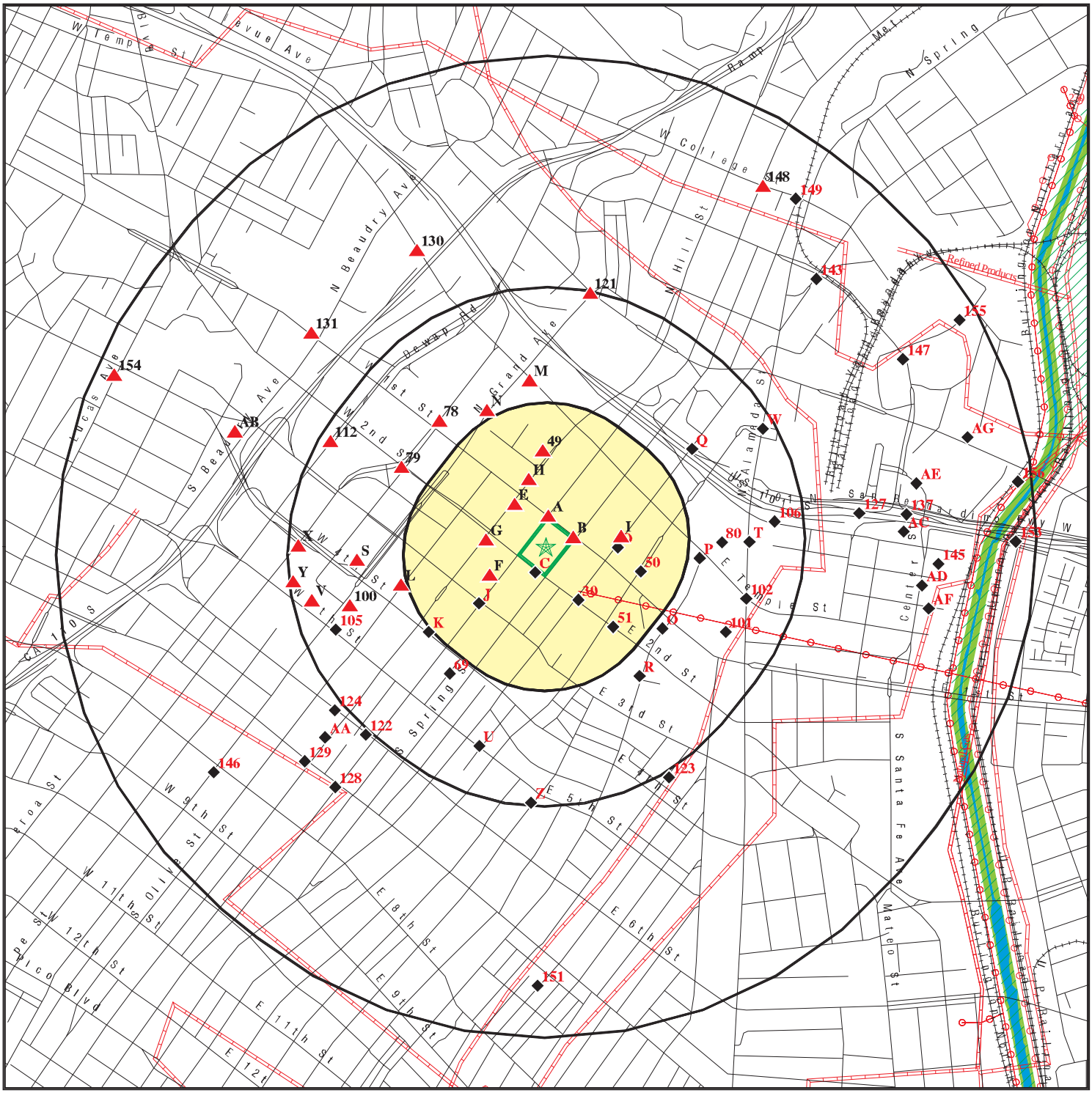
Lower Elevation	Address	Direction / Distance	Map ID	Page
MOBIL #18-GP2 FORMER	747 INDIAN HILL BLVD	SSW 1/4 - 1/2 (0.395 mi.)	U103	127
UNOCAL #4782	797 INDIAN HILL BLVD	SSW 1/4 - 1/2 (0.395 mi.)	U104	128
A & A TOWING CO	415 COMMERCIAL ST E	E 1/4 - 1/2 (0.436 mi.)	106	130
LAPD - CENTRAL FACIL	519 S WALL ST	S 1/4 - 1/2 (0.493 mi.)	Z120	146

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

Site Name	Database(s)
LOS ANGELES HARBOR DRUM	SEMS-ARCHIVE
RAMIREZ STREET INVESTIGATION	CA ENVIROSTOR, CA VCP
GRATTS NEW PRIMARY CENTER	CA ENVIROSTOR, CA SCH
ALTERNATE CENTRAL LOS ANGELES HS N	CA ENVIROSTOR, CA SCH
CENTRAL LOS ANGELES MIDDLE SCHOOL	CA ENVIROSTOR, CA SCH

OVERVIEW MAP - 4627577.1S



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	LA Times Property	CLIENT:	Advantage Env. Consultants LLC
ADDRESS:	Broadway and W 1st Street Los Angeles CA 90012	CONTACT:	Todd Jacquay
LAT/LONG:	34.052623 / 118.245588	INQUIRY #:	4627577.1s
		DATE:	May 24, 2016 11:04 am

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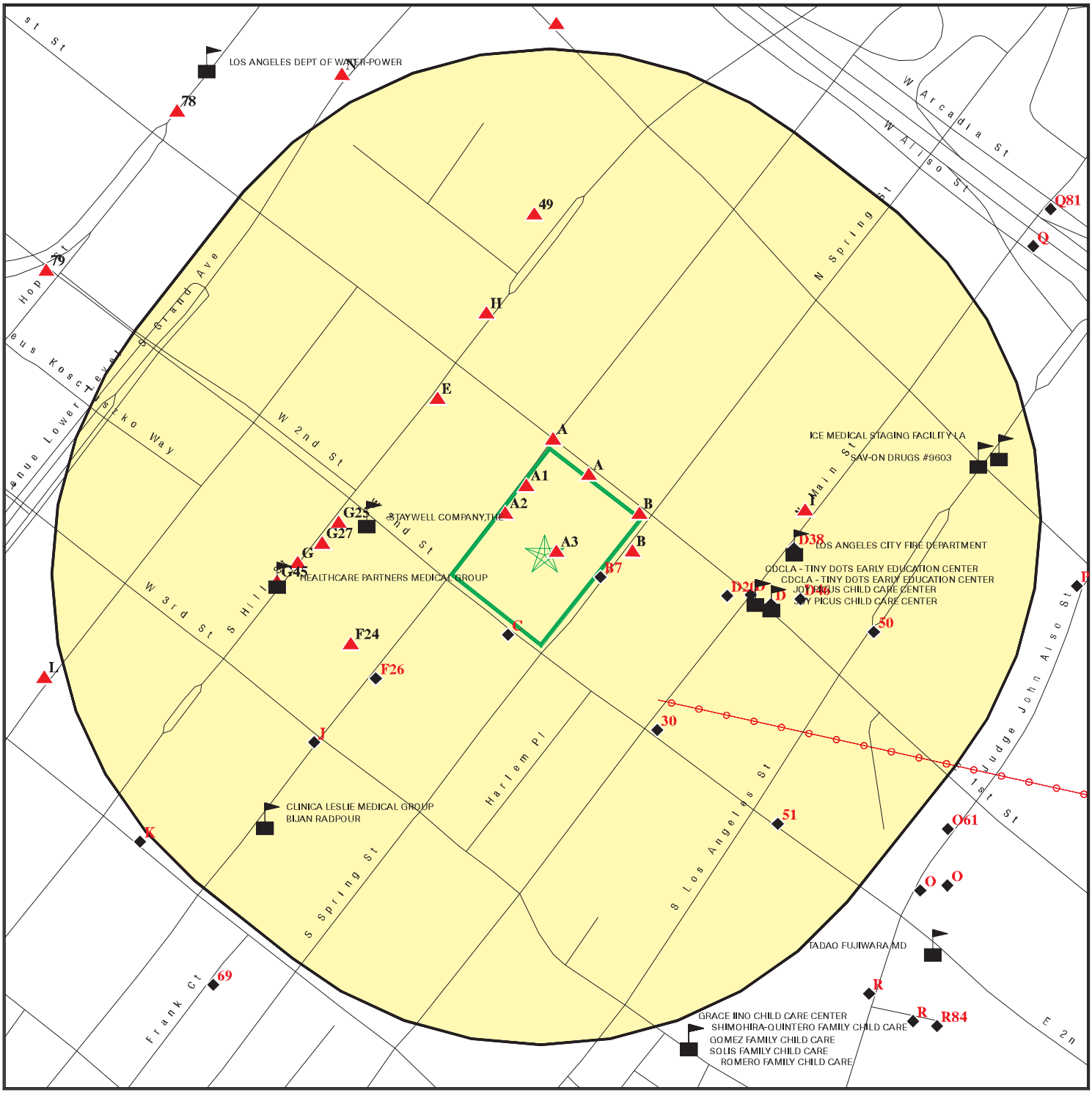
DETAIL MAP - 4627577.1S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	LA Times Property	CLIENT:	Advantage Env. Consultants LLC
ADDRESS:	Broadway and W 1st Street Los Angeles CA 90012	CONTACT:	Todd Jacquay
LAT/LONG:	34.052623 / 118.245588	INQUIRY #:	4627577.1s
		DATE:	May 24, 2016 11:08 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	TP		NR	NR	NR	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.125		2	NR	NR	NR	NR	2
RCRA-SQG	0.125		10	NR	NR	NR	NR	10
RCRA-CESQG	0.125		0	NR	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	TP		NR	NR	NR	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.125		1	NR	NR	NR	NR	1
State- and tribal - equivalent NPL								
CA RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
CA ENVIROSTOR	1.000		0	0	14	35	NR	49
State and tribal landfill and/or solid waste disposal site lists								
CA SWF/LF	0.500		0	0	2	NR	NR	2
State and tribal leaking storage tank lists								
CA LUST	0.500		3	3	19	NR	NR	25

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CA SLIC	0.500		1	0	4	NR	NR	5
State and tribal registered storage tank lists								
FEMA UST	TP		NR	NR	NR	NR	NR	0
CA UST	0.125		6	NR	NR	NR	NR	6
CA AST	0.125		0	NR	NR	NR	NR	0
INDIAN UST	0.125		0	NR	NR	NR	NR	0
State and tribal voluntary cleanup sites								
CA VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
CA BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		2	0	0	NR	NR	2
Local Lists of Landfill / Solid Waste Disposal Sites								
CA WMUDS/SWAT	TP		NR	NR	NR	NR	NR	0
CA SWRCY	TP		NR	NR	NR	NR	NR	0
CA HAULERS	TP		NR	NR	NR	NR	NR	0
DEBRIS REGION 9	TP		NR	NR	NR	NR	NR	0
ODI	TP		NR	NR	NR	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
CA AOCONCERN	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CA HIST Cal-Sites	1.000		0	0	0	0	NR	0
CA SCH	TP		NR	NR	NR	NR	NR	0
CA CDL	TP		NR	NR	NR	NR	NR	0
CA Toxic Pits	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
CA SWEEPS UST	0.125		13	NR	NR	NR	NR	13
CA HIST UST	0.125		5	NR	NR	NR	NR	5
CA FID UST	0.125		12	NR	NR	NR	NR	12
Local Land Records								
CA LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
CA DEED	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA CHMIRS	0.125		4	NR	NR	NR	NR	4
CA LDS	TP		NR	NR	NR	NR	NR	0
CA MCS	TP		NR	NR	NR	NR	NR	0
CA SPILLS 90	0.500		0	0	0	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.125		1	NR	NR	NR	NR	1
FUDS	TP		NR	NR	NR	NR	NR	0
DOD	TP		NR	NR	NR	NR	NR	0
SCRD DRYCLEANERS	TP		NR	NR	NR	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
CA BOND EXP. PLAN	TP		NR	NR	NR	NR	NR	0
CA Cortese	TP		NR	NR	NR	NR	NR	0
CA CUPA Listings	0.125		0	NR	NR	NR	NR	0
CA DRYCLEANERS	TP		NR	NR	NR	NR	NR	0
CA EMI	TP		NR	NR	NR	NR	NR	0
CA ENF	TP		NR	NR	NR	NR	NR	0
CA Financial Assurance	TP		NR	NR	NR	NR	NR	0
CA HAZNET	TP		NR	NR	NR	NR	NR	0
CA HIST CORTESE	TP		NR	NR	NR	NR	NR	0
CA LOS ANGELES CO. HMS	0.125		2	NR	NR	NR	NR	2
CA HWP	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
CA HWT	TP		NR	NR	NR	NR	NR	0
NY MANIFEST	0.250		0	1	NR	NR	NR	1
CA MINES	TP		NR	NR	NR	NR	NR	0
CA MWMP	TP		NR	NR	NR	NR	NR	0
CA NPDES	TP		NR	NR	NR	NR	NR	0
CA PEST LIC	TP		NR	NR	NR	NR	NR	0
CA PROC	TP		NR	NR	NR	NR	NR	0
CA Notify 65	TP		NR	NR	NR	NR	NR	0
LA Co. Site Mitigation	0.125		0	NR	NR	NR	NR	0
CA UIC	TP		NR	NR	NR	NR	NR	0
CA WASTEWATER PITS	0.500		0	0	0	NR	NR	0
CA WDS	TP		NR	NR	NR	NR	NR	0
CA WIP	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
CA RGA LF	0.500		0	0	0	NR	NR	0
CA RGA LUST	0.500		1	1	30	NR	NR	32
- Totals --		0	63	5	70	35	0	173

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **LOS ANGELES TIMES** **CA SWEEPS UST S101584467**
130 S BROADWAY **CA FID UST N/A**
< 1/8 **LOS ANGELES, CA 90012**
1 ft.

Site 1 of 8 in cluster A

Relative:
Higher

Actual:
298 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	7269
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	Not reported
STG:	Not reported
Content:	Not reported
Number Of Tanks:	0

CA FID UST:

Facility ID:	19011693
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2130000000
Mail To:	Not reported
Mailing Address:	130 S BROADWAY
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900120000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

A2 **TRANSAMERICA OCCIDENTAL** **CA SWEEPS UST S101583738**
150 S BROADWAY **CA FID UST N/A**
< 1/8 **LOS ANGELES, CA 90011**
1 ft.

Site 2 of 8 in cluster A

Relative:
Higher

Actual:
298 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	7183
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported

TRANSAMERICA OCCIDENTAL (Continued) **S101583738**

Tank Status: Not reported
Capacity: Not reported
Active Date: Not reported
Tank Use: Not reported
STG: Not reported
Content: Not reported
Number Of Tanks: 0

CA FID UST:
Facility ID: 19005822
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2130000000
Mail To: Not reported
Mailing Address: 150 S BROADWAY
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900110000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

A3 **ERNS** **91215334**
L.A. TIMES BLDG 120 S SPRING ST. **N/A**
< 1/8 **LOS ANGELES, CA 90012**
1 ft.

Site 3 of 8 in cluster A

Relative: Higher

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

Actual: 295 ft.

A4 **TIMES MIRROR COMPANY THE#** **RCRA-SQG** **1000221221**
NNE **220 W. 1ST STREET** **CAD008382400**
< 1/8 **LOS ANGELES, CA 90053**
0.003 mi.
14 ft.

Site 4 of 8 in cluster A

Relative: Higher

RCRA-SQG:
Date form received by agency: 10/12/2000
Facility name: TIMES MIRROR COMPANY THE#
Site name: TIMES MIRROR COMPANY
Facility address: 220 W. 1ST STREET
TIMES MIRROR SQUARE
LOS ANGELES, CA 90053
EPA ID: CAD008382400
Contact: MARY ELLEN VOJTEK
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (213) 237-5014
Contact email: Not reported

Actual: 300 ft.

TIMES MIRROR COMPANY THE# (Continued) **1000221221**

EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 03/04/1999
Site name: TIMES MIRROR CORP.
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: TIMES MIRROR COMPANY THE#
Classification: Small Quantity Generator

Date form received by agency: 10/27/1980
Site name: TIMES MIRROR COMPANY THE#
Classification: Large Quantity Generator

Violation Status: No violations found

B5 **LOS ANGELES TIMES - LOS ANGELES** **RCRA-SQG** **1000102051**
ENE **202 W. 1ST ST.** **CAD980896229**
< 1/8 **LOS ANGELES, CA 90012**
0.003 mi.
14 ft. **Site 1 of 9 in cluster B**

Relative:
Higher

Actual:
298 ft.

RCRA-SQG:
Date form received by agency: 03/26/2002
Facility name: LOS ANGELES TIMES - LOS ANGELES
Facility address: 202 W. 1ST ST.
LOS ANGELES, CA 90012
EPA ID: CAD980896229
Contact: MARY ELLEN VOJTEK
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (213) 237-5014
Contact email: Not reported

LOS ANGELES TIMES - LOS ANGELES (Continued) **1000102051**

EPA Region: 09
Land type: Facility is not located on Indian land. Additional information is not known.
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 03/26/2002
Site name: LOS ANGELES TIMES - LOS ANGELES
Classification: Large Quantity Generator

. Waste code: D008
. Waste name: LEAD

. Waste code: D011
. Waste name: SILVER

Date form received by agency: 10/12/2000
Site name: L A TIMES TIMES MIRROR SQUARE FACILITY
Classification: Large Quantity Generator

Date form received by agency: 08/15/2000
Site name: LOS ANGELES TIMES COMMUNICATIONS L L C
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D008
. Waste name: LEAD

LOS ANGELES TIMES - LOS ANGELES (Continued) **1000102051**

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: D018
. Waste name: BENZENE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Date form received by agency: 03/04/1999
Site name: LOS ANGELES TIMES
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: LOS ANGELES TIMES COMMUNICATIONS L L C
Classification: Small Quantity Generator

Date form received by agency: 04/03/1991
Site name: LOS ANGELES TIMES
Classification: Large Quantity Generator

Violation Status: No violations found

Evaluation Action Summary:
Evaluation date: 11/15/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

B6 **THE TIMES MIRROR COMPANY** **CA FID UST** **S101587543**
ENE **202 W 1ST ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.003 mi.
14 ft. **Site 2 of 9 in cluster B**

Relative:
Higher

Actual:
298 ft.

CA FID UST:
Facility ID: 19055742
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2130000000
Mail To: Not reported
Mailing Address: 202 W 1ST ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900120000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

B7
ESE
< 1/8
0.003 mi.
15 ft.

TIMES MIRROR CORPORATION
145 SPRING ST S
LOS ANGELES, CA 90012

CA LUST **S102439123**
N/A

Site 3 of 9 in cluster B

Relative:
Lower

Actual:
293 ft.

LUST:

Region:	STATE
Global Id:	T0603700505
Latitude:	34.052404
Longitude:	-118.2452001
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/30/1989
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120061
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700505
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603700505
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700505
Status:	Completed - Case Closed
Status Date:	03/30/1989

Global Id:	T0603700505
Status:	Open - Case Begin Date
Status Date:	04/27/1988

Global Id:	T0603700505
Status:	Open - Site Assessment
Status Date:	02/17/1989

TIMES MIRROR CORPORATION (Continued) **S102439123**

Regulatory Activities:
Global Id: T0603700505
Action Type: Other
Date: 04/27/1988
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900120061
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: No Action Required
Global ID: T0603700505
W Global ID: W0605100582
Staff: UNK
Local Agency: 19050
Cross Street: 1ST ST
Enforcement Type: Not reported
Date Leak Discovered: Not reported
Date Leak First Reported: 4/27/1988
Date Leak Record Entered: 6/3/1988
Date Confirmation Began: Not reported
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 3/30/1989
Date the Case was Closed: 3/30/1989
How Leak Discovered: Not reported
How Leak Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Operator: MALCOR, JOSEPH V.
Water System: YMCA CAMP OF LOS ANGELES 2
Well Name: Not reported
Approx. Dist To Production Well (ft): 2365.9537613317074026355595998
Source of Cleanup Funding: Not reported
Preliminary Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: 2/17/1989
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Yes
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: TIMES MIRROR CORPORATION

TIMES MIRROR CORPORATION (Continued) **S102439123**

RP Address:	145 S SPRING ST, LOS ANGELES, CA 90012
Program:	LUST
Lat/Long:	34.052404 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600582-001GEN
Summary:	LA CITY FIRE DEPARTMENT REQUESTED LARWQCB TO CONDUCT A LEAK DETECTION PROGRAM. IT IS UNKNOWN AT THIS TIME WHETHER A LEAK HAS OCCURED.

A8 **ADELANTE EASTSIDE** **US BROWNFIELDS** **1016351152**
NE **100 BROADWAY S** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.003 mi.
17 ft. **Site 5 of 8 in cluster A**

Relative:
Higher

Actual:
300 ft.

US BROWNFIELDS:

Recipient name:	Los Angeles, City of
Grant type:	Assessment
Property name:	ADELANTE EASTSIDE
Property #:	Not reported
Parcel size:	2200
Property Description:	Not reported
Latitude:	34.05329
Longitude:	-118.245009
HCM label:	Not reported
Map scale:	Not reported
Point of reference:	Not reported
Datum:	Not reported
ACRES property ID:	11458
Start date:	Not reported
Completed date:	Not reported
Acres cleaned up:	Not reported
Cleanup funding:	Not reported
Cleanup funding source:	Not reported
Assessment funding:	Not reported
Assessment funding source:	Not reported
Redevelopment funding:	Not reported
Redev. funding source:	Not reported
Redev. funding entity name:	Not reported
Redevelopment start date:	Not reported
Assessment funding entity:	Not reported
Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	98912501
Ownership entity:	Not reported
Current owner:	Not reported
Did owner change:	Not reported
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported

ADELANTE EASTSIDE (Continued) **1016351152**

IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported

ADELANTE EASTSIDE (Continued) **1016351152**

nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

A9 **LOS ANGELES STATE OFFICE BUILD** **CA SWEEPS UST** **S101617142**
North **107 S BROADWAY** **CA HIST UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012** **CA FID UST**
0.006 mi.
31 ft. **Site 6 of 8 in cluster A**

Relative:
Higher

Actual:
300 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	68138
Number:	Not reported
Board Of Equalization:	44-014697
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	26-000-068138-000001
Tank Status:	Not reported
Capacity:	7500
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	DIESEL
Number Of Tanks:	2

Status:	Not reported
Comp Number:	68138
Number:	Not reported
Board Of Equalization:	44-014697
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported

LOS ANGELES STATE OFFICE BUILD (Continued) **S101617142**

SWRCB Tank Id: 26-000-068138-000002
Tank Status: Not reported
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: DIESEL
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 1882
Number: Not reported
Board Of Equalization: 44-002878
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-001882-000001
Tank Status: Not reported
Capacity: 5000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: DIESEL
Number Of Tanks: 2

Status: Not reported
Comp Number: 1882
Number: Not reported
Board Of Equalization: 44-002878
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-001882-000002
Tank Status: Not reported
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: DIESEL
Number Of Tanks: Not reported

HIST UST:
File Number: 0002885A
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002885A.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

LOS ANGELES STATE OFFICE BUILD (Continued) **S101617142**

Tank Num:	Not reported
Container Num:	Not reported
Year Installed:	Not reported
Tank Capacity:	Not reported
Tank Used for:	Not reported
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Click here for Geo Tracker PDF:

CA FID UST:

Facility ID:	19019019
Regulated By:	UTNKI
Regulated ID:	00033915
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2136203370
Mail To:	Not reported
Mailing Address:	107 S BROADWAY
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900120000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Inactive

A10 **CALIFORNIA DEPT OF JUSTICE** **RCRA-SQG** **1000252205**
North **107 S BROADWAY RM 3131** **CAD980673743**
< 1/8 **LOS ANGELES, CA 90012**
0.006 mi.
31 ft. **Site 7 of 8 in cluster A**

Relative:
Higher

Actual:
300 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	CALIFORNIA DEPT OF JUSTICE
Facility address:	107 S BROADWAY RM 3131 LOS ANGELES, CA 90012
EPA ID:	CAD980673743
Mailing address:	S BROADWAY RM 3131 LOS ANGELES, CA 90012
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

CALIFORNIA DEPT OF JUSTICE (Continued) **1000252205**

Owner/Operator Summary:
- Owner/operator name: STATE OF CALIFORNIA
- Owner/operator address: NOT REQUIRED
  NOT REQUIRED, ME 99999
- Owner/operator country: Not reported
- Owner/operator telephone: (415) 555-1212
- Legal status: Private
- Owner/Operator Type: Owner
- Owner/Op start date: Not reported
- Owner/Op end date: Not reported

- Owner/operator name: NOT REQUIRED
- Owner/operator address: NOT REQUIRED
  NOT REQUIRED, ME 99999
- Owner/operator country: Not reported
- Owner/operator telephone: (415) 555-1212
- Legal status: Private
- Owner/Operator Type: Operator
- Owner/Op start date: Not reported
- Owner/Op end date: Not reported

Handler Activities Summary:
- U.S. importer of hazardous waste: No
- Mixed waste (haz. and radioactive): No
- Recycler of hazardous waste: No
- Transporter of hazardous waste: No
- Treater, storer or disposer of HW: No
- Underground injection activity: No
- On-site burner exemption: No
- Furnace exemption: No
- Used oil fuel burner: No
- Used oil processor: No
- User oil refiner: No
- Used oil fuel marketer to burner: No
- Used oil Specification marketer: No
- Used oil transfer facility: No
- Used oil transporter: No

Violation Status: No violations found

A11 **CA CHMIRS** **S105646098**
North **FIRST ST AND BROADWAY** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.007 mi.
36 ft. **Site 8 of 8 in cluster A**

Relative:
Higher

Actual:
301 ft.

CHMIRS:
- OES Incident Number: 13506
- OES notification: Not reported
- OES Date: 4/30/1996
- OES Time: 08:59:56 AM
- **Date Completed: Not reported**
- Property Use: Not reported
- Agency Id Number: Not reported
- Agency Incident Number: Not reported
- Time Notified: Not reported
- Time Completed: Not reported
- Surrounding Area: Not reported

(Continued) **S105646098**

Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	YES
Waterway:	STORM DRAIN
Spill Site:	Not reported
Cleanup By:	MTA
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1996
Agency:	MTA
Incident Date:	0805 30APR96
Admin Agency:	Not reported
Amount:	6 GALS
Contained:	YES
Site Type:	RD
E Date:	Not reported
Substance:	ANTIFREEZE
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	NO
Number of Injuries:	NO
Number of Fatalities:	NO
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	RADITOR FAILED ON A BUS AND SPILLED CONTENTS.

C12 **THE TIMES MIRROR COMPANY** **CA SWEEPS UST** **S106932944**
SSW **214 W 2ND ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
41 ft. **Site 1 of 2 in cluster C**

Relative: **Lower**

Actual: **291 ft.**

SWEEPS UST:

Status:	Active
Comp Number:	4286
Number:	1
Board Of Equalization:	Not reported
Referral Date:	04-22-93
Action Date:	04-26-94
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	Not reported
STG:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

C13 **THE LOS ANGELES TIMES** **CA UST** **U003780780**
SSW **214 W 2ND ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
41 ft. **Site 2 of 2 in cluster C**

Relative: **Lower**

Actual: **291 ft.**

UST:

Facility ID:	24337
Permitting Agency:	LOS ANGELES, CITY OF
Latitude:	33.7438376
Longitude:	-118.28061

B14 **CALTRANS DISTRICT 7** **RCRA NonGen / NLR** **1000419389**
East **120 S SPRING ST** **CAD980895635**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 4 of 9 in cluster B**

Relative: **Higher**

Actual: **295 ft.**

RCRA NonGen / NLR:

Date form received by agency:	03/19/1985
Facility name:	CALTRANS DISTRICT 7
Facility address:	120 S SPRING ST LOS ANGELES, CA 90012
EPA ID:	CAD980895635
Mailing address:	PO BOX 2304 TERMINAL ANNEX LOS ANGELES, CA 90051
Contact:	ENVIRONMENTAL MANAGER
Contact address:	120 S SPRING ST LOS ANGELES, CA 90012
Contact country:	US
Contact telephone:	(213) 620-3700
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator

CALTRANS DISTRICT 7 (Continued) **1000419389**

Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

B15 **CA CHMIRS** **S100277423**
East **120 SOUTH SPRING STREET** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 5 of 9 in cluster B**

Relative:
Higher

Actual:
295 ft.

CHMIRS:
OES Incident Number: 116179
OES notification: Not reported
OES Date: Not reported
OES Time: Not reported
Date Completed: **03-APR-91**
Property Use: 500
Agency Id Number: 19105
Agency Incident Number: 380
Time Notified: 1417

(Continued) **S100277423**

Time Completed:	1610
Surrounding Area:	500
Estimated Temperature:	80
Property Management:	P
More Than Two Substances Involved?:	N
Resp Agncy Personel # Of Decontaminated:	0
Responding Agency Personel # Of Injuries:	0
Responding Agency Personel # Of Fatalities:	0
Others Number Of Decontaminated:	0
Others Number Of Injuries:	0
Others Number Of Fatalities:	0
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	GREGORY E. NEWLAND GN0168
Report Date:	03-APR-91
Facility Telephone:	213 485-6003
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Not reported
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	88-92
Agency:	Not reported
Incident Date:	03-APR-91
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Not reported
Site Type:	Not reported
E Date:	22-JUN-92
Substance:	Not reported
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Not reported
Number of Fatalities:	Not reported
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Y
Description:	Not reported

B16 **CALTRANS-DISTRICT 7 REFERRALS** **CA LOS ANGELES CO. HMS** **S100931381**
East **120 S SPRING ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 6 of 9 in cluster B**

Relative:
Higher

Actual:
295 ft.

LOS ANGELES CO. HMS:
Region: LA
Permit Category: Not reported
Facility Id: 017162-023078
Facility Type: Not reported
Facility Status: OPEN
Area: 3F
Permit Number: Not reported
Permit Status: Not reported

B17 **STATE OF CALIFORNIA** **CA UST** **U003780766**
East **120 S SPRING ST** **CA SWEEPS UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 7 of 9 in cluster B**

Relative:
Higher

Actual:
295 ft.

UST:
Facility ID: 24321
Permitting Agency: LOS ANGELES, CITY OF
Latitude: 34.0526987
Longitude: -118.2426719

SWEEPS UST:
Status: Active
Comp Number: 3658
Number: 5
Board Of Equalization: 44-008226
Referral Date: 03-05-93
Action Date: 03-05-93
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-003658-000001
Tank Status: A
Capacity: 200
Active Date: 04-20-88
Tank Use: OIL
STG: W
Content: WASTE OIL
Number Of Tanks: 3

Status: Active
Comp Number: 3658
Number: 5
Board Of Equalization: 44-008226
Referral Date: 03-05-93
Action Date: 03-05-93
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-003658-000005
Tank Status: A
Capacity: 3000
Active Date: 04-20-88
Tank Use: M.V. FUEL

STATE OF CALIFORNIA (Continued) **U003780766**

STG:	P
Content:	DIESEL
Number Of Tanks:	Not reported
Status:	Active
Comp Number:	3658
Number:	5
Board Of Equalization:	44-008226
Referral Date:	03-05-93
Action Date:	03-05-93
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-050-003658-000006
Tank Status:	A
Capacity:	12000
Active Date:	04-20-88
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

B18 **07 DIST OFFICE** **CA HIST UST** **U001560491**
East **120 SOUTH SPRING ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 8 of 9 in cluster B**

Relative:
Higher

Actual:
295 ft.

HIST UST:

File Number:	00026944
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00026944.pdf
Region:	STATE
Facility ID:	00000068072
Facility Type:	Not reported
Other Type:	Not reported
Contact Name:	Not reported
Telephone:	2136203964
Owner Name:	CALIF DEPT OF TRANSPORTATION
Owner Address:	1120 N STREET
Owner City,St,Zip:	SACRAMENTO, CA 95814
Total Tanks:	0003
Tank Num:	001
Container Num:	0000000001
Year Installed:	1960
Tank Capacity:	00003000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Not reported
Tank Num:	001
Container Num:	0000000001
Year Installed:	1960
Tank Capacity:	00003000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

07 DIST OFFICE (Continued) **U001560491**

Tank Num:	002
Container Num:	0000000002
Year Installed:	1983
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Tank Num:	002
Container Num:	0000000002
Year Installed:	1983
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Tank Num:	003
Container Num:	0000000003
Year Installed:	1983
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Tank Num:	003
Container Num:	0000000003
Year Installed:	1983
Tank Capacity:	00012000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Not reported

Click here for Geo Tracker PDF:

B19 **CALTRANS DISTRICT 7** **RCRA-SQG** **1000393256**
East **120 S SPRING ST** **CAD982467581**
< 1/8 **LOS ANGELES, CA 90012**
0.008 mi.
43 ft. **Site 9 of 9 in cluster B**

Relative:
Higher

Actual:
295 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	DEPT OF TRANSPORTATION
Facility address:	120 S SPRING ST LOS ANGELES, CA 90012
EPA ID:	CAD982467581
Mailing address:	S SPRING ST LOS ANGELES, CA 90012
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported

CALTRANS DISTRICT 7 (Continued) **1000393256**

EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: STATE OF CALIFORNIA
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

D20 **LOS ANGELES AIR FORCE BASE - LOS ANGELES AFS** **CA LUST** **S106517223**
ESE **N/A**
< 1/8 **LOS ANGELES, CA**
0.072 mi.
381 ft. **Site 1 of 7 in cluster D**

Relative:
Lower

Actual:
290 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	Not reported	
Status:	Not reported	
Substance:	Not reported	
Substance Quantity:	Not reported	
Local Case No:	300086	
Case Type:	Not reported	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603737987	
W Global ID:	Not reported	
Staff:	SSH	
Local Agency:	Not reported	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		Not reported
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		Not reported
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	Chris PhillRPs	
RP Address:	Not reported	
Program:	DOD	
Lat/Long:	Not reported	
Local Agency Staff:	Not reported	

LOS ANGELES AIR FORCE BASE - LOS ANGELES AFS (Continued) **S106517223**

Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

E21 **OFFICE OF FLEET ADMINISTRATION** **CA UST** **U001560532**
NW **122 S HILL ST** **CA SWEEPS UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.075 mi.
395 ft. **Site 1 of 3 in cluster E**

Relative:
Higher

Actual:
326 ft.

UST:
Facility ID: 24322
Permitting Agency: LOS ANGELES, CITY OF
Latitude: 34.05396
Longitude: -118.24689

SWEEPS UST:
Status: Active
Comp Number: 2283
Number: 6
Board Of Equalization: 44-012252
Referral Date: 03-10-93
Action Date: 03-18-94
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-002283-000001
Tank Status: A
Capacity: 10000
Active Date: 04-20-88
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 2

Status: Active
Comp Number: 2283
Number: 6
Board Of Equalization: 44-012252
Referral Date: 03-10-93
Action Date: 03-18-94
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 19-050-002283-000002
Tank Status: A
Capacity: 10000
Active Date: 04-20-88
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

E22
NW
< 1/8
0.075 mi.
395 ft.

CALIF STATE GARAGE
122 SO HILL ST
LOS ANGELES, CA 90012

Site 2 of 3 in cluster E

RCRA-SQG | **1000249801** / **CAD981677388**

Relative:
Higher

Actual:
326 ft.

RCRA-SQG:

Date form received by agency:	10/06/1986
Facility name:	CALIF STATE GARAGE
Facility address:	122 SO HILL ST LOS ANGELES, CA 90012
EPA ID:	CAD981677388
Contact:	ENVIRONMENTAL MANAGER
Contact address:	122 SO HILL ST LOS ANGELES, CA 90012
Contact country:	US
Contact telephone:	(213) 620-5946
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	STATE OF CALIFORNIA
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	State
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	State
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No

CALIF STATE GARAGE (Continued) **1000249801**

User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

E23
NW
< 1/8
0.075 mi.
395 ft.

OFFICE OF FLEET ADMINISTRATION **CA HIST UST** **S101629303**
122 SO HILL STREET **CA FID UST** **N/A**
LOS ANGELES, CA 90012

Site 3 of 3 in cluster E

Relative:
Higher

Actual:
326 ft.

HIST UST:
File Number: 00028864
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00028864.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CA FID UST:
Facility ID: 19023961
Regulated By: UTNKA
Regulated ID: 00041494
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 8186204450
Mail To: Not reported
Mailing Address: 1416 10TH ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900120000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

F24 **CURRENT OCCUPANT** **CA SWEEPS UST** **S101583289**
WSW **240 S HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.076 mi.
403 ft. **Site 1 of 2 in cluster F**

Relative:
Higher

Actual:
296 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	5505
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	Not reported
STG:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

CA FID UST:

Facility ID:	19003277
Regulated By:	UTNKI
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2130000000
Mail To:	Not reported
Mailing Address:	240 S HILL ST
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900120000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Inactive

G25 **CURRENT OCCUPANT** **CA SWEEPS UST** **S101587844**
West **208 S HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.078 mi.
412 ft. **Site 1 of 6 in cluster G**

Relative:
Higher

Actual:
311 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	5504
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported

CURRENT OCCUPANT (Continued) **S101587844**

Tank Status: Not reported
Capacity: Not reported
Active Date: Not reported
Tank Use: Not reported
STG: Not reported
Content: Not reported
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 19056058
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2130000000
Mail To: Not reported
Mailing Address: 208 S HILL ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900120000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

F26 **HIGH PERFORMANCE MAGAZINE** **RCRA-SQG** **1000238384**
SW **240 S BROADWAY 5TH FL** **CAD981368434**
< 1/8 **LOS ANGELES, CA 90012**
0.080 mi.
425 ft. **Site 2 of 2 in cluster F**

Relative:
Lower

Actual:
291 ft.

RCRA-SQG:
Date form received by agency: 01/22/1986
Facility name: HIGH PERFORMANCE MAGAZINE
Facility address: 240 S BROADWAY 5TH FL
LOS ANGELES, CA 90012
EPA ID: CAD981368434
Mailing address: S BROADWAY FIFTH FL
LOS ANGELES, CA 90012
Contact: ENVIRONMENTAL MANAGER
Contact address: 240 S BROADWAY FIFTH FL
LOS ANGELES, CA 90012
Contact country: US
Contact telephone: (213) 687-3658
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: ASTRO ARTZ

HIGH PERFORMANCE MAGAZINE (Continued) **1000238384**

Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

G27 **WEBSTER CAREER COLLEGE** **CA SWEEPS UST** **S101584463**
West **222 S HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.083 mi.
440 ft. **Site 2 of 6 in cluster G**

Relative:
Higher

Actual:
313 ft.

SWEEPS UST:
Status: Not reported
Comp Number: 4386
Number: Not reported
Board Of Equalization: Not reported
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: Not reported
Tank Status: Not reported
Capacity: Not reported
Active Date: Not reported
Tank Use: Not reported

WEBSTER CAREER COLLEGE (Continued) **S101584463**

STG: Not reported
Content: Not reported
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 19011640
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2136878534
Mail To: Not reported
Mailing Address: 222 S HILL ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900120000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

D28 **CHANDLER LEASE PROPERTY** **CA SLIC** **S105651003**
ESE **MAIN ST** **CA CHMIRS** **N/A**
< 1/8 **LOS ANGELES, CA 90061**
0.084 mi.
441 ft. **Site 2 of 7 in cluster D**

Relative:
Lower

Actual:
288 ft.

SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 08/12/1996
Global Id: SLT43191189
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number: Not reported
Latitude: 33.920686
Longitude: -118.274002
Case Type: Cleanup Program Site
Case Worker: Not reported
Local Agency: Not reported
RB Case Number: 0292
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

CHMIRS:
OES Incident Number: 7-1921
OES notification: 05/14/1997
OES Date: Not reported
OES Time: Not reported
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported

CHANDLER LEASE PROPERTY (Continued) **S105651003**

Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1997
Agency:	MTA
Incident Date:	5/10/199712:00:00 AM
Admin Agency:	Los Angeles City Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Road
E Date:	Not reported
Substance:	Diesel Fuel
Gallons:	10
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	3
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported

CHANDLER LEASE PROPERTY (Continued) **S105651003**

Comments: Not reported
Description: Bus and Car collision, bus fuel tank ruptured, 3 injuries fron accident, not fuel spill

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D29 **CALTRANS EQUIPMENT SHOP** **RCRA-SQG** **1009216546**
ESE **100 S MAIN ST** **CAR000169334**
< 1/8 **LOS ANGELES, CA 90012**
0.087 mi.
460 ft. **Site 3 of 7 in cluster D**

Relative:
Lower

Actual:
288 ft.

RCRA-SQG:
Date form received by agency: 12/08/2005
Facility name: CALTRANS EQUIPMENT SHOP
Facility address: 100 S MAIN ST
LOS ANGELES, CA 90012
EPA ID: CAR000169334
Mailing address: 5421 VINELAND AVE
N HOLLYWOOD, CA 91601 2728
Contact: JAY R KIMBALL
Contact address: 5421 VINELAND AVE
N HOLLYWOOD, CA 91601 2728
Contact country: US
Contact telephone: 213-620-2669
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: DEPARTMENT OF TRANSPORTATION
Owner/operator address: 1120 N ST
SACRAMENTO, CA 95814
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Owner
Owner/Op start date: 01/01/2004
Owner/Op end date: Not reported

Owner/operator name: GILBERT MOTA
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: State
Owner/Operator Type: Operator
Owner/Op start date: 12/01/2005
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No

CALTRANS EQUIPMENT SHOP (Continued) **1009216546**

Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

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30 **MUSSON'S SPORTING GOODS** **CA RGA LUST** **S114657680**
SSE **103 SECOND** **N/A**
< 1/8 **STANISLAUS, CA**
0.090 mi.
476 ft.

Relative:
Lower

RGA LUST:

2004 MUSSON'S SPORTING GOODS 103 SECOND

Actual:
284 ft.

H31 **COUNTY COURTHOUSE** **CA HIST UST** **U001562244**
NNW **111 N HILL ST** **N/A**
< 1/8 **LOS ANGELES, CA 90063**
0.094 mi.
496 ft. **Site 1 of 4 in cluster H**

Relative:
Higher

Actual:
330 ft.

HIST UST:

File Number:	0002771D
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002771D.pdf
Region:	STATE
Facility ID:	00000020715
Facility Type:	Other
Other Type:	COURTHOUSE
Contact Name:	L.A. COUNTY MECHANICAL DEPARTM
Telephone:	2132672242
Owner Name:	LOS ANGELES COUNTY MECHANICAL
Owner Address:	1100 N. EASTERN
Owner City,St,Zip:	LOS ANGELES, CA 90063
Total Tanks:	0001
Tank Num:	001
Container Num:	#1
Year Installed:	Not reported
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

Click here for Geo Tracker PDF:

H32 **COUNTY COURT/LA CO. F.M.D..** **CA UST** **U003879444**
NNW **111 N HILL ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.094 mi.
496 ft. **Site 2 of 4 in cluster H**

Relative:
Higher

Actual:
330 ft.

UST:

Facility ID:	24319
Permitting Agency:	LOS ANGELES, CITY OF
Latitude:	34.0563263
Longitude:	-118.2450997

H33 **LA CO ISD L A COURT HOUSE** **CA LOS ANGELES CO. HMS** **S100614878**
NNW **111 N HILL ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.094 mi.
496 ft. **Site 3 of 4 in cluster H**

Relative:
Higher

Actual:
330 ft.

LOS ANGELES CO. HMS:

Region:	LA
Permit Category:	Not reported
Facility Id:	012451-012599
Facility Type:	Not reported
Facility Status:	OPEN
Area:	3F
Permit Number:	Not reported
Permit Status:	Not reported

H34 **COUNTY COURT/LACO F.M.D.** **CA SWEEPS UST** **S101583951**
NNW **111 N HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.094 mi.
496 ft. **Site 4 of 4 in cluster H**

Relative:
Higher

Actual:
330 ft.

SWEEPS UST:

Status:	Active
Comp Number:	5898
Number:	5
Board Of Equalization:	Not reported
Referral Date:	03-10-93
Action Date:	03-10-93
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported
Active Date:	Not reported
Tank Use:	Not reported
STG:	Not reported
Content:	Not reported
Number Of Tanks:	Not reported

CA FID UST:

Facility ID:	19007548
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	2132672242
Mail To:	Not reported
Mailing Address:	111 N HILL ST
Mailing Address 2:	Not reported
Mailing City,St,Zip:	LOS ANGELES 900120000
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

G35 **TIMES MIRROR** **CA LUST** **S101297033**
West **240 HILL ST S** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.097 mi.
510 ft. **Site 3 of 6 in cluster G**

Relative:
Higher

Actual:
318 ft.

LUST:

Region:	STATE
Global Id:	T0603700509
Latitude:	34.051813
Longitude:	-118.248431
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/19/1997
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AS

TIMES MIRROR (Continued) **S101297033**

Local Agency: LOS ANGELES, CITY OF
RB Case Number: 900120107
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Other Solvent or Non-Petroleum Hydrocarbon
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603700509
Contact Type: Regional Board Caseworker
Contact Name: ADNAN SIDDIQUI
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: LOS ANGELES
Email: asiddiqui@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603700509
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700509
Status: Completed - Case Closed
Status Date: 08/19/1997

Global Id: T0603700509
Status: Open - Case Begin Date
Status Date: 12/10/1991

Global Id: T0603700509
Status: Open - Site Assessment
Status Date: 12/10/1991

Global Id: T0603700509
Status: Open - Site Assessment
Status Date: 09/25/1996

Regulatory Activities:
Global Id: T0603700509
Action Type: Other
Date: 12/10/1991
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04

TIMES MIRROR (Continued) **S101297033**

County:	Los Angeles	
Facility Id:	900120107	
Status:	Case Closed	
Substance:	Hydrocarbons	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Remove Free Product
Global ID:	T0603700509	
W Global ID:	W0605100582	
Staff:	AS	
Local Agency:	19050	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		12/10/1991
Date Leak Record Entered:	12/11/1991	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		9/29/1997
Date the Case was Closed:		8/19/1997
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	YMCA CAMP OF LOS ANGELES 2	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1952.64674016343760730836425 17
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		12/10/1991
Pollution Characterization Began:		9/25/1996
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		1/1/1965
Hist Max MTBE Conc in Groundwater:		10
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Yes
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	TIME MIRROR	
RP Address:	TIMES MIRROR SQUARE, LOS ANGELES CA 90053	
Program:	LUST	
Lat/Long:	34.052298 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	2600582-001GEN	
Summary:	03/03/97 - GW MONITORING OF WELLS F.P. SHEEN IN MW-1	02/18/97, FREE PRODUCT

TIMES MIRROR (Continued) **S101297033**

REMEDIATED ABANDONMENT 9/24/97 - WELL

D36 **LOS ANGELES CITY HALL - SOUTH** **CA UST** **U003780763**
ESE **111 E 1ST ST** **CA SWEEPS UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.097 mi.
514 ft. **Site 4 of 7 in cluster D**

Relative:
Lower

Actual:
287 ft.

UST:

Facility ID:	24315
Permitting Agency:	LOS ANGELES, CITY OF
Latitude:	34.0535779
Longitude:	-118.241185

SWEEPS UST:

Status:	Active
Comp Number:	2458
Number:	4
Board Of Equalization:	Not reported
Referral Date:	09-14-93
Action Date:	04-18-94
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-050-002458-000001
Tank Status:	A
Capacity:	10000
Active Date:	04-20-88
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	3

Status:	Active
Comp Number:	2458
Number:	4
Board Of Equalization:	Not reported
Referral Date:	09-14-93
Action Date:	04-18-94
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-050-002458-000002
Tank Status:	A
Capacity:	10000
Active Date:	04-20-88
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	2458
Number:	4
Board Of Equalization:	Not reported
Referral Date:	09-14-93
Action Date:	04-18-94
Created Date:	02-29-88

LOS ANGELES CITY HALL - SOUTH (Continued) **U003780763**

Owner Tank Id:	Not reported
SWRCB Tank Id:	19-050-002458-000003
Tank Status:	A
Capacity:	500
Active Date:	04-20-88
Tank Use:	M.V. FUEL
STG:	P
Content:	DIESEL
Number Of Tanks:	Not reported

D37 **LA CITY HALL SOUTH** **RCRA-SQG 1000172455**
ESE **111 E 1ST ST** **CA FID UST CAD981963291**
< 1/8 **LOS ANGELES, CA 90012**
0.097 mi.
514 ft. **Site 5 of 7 in cluster D**

Relative:
Lower

Actual:
287 ft.

RCRA-SQG:

Date form received by agency:	03/09/1987
Facility name:	LA CITY HALL SOUTH
Facility address:	111 E 1ST ST LOS ANGELES, CA 90012
EPA ID:	CAD981963291
Mailing address:	200 N MAIN RM EIGHTH HUNDRED C LOS ANGELES, CA 90012
Contact:	ENVIRONMENTAL MANAGER
Contact address:	111 E FIRST ST LOS ANGELES, CA 90012
Contact country:	US
Contact telephone:	(213) 485-7527
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	CITY OF LA
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Municipal
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported
Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Municipal
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported

LA CITY HALL SOUTH (Continued) **1000172455**

Owner/Op end date: Not reported

Handler Activities Summary:
- U.S. importer of hazardous waste: No
- Mixed waste (haz. and radioactive): No
- Recycler of hazardous waste: No
- Transporter of hazardous waste: No
- Treater, storer or disposer of HW: No
- Underground injection activity: No
- On-site burner exemption: No
- Furnace exemption: No
- Used oil fuel burner: No
- Used oil processor: No
- User oil refiner: No
- Used oil fuel marketer to burner: No
- Used oil Specification marketer: No
- Used oil transfer facility: No
- Used oil transporter: No

Violation Status: No violations found

CA FID UST:
- Facility ID: 19003996
- Regulated By: UTNKA
- Regulated ID: 00047107
- Cortese Code: Not reported
- SIC Code: Not reported
- Facility Phone: 2134852357
- Mail To: Not reported
- Mailing Address: 200 N MAIN ST-ROOM
- Mailing Address 2: Not reported
- Mailing City,St,Zip: LOS ANGELES 900120000
- Contact: Not reported
- Contact Phone: Not reported
- DUNs Number: Not reported
- NPDES Number: Not reported
- EPA ID: Not reported
- Comments: Not reported
- Status: Active

D38 **CA CHMIRS** **S107449087**
East **200 N. MAIN ST. CITY HALL EAST @ P2** **N/A**
< 1/8 **LOS ANGELES, CA**
0.098 mi.
515 ft. **Site 6 of 7 in cluster D**

Relative:
Lower

Actual:
293 ft.

CHMIRS:
- OES Incident Number: 4-0444
- OES notification: 01/25/2004
- OES Date: Not reported
- OES Time: Not reported
- **Date Completed: Not reported**
- Property Use: Not reported
- Agency Id Number: Not reported
- Agency Incident Number: Not reported
- Time Notified: Not reported
- Time Completed: Not reported
- Surrounding Area: Not reported

(Continued) **S107449087**

Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Not reported
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	Reporting Party
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	2004
Agency:	Private Citizen
Incident Date:	1/21/200412:00:00 AM
Admin Agency:	Los Angeles City Fire Department
Amount:	Not reported
Contained:	Yes
Site Type:	Other
E Date:	Not reported
Substance:	Gasoline
Gallons:	1/2
Unknown:	0
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	0
Number of Injuries:	0
Number of Fatalities:	0
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	A couple inspectors knocked the fuel nozzle out of a car, spilling 1/2 gallon gasoline. The inspectors sprinkled kitty litter on the spill.

(Continued) **S107449087**

Caller states his work area does not have proper training in cleaning up or reporting hazardous material sppills.

G39 **THE ANGELUS PLAZA** **CA UST** **U003780785**
West **245 S HILL ST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.102 mi.
537 ft. **Site 4 of 6 in cluster G**

Relative:
Higher

Actual:
319 ft.

UST:
Facility ID: 24341
Permitting Agency: LOS ANGELES, CITY OF
Latitude: 34.05247
Longitude: -118.24837

G40 **THE ANGELUS PLAZA/RHF BUNKER HILL CORPORATION** **CA SWEEPS UST** **S101584586**
West **245 S HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.102 mi.
537 ft. **Site 5 of 6 in cluster G**

Relative:
Higher

Actual:
319 ft.

SWEEPS UST:
Status: Active
Comp Number: 8128
Number: 1
Board Of Equalization: 44-034906
Referral Date: 09-22-93
Action Date: 03-18-94
Created Date: 01-14-93
Owner Tank Id: 8128
SWRCB Tank Id: 19-050-008128-000001
Tank Status: A
Capacity: 550
Active Date: 09-22-93
Tank Use: M.V. FUEL
STG: P
Content: DIESEL
Number Of Tanks: 1

CA FID UST:
Facility ID: 19013153
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2136234352
Mail To: Not reported
Mailing Address: 245 S HILL ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 90012
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported

THE ANGELUS PLAZA/RHF BUNKER HILL CORPORATION (Continued) **S101584586**

Comments: Not reported
Status: Active

I41
East
< 1/8
0.103 mi.
543 ft.

LOS ANGELES CITY OF BUR SANITATION **RCRA-SQG** **1000102048**
200 N MAIN ST CHE RM 1410 **CAD107729972**
LOS ANGELES, CA 90012

Site 1 of 4 in cluster I

Relative:
Higher

Actual:
299 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: LOS ANGELES CITY OF BUR SANITATION
Facility address: 200 N MAIN ST CHE RM 1410
LOS ANGELES, CA 90012
EPA ID: CAD107729972
Mailing address: N MAIN ST CHE RM 1410
LOS ANGELES, CA 90012
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: CITY OF LOS ANGELES
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No

LOS ANGELES CITY OF BUR SANITATION (Continued) **1000102048**

Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

I42 **CITY HALL EAST** **RCRA-LQG 1000172456**
East **200 N. MAIN STREET** **CA HIST UST CAD981963358**
< 1/8 **LOS ANGELES, CA 90012**
0.103 mi.
543 ft. **Site 2 of 4 in cluster I**

Relative:
Higher

Actual:
299 ft.

RCRA-LQG:

Date form received by agency:	06/22/2008
Facility name:	CITY HALL EAST
Facility address:	200 N. MAIN STREET LOS ANGELES, CA 90012
EPA ID:	CAD981963358
Mailing address:	111 E. FIRST STREET ROOM 600 LOS ANGELES, CA 90012
Contact:	HELGA MAXWELL
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	(213) 978-3791
Contact email:	HELGA.MAXWELL@LACITY.ORG
EPA Region:	09
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	CITY OF LOS ANGELES
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Municipal
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1957

CITY HALL EAST (Continued) **1000172456**

Owner/Op end date: Not reported

Owner/operator name: CITY OF LOS ANGELES
Owner/operator address: 111 E. FIRST STREET, ROOM 600
LOS ANGELES, CA 90012
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Municipal
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1957
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Historical Generators:
Date form received by agency: 02/15/2006
Site name: CITY HALL EAST
Classification: Large Quantity Generator

. Waste code: 135
. Waste name: 135

. Waste code: 151
. Waste name: 151

. Waste code: 221
. Waste name: 221

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D005
. Waste name: BARIUM

. Waste code: D006

CITY HALL EAST (Continued) **1000172456**

. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 02/15/2006
Site name: CITY HALL EAST
Classification: Small Quantity Generator

Date form received by agency: 02/26/2004
Site name: CITY HALL EAST
Classification: Large Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D008
. Waste name: LEAD

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Date form received by agency: 03/29/2002
Site name: CITY OF LOS ANGELES
Classification: Large Quantity Generator

. Waste code: 134

CITY HALL EAST (Continued) **1000172456**

. Waste name: 134

. Waste code: 221
. Waste name: 221

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

. Waste code: D039
. Waste name: TETRACHLOROETHYLENE

Date form received by agency: 09/01/1996
Site name: LA CITY HALL EAST
Classification: Large Quantity Generator

Date form received by agency: 03/09/1987
Site name: LA CITY HALL EAST
Classification: Small Quantity Generator

Violation Status: No violations found

HIST UST:
File Number: 00027677
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00027677.pdf
Region: STATE
Facility ID: 00000047106
Facility Type: Other
Other Type: GOVERNMENT
Contact Name: DAVE FERM
Telephone: 2134852357
Owner Name: LOS ANGELES CITY
Owner Address: 200 N. MAIN ST
Owner City,St,Zip: LOS ANGELES, CA 90012
Total Tanks: 0006

Tank Num: 001
Container Num: #1
Year Installed: 1973
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: PREMIUM
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: #2
Year Installed: 1973
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: 1/4
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: #3

CITY HALL EAST (Continued) **1000172456**

Year Installed:	1973
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor
Tank Num:	004
Container Num:	#4
Year Installed:	1973
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor
Tank Num:	005
Container Num:	#5
Year Installed:	1973
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor
Tank Num:	006
Container Num:	#6
Year Installed:	1973
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor

Click here for Geo Tracker PDF:

I43 **LA CITY REPAIR SHOPS** **RCRA-SQG** **1000172450**
East **800 CITY HALL E 200 N MAIN ST** **CAD981614407**
< 1/8 **LOS ANGELES, CA 90012**
0.103 mi.
543 ft. **Site 3 of 4 in cluster I**

Relative:
Higher

Actual:
299 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	LA CITY REPAIR SHOPS
Facility address:	800 CITY HALL E 200 N MAIN ST LOS ANGELES, CA 90012
EPA ID:	CAD981614407
Mailing address:	CITY HALL E 200 N MAIN ST LOS ANGELES, CA 90012
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator

LA CITY REPAIR SHOPS (Continued) **1000172450**

Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	CITY OF LOS ANGELES
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

I44 **LOS ANGELES CITY, BUR ST MAINT** **RCRA-LQG** **1007199189**
East **200 N MAIN ST, RM 1500 CHE** **CAD981375207**
< 1/8 **LOS ANGELES, CA 90012**
0.103 mi.
543 ft. **Site 4 of 4 in cluster I**

Relative:
Higher

Actual:
299 ft.

RCRA-LQG:

Date form received by agency:	03/16/1990
Facility name:	LOS ANGELES CITY, BUR ST MAINT
Facility address:	200 N MAIN ST, RM 1500 CHE LOS ANGELES, CA 90012
EPA ID:	CAD981375207

LOS ANGELES CITY, BUR ST MAINT (Continued) **1007199189**

Contact:	BERTHA S JACKSON
Contact address:	Not reported
	Not reported
Contact country:	US
Contact telephone:	(213) 485-5630
Contact email:	Not reported
EPA Region:	09
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

G45 **THE RHF BUNKER HILL CORP** **CA SWEEPS UST** **S101588240**
West **255 S HILL ST** **CA FID UST** **N/A**
< 1/8 **LOS ANGELES, CA 90012**
0.109 mi.
577 ft. **Site 6 of 6 in cluster G**

Relative:
Higher

Actual:
313 ft.

SWEEPS UST:

Status:	Active
Comp Number:	7310
Number:	1
Board Of Equalization:	Not reported
Referral Date:	03-10-93
Action Date:	03-10-93
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	Not reported
Tank Status:	Not reported
Capacity:	Not reported

THE RHF BUNKER HILL CORP (Continued) **S101588240**

Active Date: Not reported
Tank Use: Not reported
STG: Not reported
Content: Not reported
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 19056481
Regulated By: UTNKA
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 2130000000
Mail To: Not reported
Mailing Address: 255 S HILL ST
Mailing Address 2: Not reported
Mailing City,St,Zip: LOS ANGELES 900120000
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

D46 **BANDINI CANYON POCKET PARK** **US BROWNFIELDS** **1016350973**
East **O'FARRELL AND BANDINI** **N/A**
< 1/8 **LOS ANGELES, CA**
0.112 mi.
589 ft. **Site 7 of 7 in cluster D**

Relative:
Lower

Actual:
285 ft.

US BROWNFIELDS:
Recipient name: Los Angeles, City of
Grant type: Assessment
Property name: BANDINI CANYON POCKET PARK
Property #: Not reported
Parcel size: 1
Property Description: Not reported
Latitude: 34.0522
Longitude: -118.2428
HCM label: Not reported
Map scale: Not reported
Point of reference: Not reported
Datum: Not reported
ACRES property ID: 11453
Start date: Not reported
Completed date: Not reported
Acres cleaned up: Not reported
Cleanup funding: Not reported
Cleanup funding source: Not reported
Assessment funding: Not reported
Assessment funding source: Not reported
Redevelopment funding: Not reported
Redev. funding source: Not reported
Redev. funding entity name: Not reported
Redevelopment start date: Not reported
Assessment funding entity: Not reported

BANDINI CANYON POCKET PARK (Continued) **1016350973**

Cleanup funding entity:	Not reported
Grant type:	N/A
Accomplishment type:	Phase I Environmental Assessment
Accomplishment count:	0
Cooperative agreement #:	98912501
Ownership entity:	Not reported
Current owner:	City of Los Angeles
Did owner change:	Y
Cleanup required:	Not reported
Video available:	Not reported
Photo available:	Not reported
Institutional controls required:	Not reported
IC Category proprietary controls:	Not reported
IC cat. info. devices:	Not reported
IC cat. gov. controls:	Not reported
IC cat. enforcement permit tools:	Not reported
IC in place date:	Not reported
IC in place:	Unknown
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Not reported
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	Not reported
Past use residential acreage:	Not reported

BANDINI CANYON POCKET PARK (Continued) **1016350973**

Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	Not reported
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
nickel cleaned up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Not reported
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported

J47 **BRADBURY BUILDING** **CA RGA LUST** **S114586547**
SW **304 BROADWAY S.** **N/A**
1/8-1/4 **LOS ANGELES, CA**
0.136 mi.
716 ft. **Site 1 of 2 in cluster J**

Relative:
Lower

Actual:
288 ft.

RGA LUST:

2012	BRADBURY BUILDING	304 BROADWAY S.
2011	BRADBURY BUILDING	304 BROADWAY S.
2010	BRADBURY BUILDING	304 BROADWAY S.
2009	BRADBURY BUILDING	304 BROADWAY S.
2008	BRADBURY BUILDING	304 BROADWAY S.
2007	BRADBURY BUILDING	304 BROADWAY S.

J48 **BRADBURY BUILDING** **CA LUST** **S108723423**
SW **304 BROADWAY S.** **N/A**
1/8-1/4 **LOS ANGELES, CA 90013**
0.136 mi.
716 ft. **Site 2 of 2 in cluster J**

Relative:
Lower

Actual:
288 ft.

LUST:

Region:	STATE
Global Id:	T0603783082
Latitude:	34.050809
Longitude:	-118.248129
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/19/2008
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AT
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900130089
LOC Case Number:	25467
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603783082
Contact Type:	Regional Board Caseworker
Contact Name:	ARMAN TOUMARI
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 WEST 4TH STREET, SUITE 200
City:	LOS ANGELES
Email:	atoumari@waterboards.ca.gov
Phone Number:	2135766708

Global Id:	T0603783082
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603783082
Status:	Completed - Case Closed
Status Date:	03/19/2008

Global Id:	T0603783082
Status:	Open - Case Begin Date
Status Date:	06/22/2005

Global Id:	T0603783082
Status:	Open - Site Assessment
Status Date:	09/14/2005

BRADBURY BUILDING (Continued) **S108723423**

Regulatory Activities:

Global Id:	T0603783082
Action Type:	Other
Date:	06/22/2005
Action:	Leak Discovery
Global Id:	T0603783082
Action Type:	Other
Date:	06/22/2005
Action:	Leak Reported
Global Id:	T0603783082
Action Type:	RESPONSE
Date:	10/31/2007
Action:	Other Report / Document
Global Id:	T0603783082
Action Type:	ENFORCEMENT
Date:	10/01/2007
Action:	Staff Letter
Global Id:	T0603783082
Action Type:	ENFORCEMENT
Date:	03/19/2008
Action:	Closure/No Further Action Letter

49
North
1/8-1/4
0.147 mi.
778 ft.

Relative:
Higher

Actual:
341 ft.

LA CO HALL OF ADMINIST. **CA LUST** **S102432399**
500 TEMPLE ST W **N/A**
LOS ANGELES, CA 90012

LUST:

Region:	STATE
Global Id:	T0603700533
Latitude:	34.056684
Longitude:	-118.246368
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/06/1990
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	EL
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120389
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700533
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)

LA CO HALL OF ADMINIST. (Continued) **S102432399**

Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603700533
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700533
Status: Completed - Case Closed
Status Date: 09/06/1990

Global Id: T0603700533
Status: Open - Case Begin Date
Status Date: 10/09/1986

Global Id: T0603700533
Status: Open - Site Assessment
Status Date: 11/10/1987

Regulatory Activities:
Global Id: T0603700533
Action Type: Other
Date: 10/09/1986
Action: Leak Discovery

Global Id: T0603700533
Action Type: Other
Date: 11/10/1987
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900120389
Status: Case Closed
Substance: Diesel
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603700533
W Global ID: W0605100649
Staff: UNK
Local Agency: 19050
Cross Street: GRAND
Enforcement Type: Not reported

LA CO HALL OF ADMINIST. (Continued) **S102432399**

Date Leak Discovered:	10/9/1986	
Date Leak First Reported:		11/10/1987
Date Leak Record Entered:	5/11/1988	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		9/6/1990
Date the Case was Closed:		9/6/1990
How Leak Discovered:	Inventory Control	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Piping	
Operator:	SARACCO, STEVE	
Water System:	DAVE GRIFFITH L A D W P	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1525.22753745671532840215248 33
Source of Cleanup Funding:		Piping
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		11/10/1987
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	L.A. COUNTY HALL OF ADMINIST.	
RP Address:	500 WEST TEMPLE AVE, LOS ANGELES, CA 90012	
Program:	LUST	
Lat/Long:	34.0573048 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	2600649-001GEN	
Summary:	Not reported	

50
ESE
1/8-1/4
0.162 mi.
855 ft.

LAPD SCIENTIFIC INVESTIATION DIVISION - C. ERWIN PIPER TECHN **NY MANIFEST** **1008194394**
555 RAMIREZ STREET **CAD980673180**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
282 ft.

NY MANIFEST:

EPA ID:	CAD980673180
Country:	USA
Location Address 1:	150 NORTH LOS ANGELES STREET
Location Address 2:	Not reported
Location City:	LOS ANGELES
Location State:	CA
Location Zip Code:	90031
Location Zip Code 4:	Not reported

LAPD SCIENTIFIC INVESTIATION DIVISION - C. ERWIN PIPER TECHN (Continued) **1008194394**

Mailing Info:

Name:	LOS ANGELES POLICE DAPRTMENT
Contact:	LOS ANGELES POLICE DAPRTMENT
Address:	150 NORTH ANGELES STREET
City/State/Zip:	LOS ANGELES, CA 90031
Country:	USA
Phone:	213-485-2535

Manifest:

Document ID:	NYA6091236
Manifest Status:	Completed after the designated time period for a TSDF to get a copy to the DEC
Trans1 State ID:	XK2266
Trans2 State ID:	X17593
Generator Ship Date:	04/17/1987
Trans1 Recv Date:	04/17/1987
Trans2 Recv Date:	04/17/1987
TSD Site Recv Date:	04/29/1987
Part A Recv Date:	05/28/1987
Part B Recv Date:	05/06/1987
Generator EPA ID:	CAD980673180
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD000632372
Waste Code:	D003 - NON-LISTED REACTIVE WASTES
Quantity:	00077
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	T Chemical, physical, or biological treatment.
Specific Gravity:	100
Year:	1987

51
SE
1/8-1/4
0.186 mi.
980 ft.

LOS ANGELES TIMES **CA LUST** **S104406275**
214 002ND ST E **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
276 ft.

LUST:

Region:	STATE
Global Id:	T0603700521
Latitude:	34.0499191
Longitude:	-118.2431941
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/19/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120252
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

LOS ANGELES TIMES (Continued) **S104406275**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700521
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603700521
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700521
Status:	Completed - Case Closed
Status Date:	07/19/1996

Global Id:	T0603700521
Status:	Open - Case Begin Date
Status Date:	08/21/1992

Global Id:	T0603700521
Status:	Open - Site Assessment
Status Date:	08/21/1992

Regulatory Activities:

Global Id:	T0603700521
Action Type:	Other
Date:	10/19/1992
Action:	Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900120252	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603700521	
W Global ID:	W0605100582	
Staff:	UNK	

LOS ANGELES TIMES (Continued) **S104406275**

Local Agency:	19050	
Cross Street:	BROADWAY	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		10/19/1992
Date Leak Record Entered:	11/4/1992	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		11/10/1992
Date the Case was Closed:		7/19/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	OLD CASE #111092-01	
Water System:	YMCA CAMP OF LOS ANGELES 2	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2218.033662035989224500685514 2
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		8/21/1992
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	LOS ANGELES TIMES	
RP Address:	145 S SPRING ST, 9TH FL, SAFETY DEPT, LA CA 90053	
Program:	LUST	
Lat/Long:	34.0499191 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	2600582-001GEN	
Summary:	Not reported	

K52 **CITY OF LOS ANGELES MULTIPLE IDS (2136)** **CA SWF/LF** **S109167805**
SW **MULTIPLE PARCLES /SITES - CLEAN UP** **N/A**
1/4-1/2 **LOS ANGELES (CITY), CA**
0.257 mi.
1355 ft. **Site 1 of 2 in cluster K**

Relative:
Lower

Actual:
280 ft.

SWF/LF (SWIS):

Region:	STATE
Facility ID:	19-AR-1238
Lat/Long:	34.0499999 / -118.25
Owner Name:	City of Los Angeles
Owner Telephone:	Not reported

CITY OF LOS ANGELES MULTIPLE IDS (2136) (Continued) **S109167805**

Owner Address:	Environmental Affairs Dept., D.B. Allen
Owner Address2:	200 North Spring Street Rm 177
Owner City,St,Zip:	Los Angeles, CA 90012
Operational Status:	Clean Closed
Operator:	City of Los Angeles
Operator Phone:	Not reported
Operator Address:	Environmental Affairs Dept., D.B. Allen
Operator Address2:	200 North Spring Street Rm 177
Operator City,St,Zip:	Los Angeles, CA 90012
Permit Date:	Not reported
Permit Status:	Not reported
Permitted Acreage:	Not reported
Activity:	Solid Waste Disposal Site
Regulation Status:	Unpermitted
Landuse Name:	Residential,Industrial,Commercial
GIS Source:	Place
Category:	Disposal
Unit Number:	01
Inspection Frequency:	None
Accepted Waste:	Construction/demolition,Inert,Mixed municipal
Closure Date:	Not reported
Closure Type:	Not reported
Disposal Acreage:	Not reported
SWIS Num:	19-AR-1238
Waste Discharge Requirement Num:	Not reported
Program Type:	2136
Permitted Throughput with Units:	Not reported
Actual Throughput with Units:	Not reported
Permitted Capacity with Units:	Not reported
Remaining Capacity:	Not reported
Remaining Capacity with Units:	Not reported
Lat/Long:	34.0499999 / -118.25

K53 **LA BY-PRODUCTS HEWITT PIT** **CA SWF/LF** **S109821562**
SW **LA** **N/A**
1/4-1/2 **LOS ANGELES (CITY), CA**
0.257 mi.
1355 ft. **Site 2 of 2 in cluster K**

Relative:
Lower

Actual:
280 ft.

SWF/LF (SWIS):

Region:	STATE
Facility ID:	19-AR-5045
Lat/Long:	34.0499999 / -118.25
Owner Name:	Not reported
Owner Telephone:	Not reported
Owner Address:	Not reported
Owner Address2:	Not reported
Owner City,St,Zip:	Not reported
Operational Status:	Not reported
Operator:	Not reported
Operator Phone:	Not reported
Operator Address:	Not reported
Operator Address2:	Not reported
Operator City,St,Zip:	Not reported
Permit Date:	Not reported
Permit Status:	Not reported
Permitted Acreage:	Not reported
Activity:	Not reported

LA BY-PRODUCTS HEWITT PIT (Continued) **S109821562**

Regulation Status:	Not reported
Landuse Name:	Not reported
GIS Source:	Place
Category:	Not reported
Unit Number:	Not reported
Inspection Frequency:	Not reported
Accepted Waste:	Not reported
Closure Date:	Not reported
Closure Type:	Not reported
Disposal Acreage:	Not reported
SWIS Num:	19-AR-5045
Waste Discharge Requirement Num:	Not reported
Program Type:	Not reported
Permitted Throughput with Units:	Not reported
Actual Throughput with Units:	Not reported
Permitted Capacity with Units:	Not reported
Remaining Capacity:	Not reported
Remaining Capacity with Units:	Not reported
Lat/Long:	34.0499999 / -118.25

L54 **BURBANK FIRE STATION #11** **CA RGA LUST** **S114588197**
WSW **353 OLIVE AVE E** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.263 mi.
1387 ft. **Site 1 of 4 in cluster L**

Relative:
Higher

Actual:
351 ft.

RGA LUST:

2008	BURBANK FIRE STATION #11	353 OLIVE AVE E
2007	BURBANK FIRE STATION #11	353 OLIVE AVE E
2006	BURBANK FIRE STATION #11	353 OLIVE AVE E
2005	BURBANK FIRE STATION #11	353 OLIVE AVE E
2004	BURBANK FIRE STATION #11	353 OLIVE AVE E
2003	BURBANK FIRE STATION #11	353 OLIVE AVE E
2002	BURBANK FIRE STATION #11	353 OLIVE AVE E
2001	BURBANK FIRE STATION #11	353 OLIVE AVE E
2000	BURBANK FIRE STATION #11	353 OLIVE AVE E

M55 **CATHEDRAL OF OUR LADY OF THE ANGELS** **CA SLIC** **S106485974**
North **555 W. TEMPLE STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.266 mi.
1406 ft. **Site 1 of 2 in cluster M**

Relative:
Higher

Actual:
382 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	12/31/1998
Global Id:	SLT4L8271878
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number:	Not reported
Latitude:	34.058039
Longitude:	-118.245591
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	0827

CATHEDRAL OF OUR LADY OF THE ANGELS (Continued) **S106485974**

File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

N56 **AUTO PARK 18** **CA LUST** **S106087764**
NNW **145 N GRAND AVE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.268 mi.
1415 ft. **Site 1 of 2 in cluster N**

Relative:
Higher

Actual:
392 ft.

LUST:
Region: STATE
Global Id: T0603759109
Latitude: 34.056472
Longitude: -118.248125
Case Type: LUST Cleanup Site
Status: Open - Site Assessment
Status Date: 10/14/2014
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: JR
Local Agency: LOS ANGELES, CITY OF
RB Case Number: 900120534
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603759109
Contact Type: Regional Board Caseworker
Contact Name: JAMES RYAN
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: West 4th Street, Suite 200
City: LOS ANGELES
Email: jamesw.ryan@waterboards.ca.gov
Phone Number: 2135766711

Global Id: T0603759109
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603759109
Status: Open - Case Begin Date
Status Date: 05/10/1995

Global Id: T0603759109

AUTO PARK 18 (Continued) **S106087764**

Status: Open - Eligible for Closure
Status Date: 07/09/2013

Global Id: T0603759109
Status: Open - Remediation
Status Date: 03/19/1996

Global Id: T0603759109
Status: Open - Site Assessment
Status Date: 10/25/1995

Global Id: T0603759109
Status: Open - Site Assessment
Status Date: 03/19/1996

Global Id: T0603759109
Status: Open - Site Assessment
Status Date: 10/14/2014

Regulatory Activities:
Global Id: T0603759109
Action Type: Other
Date: 05/10/1995
Action: Leak Discovery

Global Id: T0603759109
Action Type: Other
Date: 10/25/1995
Action: Leak Reported

Global Id: T0603759109
Action Type: RESPONSE
Date: 02/26/1996
Action: Correspondence

Global Id: T0603759109
Action Type: RESPONSE
Date: 10/25/1995
Action: Corrective Action Plan / Remedial Action Plan

Global Id: T0603759109
Action Type: ENFORCEMENT
Date: 03/19/1996
Action: Technical Correspondence / Assistance / Other

Global Id: T0603759109
Action Type: ENFORCEMENT
Date: 11/21/1995
Action: Technical Correspondence / Assistance / Other

Global Id: T0603759109
Action Type: ENFORCEMENT
Date: 12/05/1995
Action: Notice of Violation - #10863

Global Id: T0603759109
Action Type: ENFORCEMENT

AUTO PARK 18 (Continued) **S106087764**

Date: 02/05/2016
Action: Staff Letter

Global Id: T0603759109
Action Type: RESPONSE
Date: 03/11/2016
Action: Other Report / Document

Global Id: T0603759109
Action Type: ENFORCEMENT
Date: 07/22/2015
Action: Staff Letter

N57 **AUTO PARK 18** **CA RGA LUST** **S114578983**
NNW **145 N GRAND AVE** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.268 mi.
1415 ft. **Site 2 of 2 in cluster N**

Relative:
Higher

Actual:
392 ft.

RGA LUST:

2012	AUTO PARK 18	145 N GRAND AVE
2011	AUTO PARK 18	145 N GRAND AVE
2010	AUTO PARK 18	145 N GRAND AVE
2009	AUTO PARK 18	145 N GRAND AVE
2008	AUTO PARK 18	145 N GRAND AVE

L58 **THE MUTUAL GARAGE BUILDING** **CA RGA LUST** **S114702060**
WSW **363 OLIVE STREET S.** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.271 mi.
1429 ft. **Site 2 of 4 in cluster L**

Relative:
Higher

Actual:
350 ft.

RGA LUST:

1994	THE MUTUAL GARAGE BUILDING	363 OLIVE STREET S.
1993	THE MUTUAL GARAGE BUILDING	363 OLIVE STREET S.

L59 **THE MUTUAL GARAGE BUILDING** **CA LUST** **S101297179**
WSW **363 OLIVE ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA 90013**
0.271 mi.
1429 ft. **Site 3 of 4 in cluster L**

Relative:
Higher

Actual:
350 ft.

LUST:
Region: STATE
Global Id: T0603700540
Latitude: 34.0514483
Longitude: -118.2509925
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 07/19/1996
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: YR
Local Agency: LOS ANGELES, CITY OF
RB Case Number: 900130025

THE MUTUAL GARAGE BUILDING (Continued) **S101297179**

LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603700540
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603700540
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700540
Status: Completed - Case Closed
Status Date: 07/19/1996

Global Id: T0603700540
Status: Open - Case Begin Date
Status Date: 01/17/1986

Global Id: T0603700540
Status: Open - Site Assessment
Status Date: 06/16/1988

Regulatory Activities:
Global Id: T0603700540
Action Type: Other
Date: 01/17/1986
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900130025
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported

THE MUTUAL GARAGE BUILDING (Continued) **S101297179**

Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603700540	
W Global ID:	W0605100582	
Staff:	UNK	
Local Agency:	19050	
Cross Street:	4TH	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		1/17/1986
Date Leak Record Entered:	12/31/1986	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		3/27/1992
Date the Case was Closed:		7/19/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	YMCA CAMP OF LOS ANGELES 2	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1612.2098297649082414995068889
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		6/16/1988
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	MUTUAL GARAGE BUILDING	
RP Address:	363 S OLIVE ST, LOS ANGELES CA 90013	
Program:	LUST	
Lat/Long:	34.0513411 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	2600582-001GEN	
Summary:	LDP APPROVED 02/86. PLAN NOT YET IMPLEMENTED.	

L60 **THE MUTUAL GARAGE BUILDING** **CA RGA LUST** **S114702059**
WSW **363 OLIVE ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.271 mi.
1429 ft. **Site 4 of 4 in cluster L**

Relative: **Higher**

Actual: **350 ft.**

RGA LUST:

2012	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2011	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2010	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2009	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2008	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2007	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2006	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2005	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2004	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2003	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2002	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2001	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
2000	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
1998	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
1997	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
1996	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S
1995	THE MUTUAL GARAGE BUILDING	363 OLIVE ST S

O61 **PARKER CENTER** **CA RGA LUST** **S114667237**
SE **151 SAN PEDRO ST N** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.271 mi.
1430 ft. **Site 1 of 6 in cluster O**

Relative: **Lower**

Actual: **276 ft.**

RGA LUST:

2003	PARKER CENTER	151 SAN PEDRO ST N
2002	PARKER CENTER	151 SAN PEDRO ST N
2001	PARKER CENTER	151 SAN PEDRO ST N
2000	PARKER CENTER	151 SAN PEDRO ST N
1998	PARKER CENTER	151 SAN PEDRO ST N
1997	PARKER CENTER	151 SAN PEDRO ST N
1995	PARKER CENTER	151 SAN PEDRO ST N

P62 **PARKER CENTER** **CA LUST** **S106116238**
East **151 JUDGE JOHN AISO** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.276 mi.
1456 ft. **Site 1 of 2 in cluster P**

Relative: **Lower**

Actual: **282 ft.**

LUST:

Region:	STATE
Global Id:	T0603700531
Latitude:	34.0496911
Longitude:	-118.241266
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/17/2013
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AT
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120352

PARKER CENTER (Continued) **S106116238**

LOC Case Number: 2220
File Location: Not reported
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Diesel
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603700531
Contact Type: Regional Board Caseworker
Contact Name: ARMAN TOUMARI
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 WEST 4TH STREET, SUITE 200
City: LOS ANGELES
Email: atoumari@waterboards.ca.gov
Phone Number: 2135766708

Global Id: T0603700531
Contact Type: Local Agency Caseworker
Contact Name: TBD
Organization Name: LOS ANGELES, CITY OF
Address: 200 N. MAIN ST. RM. 970
City: LOS ANGELES
Email: Not reported
Phone Number: 2134826528

Status History:
Global Id: T0603700531
Status: Completed - Case Closed
Status Date: 01/17/2013

Global Id: T0603700531
Status: Open - Case Begin Date
Status Date: 06/22/1990

Global Id: T0603700531
Status: Open - Eligible for Closure
Status Date: 11/05/2012

Global Id: T0603700531
Status: Open - Site Assessment
Status Date: 07/02/1990

Regulatory Activities:
Global Id: T0603700531
Action Type: Other
Date: 06/22/1990
Action: Leak Discovery

Global Id: T0603700531
Action Type: Other
Date: 07/02/1990
Action: Leak Reported

Global Id: T0603700531
Action Type: ENFORCEMENT

PARKER CENTER (Continued) **S106116238**

Date: 01/17/2013
Action: Closure/No Further Action Letter

Global Id: T0603700531
Action Type: ENFORCEMENT
Date: 12/23/2003
Action: Staff Letter

Global Id: T0603700531
Action Type: ENFORCEMENT
Date: 11/13/2012
Action: Notification - Preclosure

Global Id: T0603700531
Action Type: RESPONSE
Date: 01/15/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0603700531
Action Type: RESPONSE
Date: 10/05/2009
Action: Well Destruction Report

Global Id: T0603700531
Action Type: RESPONSE
Date: 04/03/2012
Action: Site Assessment Report

Global Id: T0603700531
Action Type: RESPONSE
Date: 07/15/2010
Action: Request for Closure

Global Id: T0603700531
Action Type: RESPONSE
Date: 01/15/2012
Action: Other Workplan

Global Id: T0603700531
Action Type: RESPONSE
Date: 02/20/2004
Action: Other Report / Document

Global Id: T0603700531
Action Type: RESPONSE
Date: 10/15/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0603700531
Action Type: RESPONSE
Date: 07/15/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0603700531
Action Type: REMEDIATION
Date: 04/01/2010
Action: Other (Use Description Field)

PARKER CENTER (Continued) **S106116238**

Global Id: T0603700531
Action Type: REMEDIATION
Date: 04/01/2010
Action: Excavation

Global Id: T0603700531
Action Type: RESPONSE
Date: 03/17/2013
Action: Well Destruction Report

Global Id: T0603700531
Action Type: ENFORCEMENT
Date: 09/16/2008
Action: Notice to Comply

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900120352
Status: Preliminary site assessment underway
Substance: Diesel
Substance Quantity: Not reported
Local Case No: 2220
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603700531
W Global ID: W0605100582
Staff: JW
Local Agency: 19050
Cross Street: 001ST ST
Enforcement Type: SEL
Date Leak Discovered: 6/22/1990
Date Leak First Reported: 7/2/1990
Date Leak Record Entered: 12/12/1991
Date Confirmation Began: Not reported
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 5/16/1996
Date the Case was Closed: Not reported
How Leak Discovered: Tank Test
How Leak Stopped: Not reported
Cause of Leak: UNK
Leak Source: Tank
Operator: DEPT. OF GEN'L SVC
Water System: YMCA CAMP OF LOS ANGELES 2
Well Name: Not reported
Approx. Dist To Production Well (ft): 2716.685196696684812962783 7016
Source of Cleanup Funding: Tank
Preliminary Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: 7/2/1990
Pollution Characterization Began: Not reported
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: Not reported

PARKER CENTER (Continued) **S106116238**

Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: .005
Significant Interim Remedial Action Taken: Not reported
GW Qualifier: Not reported
Soil Qualifier: <
Organization: Not reported
Owner Contact: Not reported
Responsible Party: MR. RENE VILLA-AGUSTIN
RP Address: 419 S. SPRING ST., 12TH FL.
Program: LUST
Lat/Long: 34.0496911 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: 2600582-001GEN
Summary: REFER TO LA CITY FD. FOR SITE ADDRESS

P63 **PARKER CENTER** **CA RGA LUST** **S114667235**
East **151 JUDGE JOHN AISO** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.276 mi.
1456 ft. **Site 2 of 2 in cluster P**

Relative:
Lower

Actual:
282 ft.

RGA LUST:

2012	PARKER CENTER	151 JUDGE JOHN AISO
2011	PARKER CENTER	151 JUDGE JOHN AISO
2010	PARKER CENTER	151 JUDGE JOHN AISO
2009	PARKER CENTER	151 JUDGE JOHN AISO
2008	PARKER CENTER	151 JUDGE JOHN AISO
2007	PARKER CENTER	151 JUDGE JOHN AISO
2006	PARKER CENTER	151 JUDGE JOHN AISO
2005	PARKER CENTER	151 JUDGE JOHN AISO
2004	PARKER CENTER	151 JUDGE JOHN AISO

O64 **PARKER CENTER (LADP)** **CA RGA LUST** **S114667233**
SE **150 SAN PEDRO ST** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.281 mi.
1485 ft. **Site 2 of 6 in cluster O**

Relative:
Lower

Actual:
273 ft.

RGA LUST:

1998	PARKER CENTER (LADP)	150 SAN PEDRO ST
1997	PARKER CENTER (LADP)	150 SAN PEDRO ST
1995	PARKER CENTER (LADP)	150 SAN PEDRO ST
1994	PARKER CENTER (LADP)	150 SAN PEDRO ST

O65 **PARKER CENTER (LADP)** **CA RGA LUST** **S114667232**
SE **150 SAN PEDRO ST.** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.281 mi.
1485 ft. **Site 3 of 6 in cluster O**

Relative:
Lower

Actual:
273 ft.

RGA LUST:

1993	PARKER CENTER (LADP)	150 SAN PEDRO ST.

O66 **UNION BANK OF CALIFORNIA** **CA RGA LUST** **S114709178**
SE **120 SAN PEDRO STREET, SOUTH** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.293 mi.
1545 ft. **Site 4 of 6 in cluster O**

Relative:
Lower

Actual:
274 ft.

RGA LUST:

2012	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH
2011	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH
2010	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH
2009	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH

O67 **UNION BANK OF CALIFORNIA** **CA LUST** **S108418216**
SE **120 SAN PEDRO STREET, SOUTH** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.293 mi.
1545 ft. **Site 5 of 6 in cluster O**

Relative:
Lower

Actual:
274 ft.

LUST:

Region:	STATE
Global Id:	T0603733281
Latitude:	34.049987
Longitude:	-118.241194
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	12/15/2011
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	EL
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	Not reported
LOC Case Number:	34023
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603733281
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603733281
Contact Type:	Local Agency Caseworker

UNION BANK OF CALIFORNIA (Continued) **S108418216**

Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603733281
Status: Completed - Case Closed
Status Date: 12/15/2011

Global Id: T0603733281
Status: Open - Case Begin Date
Status Date: 08/03/2004

Global Id: T0603733281
Status: Open - Site Assessment
Status Date: 10/20/2005

Regulatory Activities:
Global Id: T0603733281
Action Type: Other
Date: 08/03/2004
Action: Leak Discovery

Global Id: T0603733281
Action Type: Other
Date: 10/20/2005
Action: Leak Reported

Global Id: T0603733281
Action Type: ENFORCEMENT
Date: 12/11/2011
Action: Closure/No Further Action Letter

O68 **UNION BANK OF CALIFORNIA** **CA RGA LUST** **S114709177**
SE **120 SAN PEDRO STREET, SOUTH** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.293 mi.
1545 ft. **Site 6 of 6 in cluster O**

Relative:
Lower

Actual:
274 ft.

RGA LUST:

2008	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH
2007	UNION BANK OF CALIFORNIA	120 SAN PEDRO STREET, SOUTH

69
SW
1/4-1/2
0.294 mi.
1551 ft.

TWIN SPRINGS LLC
433 SPRING STREET, SOUTH
LOS ANGELES, CA CA

CA LUST **S107619937**
N/A

Relative:
Lower

Actual:
272 ft.

LUST:

Region:	STATE
Global Id:	T0603734500
Latitude:	34.048349
Longitude:	-118.249236
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/09/2011
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	JW
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900130070
LOC Case Number:	32058
File Location:	Regional Board
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603734500
Contact Type:	Regional Board Caseworker
Contact Name:	JIMMIE WOO
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 WEST 4TH STREET, SUITE 200
City:	LOS ANGELES
Email:	jwoo@waterboards.ca.gov
Phone Number:	2135766600

Global Id:	T0603734500
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603734500
Status:	Completed - Case Closed
Status Date:	09/09/2011

Global Id:	T0603734500
Status:	Open - Case Begin Date
Status Date:	02/16/2002

Global Id:	T0603734500
Status:	Open - Site Assessment
Status Date:	03/01/2002

TWIN SPRINGS LLC (Continued) **S107619937**

Regulatory Activities:

Global Id:	T0603734500
Action Type:	Other
Date:	02/16/2002
Action:	Leak Discovery
Global Id:	T0603734500
Action Type:	Other
Date:	03/01/2002
Action:	Leak Reported
Global Id:	T0603734500
Action Type:	ENFORCEMENT
Date:	09/16/2008
Action:	Notice to Comply
Global Id:	T0603734500
Action Type:	RESPONSE
Date:	05/26/2006
Action:	Other Report / Document
Global Id:	T0603734500
Action Type:	ENFORCEMENT
Date:	09/09/2011
Action:	Closure/No Further Action Letter
Global Id:	T0603734500
Action Type:	ENFORCEMENT
Date:	03/29/2006
Action:	Staff Letter

Q70 **ORANGE LINE OIL CO** **CA RGA LUST** **S114664264**
ENE **404 COMMERCIAL ST E** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.295 mi.
1559 ft. **Site 1 of 4 in cluster Q**

Relative: RGA LUST:
Lower

2004	ORANGE LINE OIL CO	404 COMMERCIAL ST E	

Actual:
282 ft.

Q71 **ANGELICA HEALTHCARE SERVICE** **CA RGA LUST** **S114571965**
ENE **309 COMMERCIAL ST E** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.299 mi.
1578 ft. **Site 2 of 4 in cluster Q**

Relative: RGA LUST:
Lower

2004	ANGELICA HEALTHCARE SERVICE	309 COMMERCIAL ST E	

Actual:
282 ft.

R72
SE
1/4-1/2
0.300 mi.
1582 ft.

RELATED/LL BLOCK 8 LLC
235 SAN PEDRO
LOS ANGELES, CA

Site 1 of 7 in cluster R

CA RGA LUST **S114675546**
N/A

Relative:
Lower

Actual:
270 ft.

RGA LUST:

2012	RELATED/LL BLOCK 8 LLC	235 SAN PEDRO
2011	RELATED/LL BLOCK 8 LLC	235 SAN PEDRO
2010	RELATED/LL BLOCK 8 LLC	235 SAN PEDRO
2009	RELATED/LL BLOCK 8 LLC	235 SAN PEDRO
2008	RELATED/LL BLOCK 8 LLC	235 SAN PEDRO

R73
SE
1/4-1/2
0.300 mi.
1582 ft.

RELATED/LL BLOCK 8 LLC
235 SAN PEDRO
LOS ANGELES, CA 90012

Site 2 of 7 in cluster R

CA LUST **S108997075**
N/A

Relative:
Lower

Actual:
270 ft.

LUST:

Region:	STATE
Global Id:	T0603771623
Latitude:	34.048703
Longitude:	-118.241988
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/04/2008
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	PK
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603771623
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603771623
Contact Type:	Local Agency Caseworker
Contact Name:	PATRICK KILLIAN
Organization Name:	LOS ANGELES, CITY OF
Address:	221 N FIGUEROA ST STE 1500
City:	LOS ANGELES
Email:	Not reported
Phone Number:	2134826527

Status History:

Global Id:	T0603771623

RELATED/LL BLOCK 8 LLC (Continued) **S108997075**

Status: Completed - Case Closed
Status Date: 02/04/2008

Global Id: T0603771623
Status: Open - Case Begin Date
Status Date: 04/27/2007

Global Id: T0603771623
Status: Open - Site Assessment
Status Date: 01/31/2008

Regulatory Activities:
Global Id: T0603771623
Action Type: Other
Date: 04/27/2007
Action: Leak Discovery

Global Id: T0603771623
Action Type: Other
Date: 04/27/2007
Action: Leak Reported

M74 **CATHEDRAL CHURCH** **CA SLIC** **S103547098**
North **555 TEMPLE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.301 mi.
1590 ft. **Site 2 of 2 in cluster M**

Relative:
Higher

Actual:
392 ft.

SLIC REG 4:
Region: 4
Facility Status: No further action required
SLIC: 0827
Substance: VOCs
Staff: JTL

R75 **TEXACO #61-106-0380** **CA RGA LUST** **S114699667**
SE **106 AZUSA AVE S** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.309 mi.
1634 ft. **Site 3 of 7 in cluster R**

Relative:
Lower

Actual:
269 ft.

RGA LUST:
2004 TEXACO #61-106-0380 106 AZUSA AVE S

R76
SE
1/4-1/2
0.309 mi.
1634 ft.

ARCO #1276 — **CA RGA LUST** — **S114573351**
300 AZUSA AVE N — **N/A**
LOS ANGELES, CA

Site 4 of 7 in cluster R

Relative:
Lower

RGA LUST:

2004 ARCO #1276 300 AZUSA AVE N

Actual:
269 ft.

Q77
ENE
1/4-1/2
0.310 mi.
1636 ft.

ANGELICA HEALTH CARE SERVIC — **CA RGA LUST** — **S114571956**
300 COMMERCIAL ST E — **N/A**
LOS ANGELES, CA

Site 3 of 4 in cluster Q

Relative:
Lower

RGA LUST:

2004 ANGELICA HEALTH CARE SERVIC 300 COMMERCIAL ST E

Actual:
284 ft.

78
NW
1/4-1/2
0.315 mi.
1661 ft.

LA CITY DEPT WATER & POWER — **CA LUST** — **S106517261**
111 HOPE ST N — **N/A**
LOS ANGELES, CA 90012

Relative:
Higher

Actual:
403 ft.

LUST:

Region:	STATE
Global Id:	T0603700506
Latitude:	34.0564428
Longitude:	-118.2498743
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/29/2004
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AT
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120070
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700506
Contact Type:	Regional Board Caseworker
Contact Name:	ARMAN TOUMARI
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 WEST 4TH STREET, SUITE 200
City:	LOS ANGELES
Email:	atoumari@waterboards.ca.gov
Phone Number:	2135766708

Global Id:	T0603700506
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780

LA CITY DEPT WATER & POWER (Continued) **S106517261**

City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700506
Status: Completed - Case Closed
Status Date: 10/29/2004

Global Id: T0603700506
Status: Open - Case Begin Date
Status Date: 01/17/1984

Global Id: T0603700506
Status: Open - Site Assessment
Status Date: 05/27/1992

Global Id: T0603700506
Status: Open - Site Assessment
Status Date: 09/27/1996

Global Id: T0603700506
Status: Open - Verification Monitoring
Status Date: 12/13/2002

Regulatory Activities:
Global Id: T0603700506
Action Type: Other
Date: 01/17/1984
Action: Leak Discovery

Global Id: T0603700506
Action Type: Other
Date: 06/29/1984
Action: Leak Reported

Global Id: T0603700506
Action Type: RESPONSE
Date: 10/15/2004
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: ENFORCEMENT
Date: 04/16/2003
Action: Technical Correspondence / Assistance / Other

Global Id: T0603700506
Action Type: RESPONSE
Date: 08/15/2002
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: RESPONSE
Date: 10/15/2002
Action: Monitoring Report - Quarterly

LA CITY DEPT WATER & POWER (Continued) **S106517261**

Global Id: T0603700506
Action Type: RESPONSE
Date: 01/15/2003
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: RESPONSE
Date: 07/15/2003
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: REMEDIATION
Date: 05/08/1984
Action: Free Product Removal

Global Id: T0603700506
Action Type: ENFORCEMENT
Date: 08/12/2002
Action: Staff Letter

Global Id: T0603700506
Action Type: REMEDIATION
Date: 10/01/1986
Action: Excavation

Global Id: T0603700506
Action Type: RESPONSE
Date: 07/15/2004
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: RESPONSE
Date: 10/15/2003
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: ENFORCEMENT
Date: 10/27/2004
Action: Site Visit / Inspection / Sampling

Global Id: T0603700506
Action Type: ENFORCEMENT
Date: 10/29/2004
Action: Closure/No Further Action Letter

Global Id: T0603700506
Action Type: RESPONSE
Date: 04/15/2003
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: RESPONSE
Date: 01/15/2004
Action: Monitoring Report - Quarterly

Global Id: T0603700506
Action Type: RESPONSE

LA CITY DEPT WATER & POWER (Continued) **S106517261**

Date: 04/15/2004
Action: Monitoring Report - Quarterly

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900120070	
Status:	Post remedial action monitoring	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Remove Free Product
Global ID:	T0603700506	
W Global ID:	W0605100649	
Staff:	AT	
Local Agency:	19050	
Cross Street:	Not reported	
Enforcement Type:	TA-GEN	
Date Leak Discovered:	1/17/1984	
Date Leak First Reported:		6/29/1984
Date Leak Record Entered:	12/31/1986	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		8/14/2002
Date the Case was Closed:		Not reported
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	KURODA, RANDALL	
Water System:	DAVE GRIFFITH L A D W P	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2710.826785114211205331998967 6
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		5/27/1992
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		9/27/1996
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		12/13/2002
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		2/14/2002
Hist Max MTBE Conc in Groundwater:		17.3
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Yes
GW Qualifier:	=	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	J. ALAN WALTI	
RP Address:	111 N. HOPE ST, RM #1116	
Program:	LUST	
Lat/Long:	34.0564428 / -1	
Local Agency Staff:	PEJ	

LA CITY DEPT WATER & POWER (Continued) **S106517261**

Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: 2600649-001GEN
Summary: 11,000 GAL OF FP RECOVERED 1984-1991; 4/14/00 1ST QTR GW MON RPT 2000; 7/13/00 2ND QTR GW MON RPT 2000; 10/2000 3RD QTR GW MON RPT 2000; 1/18/01 4TH QTR GW MON RPT 2000; 413/01 1ST QTR GW MON RPT 2001

79
WNW
1/4-1/2
0.317 mi.
1674 ft.

PILOT TIMBER **CA RGA LUST** **S114669742**
100 FLOWER-MCNEIL ROA **N/A**
HUMBOLDT, CA

Relative: Higher

Actual: 382 ft.

RGA LUST:

2004	PILOT TIMBER	100 FLOWER-MCNEIL ROA	

80
East
1/4-1/2
0.321 mi.
1695 ft.

CITY OF LOS ANGELES - FED. BLDG. ANNEX **CA SLIC** **S103966817**
255 TEMPLE ST **N/A**
LOS ANGELES, CA 90012

Relative: Lower

Actual: 280 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	06/16/1965
Global Id:	SLT4305856
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number:	Not reported
Latitude:	34.055744
Longitude:	-118.242775
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	0097
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Q81
NE
1/4-1/2
0.321 mi.
1697 ft.

MODOC MINI MART #1 **CA RGA LUST** **S114655952**
402 N. MAIN ST. **N/A**
MODOC, CA

Site 4 of 4 in cluster Q

Relative: Lower

Actual: 281 ft.

RGA LUST:

2004	MODOC MINI MART #1	402 N. MAIN ST.	

R82
SE
1/4-1/2
0.331 mi.
1747 ft.

THRIFTY #305
362 AZUSA AVE N
LOS ANGELES, CA

Site 5 of 7 in cluster R

CA RGA LUST | **S114702826** / **N/A**

Relative:
Lower

Actual:
269 ft.

RGA LUST:

2004	THRIFTY #305	362 AZUSA AVE N

R83
SE
1/4-1/2
0.331 mi.
1747 ft.

ARCO #9678
362 AZUSA AVE. N.
LOS ANGELES, CA

Site 6 of 7 in cluster R

CA RGA LUST | **S114574882** / **N/A**

Relative:
Lower

Actual:
269 ft.

RGA LUST:

2004	ARCO #9678	362 AZUSA AVE. N.

R84
SE
1/4-1/2
0.344 mi.
1815 ft.

MARCHARDS EQUIPMENT RENTAL
440 AZUSA AVE N
LOS ANGELES, CA

Site 7 of 7 in cluster R

CA RGA LUST | **S114647404** / **N/A**

Relative:
Lower

Actual:
269 ft.

RGA LUST:

2004	MARCHARDS EQUIPMENT RENTAL	440 AZUSA AVE N

S85
West
1/4-1/2
0.350 mi.
1848 ft.

WEEMES ELEMENTARY SCHOOL PLAYGROUND
1201-1203, 1205, 1207, 1215 WEST 37TH STREET
LOS ANGELES, CA 90007

Site 1 of 13 in cluster S

CA ENVIROSTOR | **S105628620** / **N/A**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19880015
Status:	Certified
Status Date:	11/12/2003
Site Code:	304338
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	.64
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.02138
Longitude:	-118.2963
APN:	NONE SPECIFIED
Past Use:	RESIDENTIAL AREA

WEEMES ELEMENTARY SCHOOL PLAYGROUND (Continued) **S105628620**

Potential COC: Chlordane Dieldrin DDD DDT Lead DDE
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: LAUSD-WEEMES ELEM SCHOOL PLAYGROUND EXP
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: WEEMES ELEMENTARY SCHOOL PLAYGROUND
Alias Type: Alternate Name
Alias Name: 110033614453
Alias Type: EPA (FRS #)
Alias Name: 304338
Alias Type: Project Code (Site Code)
Alias Name: 19880015
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Public Participation
Completed Date: 03/11/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 10/23/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 11/19/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * CEQA
Completed Date: 02/10/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/28/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/01/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 11/12/2003
Comments: Not reported

WEEMES ELEMENTARY SCHOOL PLAYGROUND (Continued) **S105628620**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/28/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 10/02/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/12/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 01/31/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S86 **EAST VALLEY MIDDLE SCHOOL NO. 1** **CA ENVIROSTOR** **S107736257**
West **LAUREL CANYON BOULEVARD/HAMLIN STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA 91606**
0.350 mi.
1848 ft. **Site 2 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:
Facility ID: 19750089
Status: Certified
Status Date: 01/26/2004
Site Code: 304332
Site Type: School Cleanup

EAST VALLEY MIDDLE SCHOOL NO. 1 (Continued) **S107736257**

Site Type Detailed: School
Acres: 10
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 53
Senate: 18
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.18849
Longitude: -118.3964
APN: NONE SPECIFIED
Past Use: VEHICLE MAINTENANCE
Potential COC: Chrysene Dibenz[ah]anthracene * phenanthrene Anthracene Benzo[k]fluoranthene Fluoranthene Indeno[1,2,3-cd]pyrene * benzo (ghi) perylene Benzo[b]fluoranthene Benzo[a]pyrene Pyrene Benz[a]anthracene
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: EAST VALLEY MIDDLE SCHOOL #1
Alias Type: Alternate Name
Alias Name: EAST VALLEY MIDDLE SCHOOL #1 (PROPOSED)
Alias Type: Alternate Name
Alias Name: LAUSD-E VALLEY MS # 1
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 110033606220
Alias Type: EPA (FRS #)
Alias Name: 304332
Alias Type: Project Code (Site Code)
Alias Name: 19750089
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 01/15/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/26/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 09/23/2003
Comments: Not reported

EAST VALLEY MIDDLE SCHOOL NO. 1 (Continued) **S107736257**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * CEQA
Completed Date: 10/04/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 11/18/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/10/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 01/15/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/12/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 05/31/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 12/19/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 06/30/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported

EAST VALLEY MIDDLE SCHOOL NO. 1 (Continued) **S107736257**

Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S87 **EAST VALLEY AREA NEW HIGH SCHOOL NO. 1B** **CA ENVIROSTOR** **S106387259**
West **VINELAND AVENUE/CUMPSTON STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA 91601**
0.350 mi.
1848 ft. **Site 3 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19000011
Status:	Certified
Status Date:	09/24/2008
Site Code:	304295
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	6.4
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Ivy Osornio
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	18
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.16868
Longitude:	-118.3704
APN:	2350-013-901, 2350-013-902
Past Use:	VEHICLE MAINTENANCE
Potential COC:	Lead
Confirmed COC:	Lead
Potential Description:	SOIL, SV
Alias Name:	EAST VALLEY AREA NEW HIGH SCHOOL #1B
Alias Type:	Alternate Name
Alias Name:	East Valley HS
Alias Type:	Alternate Name
Alias Name:	LAUSD-EAST VALLEY NEW HS #1B
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	2350-013-901
Alias Type:	APN
Alias Name:	2350-013-902
Alias Type:	APN
Alias Name:	110033606211
Alias Type:	EPA (FRS #)
Alias Name:	304295
Alias Type:	Project Code (Site Code)
Alias Name:	19000011
Alias Type:	Envirostor ID Number

EAST VALLEY AREA NEW HIGH SCHOOL NO. 1B (Continued) **S106387259**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	07/10/2007
Comments:	DTSC filed Notice of Exemption Pursuant to California Environmental Quality Act.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/29/2002
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/21/2001
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Tech Memo
Completed Date:	01/10/2007
Comments:	DTSC concurred with the sampling plan proposed in the SSI TM

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	05/15/2007
Comments:	FA required for lead

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	07/10/2007
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fact Sheets
Completed Date:	06/13/2007
Comments:	Fact sheet approved

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	02/11/2008
Comments:	DTSC determined that No Further Action is necessary based on the Removal Action Completion Report.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	07/28/2008
Comments:	DTSC approved the construction response report

EAST VALLEY AREA NEW HIGH SCHOOL NO. 1B (Continued) **S106387259**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 11/25/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 01/22/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/10/2008
Comments: DTSC certified the EVHS 1B project

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 09/18/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/10/2008
Comments: DTSC prepared Cost Recovery Unit close out Memorandum

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S88 **MARSHALL NEW PRIMARY CENTER NO. 1** **CA ENVIROSTOR** **S112057176**
West **LEXINGTON AVE/WESTMORELAND AVE/LYMAN PLACE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90029**
0.350 mi.
1848 ft. **Site 4 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:
Facility ID: 19650016
Status: No Further Action
Status Date: 11/25/2002
Site Code: 304294
Site Type: School Investigation

MARSHALL NEW PRIMARY CENTER NO. 1 (Continued) **S112057176**

Site Type Detailed: School
Acres: 2.05
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 53
Senate: 30
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.05227
Longitude: -118.2527
APN: NONE SPECIFIED
Past Use: RESIDENTIAL AREA
Potential COC: NONE SPECIFIED No Contaminants found
Confirmed COC: NONE SPECIFIED
Potential Description: NMA
Alias Name: LAUSD-MARSHAL NEW PC#1
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: MARSHALL NEW PRIMARY CENTER #1
Alias Type: Alternate Name
Alias Name: 304294
Alias Type: Project Code (Site Code)
Alias Name: 19650016
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/29/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 06/18/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 06/18/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 11/25/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE

MARSHALL NEW PRIMARY CENTER NO. 1 (Continued) **S112057176**

Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/10/2000
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S89 **CAHUENGA NEW ELEMENTARY SCHOOL NO. 1** **CA ENVIROSTOR** **S105628542**
West **WESTERN AVENUE/OXFORD AVENUE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90004**
0.350 mi.
1848 ft. **Site 5 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19730195
Status:	No Further Action
Status Date:	02/26/2004
Site Code:	304276
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	2.64
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05227
Longitude:	-118.2527
APN:	NONE SPECIFIED
Past Use:	* BUSINESS SERVICES
Potential COC:	Chloromethane (methyl chloride Carbon disulfide Benzene 1,2,4-Trimethylbenzene Toluene Acetone Molybdenum Tetrachloroethylene (PCE 1,3,5-Trimethylbenzene 1,4-Dichlorobenzene Xylenes 1,2-Dibromo-3-chloropropane (DBCP Methylene chloride Dichlorodifluoromethane Chloroform Ethylbenzene
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL, SV, SURFW
Alias Name:	CAHUENGA NEW ELEMENTARY SCHOOL #1
Alias Type:	Alternate Name
Alias Name:	CAHUENGA NEW ELEMENTARY SCHOOL NO. 1
Alias Type:	Alternate Name
Alias Name:	LAUSD-CAHUENGA ES # 1
Alias Type:	Alternate Name

CAHUENGA NEW ELEMENTARY SCHOOL NO. 1 (Continued) **S105628542**

Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 304276
Alias Type: Project Code (Site Code)
Alias Name: 19730195
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/26/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/20/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 04/19/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 12/05/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 05/14/2001
Comments: PEA Workplan implemented without DTSC approval.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S90 **FREMONT NEW PRIMARY CENTER NO. 2** **CA ENVIROSTOR** **S105628627**
West **MENLO AVENUE/BARING CROSS STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA 90044**
0.350 mi.
1848 ft. **Site 6 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19880023
Status:	No Further Action
Status Date:	10/10/2003
Site Code:	304298
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	2
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05227
Longitude:	-118.2527
APN:	NONE SPECIFIED
Past Use:	RESIDENTIAL AREA
Potential COC:	Chromium VI Nickel
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	FREMONT NEW PRIMARY CENTER #2
Alias Type:	Alternate Name
Alias Name:	FREMONT NEW PRIMARY CENTER #2 (PROP)
Alias Type:	Alternate Name
Alias Name:	FREMONT NEW PRIMARY CENTER NO. 2
Alias Type:	Alternate Name
Alias Name:	LAUSD-FREMONT NEW PC # 2
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	304298
Alias Type:	Project Code (Site Code)
Alias Name:	19880023
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	10/10/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Public Participation
Completed Date:	01/31/2002
Comments:	Not reported

FREMONT NEW PRIMARY CENTER NO. 2 (Continued) **S105628627**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	01/31/2002
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	06/18/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	09/11/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/10/2000
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S91 **WILSON NEW ELEMENTARY SCHOOL NO. 1** **CA ENVIROSTOR** **S105628636**
West **HUNTINGTON DR/LIFUR AVENUE/OAKLAND STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA 90032**
0.350 mi.
1848 ft. **Site 7 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19880033
Status:	No Further Action
Status Date:	10/16/2003
Site Code:	304315
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	4.76
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO

WILSON NEW ELEMENTARY SCHOOL NO. 1 (Continued) **S105628636**

Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.05227
Longitude: -118.2527
APN: NONE SPECIFIED
Past Use: RESIDENTIAL AREA
Potential COC: Benzene TPH-diesel
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL, SURFW
Alias Name: LAUSD-WILSON NEW ES # 1
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: WILSON NEW ELEMENTARY SCHOOL #1
Alias Type: Alternate Name
Alias Name: WILSON NEW ELEMENTARY SCHOOL #1 (PROP)
Alias Type: Alternate Name
Alias Name: WILSON NEW ELEMENTARY SCHOOL NO. 1
Alias Type: Alternate Name
Alias Name: 304315
Alias Type: Project Code (Site Code)
Alias Name: 19880033
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/16/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/29/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 07/11/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 08/13/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 07/14/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement

WILSON NEW ELEMENTARY SCHOOL NO. 1 (Continued) **S105628636**

Completed Date:	02/10/2000
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S92 **BELMONT NEW PRIMARY CENTER NO. 12** **CA ENVIROSTOR** **S107735904**
West **LAKE STREET/ROSELAKE AVENUE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90026**
0.350 mi.
1848 ft. **Site 8 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19880022
Status:	No Further Action
Status Date:	10/10/2003
Site Code:	304310
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	2
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05227
Longitude:	-118.2527
APN:	NONE SPECIFIED
Past Use:	RESIDENTIAL AREA
Potential COC:	Asbestos Containing Materials (ACM Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	BELMONT NEW PRIMARY CENTER #12
Alias Type:	Alternate Name
Alias Name:	BELOMOT NEW PRIMARY CENTER #12
Alias Type:	Alternate Name
Alias Name:	BELOMOT NEW PRIMARY CENTER NO. 12
Alias Type:	Alternate Name
Alias Name:	LAUSD-BELMONT PC # 12
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	304310
Alias Type:	Project Code (Site Code)

BELMONT NEW PRIMARY CENTER NO. 12 (Continued) **S107735904**

Alias Name: 19880022
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/10/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 12/11/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 07/10/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 09/30/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.14 Request
Completed Date: 08/05/2003
Comments: 4.14 request received post PEA and pre-SSI.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S93 **JEFFERSON NEW ELEMENTARY SCHOOL NO. 7** **CA ENVIROSTOR** **S107736506**
West **WADWORTH AVENUE/52ND PLACE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90011**
0.350 mi.
1848 ft. **Site 9 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19880016
Status:	Certified
Status Date:	12/13/2003
Site Code:	304288
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	2.85
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	33.99489
Longitude:	-118.2589
APN:	NONE SPECIFIED
Past Use:	RESIDENTIAL AREA
Potential COC:	Lead
Confirmed COC:	Lead
Potential Description:	SOIL
Alias Name:	JEFFERSON NEW ELEMENTARY SCHOOL NO. 7
Alias Type:	Alternate Name
Alias Name:	LAUSD-JEFFERSON NEW ES # 7
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	110033606685
Alias Type:	EPA (FRS #)
Alias Name:	304288
Alias Type:	Project Code (Site Code)
Alias Name:	19880016
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	12/09/2003
Comments:	DTSC has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary and certified the site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	12/17/2003

JEFFERSON NEW ELEMENTARY SCHOOL NO. 7 (Continued) **S107736506**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 10/15/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * CEQA
Completed Date: 10/08/2003
Comments: CEQA approved for the Removal Action. Notice of Exemption filed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/15/2002
Comments: DTSC issued a Preliminary Endangerment Assessment determination, requiring further action at the proposed school site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 12/08/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/14/2003
Comments: RAW approved, no public comment period due to small volume and low interest.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 07/09/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 12/17/2003
Comments: DTSC approved the Supplemental Site Investigation (SSI) and determined neither an actual or a potential release of hazardous material, nor the presence of naturally occurring hazardous material indicated at the site pose a threat to human health or the environment under any land use. Therefore, DTSC concurred that no further environmental investigation or cleanup was required at this site, and approved the SSI. Cert site, Cert RA-RAC apprvd.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: LAUSD MASTER OVERSIGHT AGREEMENT (DOCKET NO. HSA-A 99/00-051)

JEFFERSON NEW ELEMENTARY SCHOOL NO. 7 (Continued) **S107736506**

EXECUTED ON 2/10/00. As part of the Master Oversight Agreement between DTSC and the Los Angeles Unified School District (LAUSD), DTSC will provide oversight for a Preliminary Endangerment Assessment (PEA) for the proposed Jefferson New Elementary School No. 27 site.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S94 **VINE NEW PRIMARY CENTER** **CA ENVIROSTOR** **S105628533**
West **LA MIRADA AVE/CAHUENGA BLVD/LEXINGTON AVE/COLE AVE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90038**
0.350 mi.
1848 ft. **Site 10 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19650022
Status:	Inactive - Action Required
Status Date:	03/20/2003
Site Code:	304212
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	0
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05227
Longitude:	-118.2527
APN:	NONE SPECIFIED
Past Use:	* UNKNOWN
Potential COC:	Lead Polychlorinated biphenyls (PCBs
Confirmed COC:	Polychlorinated biphenyls (PCBs Lead
Potential Description:	SOIL
Alias Name:	LA USD-VINE NEW PC
Alias Type:	Alternate Name
Alias Name:	LAUSD-VINE NEW PRIMARY CENTER
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	VINE NEW PRIMARY CENTER
Alias Type:	Alternate Name
Alias Name:	304023
Alias Type:	Project Code (Site Code)

VINE NEW PRIMARY CENTER (Continued) **S105628533**

Alias Name: 304212
Alias Type: Project Code (Site Code)
Alias Name: 19650022
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 03/20/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 02/04/2000
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 10/06/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S95 **SANTA MONICA NEW PRIMARY CENTER** **CA ENVIROSTOR** **S105628638**
West **SANTA MONICA BLVD/GORDON ST/LEXINGTON AVE** **N/A**
1/4-1/2 **LOS ANGELES, CA 90038**
0.350 mi.
1848 ft. **Site 11 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:
Facility ID: 19880035
Status: No Further Action
Status Date: 04/15/2004
Site Code: 304317
Site Type: School Investigation
Site Type Detailed: School
Acres: 1.83
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported

SANTA MONICA NEW PRIMARY CENTER (Continued) **S105628638**

Supervisor: Yolanda Garza
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 53
Senate: 30
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.05227
Longitude: -118.2527
APN: NONE SPECIFIED
Past Use: RESIDENTIAL AREA
Potential COC: Lead Formaldehyde
Confirmed COC: 30295-NO 30013-NO
Potential Description: SOIL
Alias Name: LAUSD-SANTA MONICA NEW PC
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: SANTA MONICA NEW PRIMARY CENTER
Alias Type: Alternate Name
Alias Name: 304317
Alias Type: Project Code (Site Code)
Alias Name: 19880035
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 04/15/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/29/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 07/11/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 01/13/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 03/23/2012
Comments: 2nd Collection Letter sent for Inv. 03SM1854.

Completed Area Name: PROJECT WIDE

SANTA MONICA NEW PRIMARY CENTER (Continued) **S105628638**

Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 02/16/2012
Comments: First Collection Letter 03SM1854

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 02/10/2000
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

S96 **CENTRAL LOS ANGELES MIDDLE SCHOOL NO. 4** **CA ENVIROSTOR** **S105628499**
West **BROADWAY/GRAND AVE/35TH & 37TH STREET** **N/A**
1/4-1/2 **LOS ANGELES, CA 90007**
0.350 mi.
1848 ft. **Site 12 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:
Facility ID: 19390058
Status: Certified
Status Date: 07/27/2006
Site Code: 304312
Site Type: School Cleanup
Site Type Detailed: School
Acres: 8
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 53
Senate: 30
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: School District
Latitude: 34.01783
Longitude: -118.2759
APN: 5122-029-003, 5122-029-004, 5122-029-011, 5122-033-001, 5122-033-009, 5122-033-015, 5122-033-017, 5122-034-011, 5122-034-012, 5122-034-013, 5122-034-014, 5122-034-015, 5122-034-016, 5122-034-017, 5122-034-018
Past Use: MANUFACTURING - OTHER, NONE
Potential COC: Lead Arsenic Lead
Confirmed COC: Arsenic Lead
Potential Description: SOIL, SOIL
Alias Name: CENTRAL LOS ANGELES MIDDLE SCHOOL NO. 4
Alias Type: Alternate Name

CENTRAL LOS ANGELES MIDDLE SCHOOL NO. 4 (Continued) **S105628499**

Alias Name: LAUSD-CENTRAL LA MS # 4
Alias Type: Alternate Name
Alias Name: LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type: Alternate Name
Alias Name: 5122-029-003
Alias Type: APN
Alias Name: 5122-029-004
Alias Type: APN
Alias Name: 5122-029-011
Alias Type: APN
Alias Name: 5122-033-001
Alias Type: APN
Alias Name: 5122-033-009
Alias Type: APN
Alias Name: 5122-033-015
Alias Type: APN
Alias Name: 5122-033-017
Alias Type: APN
Alias Name: 5122-034-011
Alias Type: APN
Alias Name: 5122-034-012
Alias Type: APN
Alias Name: 5122-034-013
Alias Type: APN
Alias Name: 5122-034-014
Alias Type: APN
Alias Name: 5122-034-015
Alias Type: APN
Alias Name: 5122-034-016
Alias Type: APN
Alias Name: 5122-034-017
Alias Type: APN
Alias Name: 5122-034-018
Alias Type: APN
Alias Name: 110033619378
Alias Type: EPA (FRS #)
Alias Name: 304312
Alias Type: Project Code (Site Code)
Alias Name: 19390058
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 07/27/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/16/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 02/26/2004

CENTRAL LOS ANGELES MIDDLE SCHOOL NO. 4 (Continued) **S105628499**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 07/16/2007
Comments: CRU Memo

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/11/2002
Comments: DTSC issued a Preliminary Endangerment Assessment determination, requiring further action at the proposed school site. Further Action for Lead and Asbestos only.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 05/30/2002
Comments: DTSC approved the Supplemental Site Investigation and determined that remediation is required at the proposed school site. Lead and Asbestos only for older structures that may contain lead based paint.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 10/02/2003
Comments: Addendum for LBP. Approved SSI for NFA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Workplan
Completed Date: 02/08/2006
Comments: DTSC provided comments to FSI TM on 1/27/2006. Revised FSI TM received on 2/2/2006. DTSC conditionally approved FSI TM.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 11/03/2005
Comments: Areas A & B sampled for potential fill material. No Further Action determination for Areas A & B only.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 03/17/2006
Comments: DTSC concurs with Supplemental Site Investigation that further action is required for lead and arsenic.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 06/05/2006
Comments: No written or verbal comments received during 30-day public comment period. DTSC approves RAW for implementation.

CENTRAL LOS ANGELES MIDDLE SCHOOL NO. 4 (Continued) **S105628499**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Supplemental Site Investigation Report
Completed Date:	04/10/2006
Comments:	FSI Report approved for further action, for arsenic and lead.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	07/05/2006
Comments:	DTSC approves the RACR. 377.5 tons of arsenic and lead contaminated soil was excavated and transported offsite for disposal at Clean Harbors Environmental Services, Inc. in Buttonwillow, CA. Confirmation samples show all contamination has been removed.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	06/22/2001
Comments:	RP provided report for background information (see RP - Final).

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/10/2000
Comments:	LAUSD MASTER OVERSIGHT AGREEMENT (DOCKET NO. HSA-A 99/00-051) EXECUTED ON 2/10/00. As part of the Master Oversight Agreement between DTSC and the Los Angeles Unified School District (LAUSD), DTSC will provide oversight for a Preliminary Endangerment Assessment (PEA) for the proposed Central Los Angeles Middle School #4 site.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	06/05/2006
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	06/12/2006
Comments:	Implementation of RAW began on 6/8/2006 and completed on 6/12/2006.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

S97 **EAST LOS ANGELES HIGH SCHOOL NO. 1** **CA ENVIROSTOR** **S107736248**
West **BELVEDERE PARK/CESAR CHAVEZ AVE/MEDNIK AVE/1ST ST** **N/A**
1/4-1/2 **LOS ANGELES, CA 90022**
0.350 mi.
1848 ft. **Site 13 of 13 in cluster S**

Relative:
Higher

Actual:
400 ft.

ENVIROSTOR:

Facility ID:	19820069
Status:	Inactive - Needs Evaluation
Status Date:	03/17/2003
Site Code:	304320
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	16.35
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	24
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.04039
Longitude:	-118.1606
APN:	NONE SPECIFIED
Past Use:	* EDUCATIONAL SERVICES
Potential COC:	Pyrene * phenanthrene * benzo (ghi) perylene Lead DDE Anthracene Copper and compounds Thallium and compounds Benzene Mercury (elemental Toluene Xylenes Dichlorodifluoromethane Ethylbenzene Zinc Molybdenum Beryllium and compounds Dieldrin Chlordane Fluoranthene
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	EAST LOS ANGELES HIGH SCHOOL #1
Alias Type:	Alternate Name
Alias Name:	LAUSD-EAST LA HS # 1
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT
Alias Type:	Alternate Name
Alias Name:	110033618681
Alias Type:	EPA (FRS #)
Alias Name:	304320
Alias Type:	Project Code (Site Code)
Alias Name:	19820069
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	03/17/2003
Comments:	LAUSD has indicated that there will be no more investigation at this time, while they look for another site location.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report

EAST LOS ANGELES HIGH SCHOOL NO. 1 (Continued) **S107736248**

Completed Date:	02/21/2002
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/10/2000
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

T98 **MOBIL #18-HDH** **CA LUST** **S104406273**
East **520 ALAMEDA ST N** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.380 mi.
2007 ft. **Site 1 of 2 in cluster T**

Relative:
Lower

Actual:
277 ft.

LUST:

Region:	STATE
Global Id:	T0603700519
Latitude:	34.052861
Longitude:	-118.2379686
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/18/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120243
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700519
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported
Global Id:	T0603700519
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA

MOBIL #18-HDH (Continued) **S104406273**

Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700519
Status: Completed - Case Closed
Status Date: 07/18/1996

Global Id: T0603700519
Status: Open - Case Begin Date
Status Date: 10/22/1986

Global Id: T0603700519
Status: Open - Site Assessment
Status Date: 11/28/1988

Regulatory Activities:
Global Id: T0603700519
Action Type: Other
Date: 10/22/1986
Action: Leak Discovery

Global Id: T0603700519
Action Type: Other
Date: 10/28/1986
Action: Leak Reported

Global Id: T0603700519
Action Type: Other
Date: 10/22/1986
Action: Leak Stopped

Region: STATE
Global Id: T0603700520
Latitude: 34.052861
Longitude: -118.2379686
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 09/30/2005
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: CET
Local Agency: LOS ANGELES, CITY OF
RB Case Number: 900120243A
LOC Case Number: Not reported
File Location: Regional Board
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603700520

MOBIL #18-HDH (Continued) **S104406273**

Contact Type: Regional Board Caseworker
Contact Name: CHANDRA TYLER
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: Not reported
City: R4 UNKNOWN
Email: cetyler@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603700520
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603700520
Status: Completed - Case Closed
Status Date: 09/30/2005

Global Id: T0603700520
Status: Open - Case Begin Date
Status Date: 06/24/1999

Global Id: T0603700520
Status: Open - Site Assessment
Status Date: 06/24/1999

Global Id: T0603700520
Status: Open - Site Assessment
Status Date: 01/07/2004

Global Id: T0603700520
Status: Open - Site Assessment
Status Date: 01/12/2004

Regulatory Activities:
Global Id: T0603700520
Action Type: Other
Date: 06/24/1999
Action: Leak Discovery

Global Id: T0603700520
Action Type: Other
Date: 07/07/1999
Action: Leak Reported

Global Id: T0603700520
Action Type: ENFORCEMENT
Date: 10/08/2003
Action: Staff Letter

Global Id: T0603700520
Action Type: RESPONSE

MOBIL #18-HDH (Continued) **S104406273**

Date: 04/15/2005
Action: Monitoring Report - Quarterly

Global Id: T0603700520
Action Type: RESPONSE
Date: 01/15/2005
Action: Monitoring Report - Quarterly

Global Id: T0603700520
Action Type: RESPONSE
Date: 07/15/2005
Action: Monitoring Report - Quarterly

Global Id: T0603700520
Action Type: REMEDIATION
Date: 07/14/2003
Action: Excavation

Global Id: T0603700520
Action Type: ENFORCEMENT
Date: 09/30/2005
Action: Site Visit / Inspection / Sampling

Global Id: T0603700520
Action Type: RESPONSE
Date: 01/12/2004
Action: Soil and Water Investigation Workplan

Global Id: T0603700520
Action Type: ENFORCEMENT
Date: 09/30/2005
Action: Closure/No Further Action Letter

Global Id: T0603700520
Action Type: RESPONSE
Date: 11/10/2003
Action: Other Report / Document

Global Id: T0603700520
Action Type: RESPONSE
Date: 10/22/2004
Action: Well Installation Report

Global Id: T0603700520
Action Type: RESPONSE
Date: 04/15/2004
Action: Monitoring Report - Quarterly

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900120243
Status: Case Closed
Substance: Waste Oil
Substance Quantity: Not reported

MOBIL #18-HDH (Continued) **S104406273**

Local Case No:	Not reported		
Case Type:	Groundwater		
Abatement Method Used at the Site:		Not reported	
Global ID:	T0603700519		
W Global ID:	W0605100649		
Staff:	UNK		
Local Agency:	19050		
Cross Street:	COMMERCIAL		
Enforcement Type:	Not reported		
Date Leak Discovered:	10/22/1986		
Date Leak First Reported:		10/28/1986	
Date Leak Record Entered:	12/31/1986		
Date Confirmation Began:	Not reported		
Date Leak Stopped:	10/22/1986		
Date Case Last Changed on Database:		Not reported	
Date the Case was Closed:		7/18/1996	
How Leak Discovered:	Tank Test		
How Leak Stopped:	Not reported		
Cause of Leak:	UNK		
Leak Source:	Tank		
Operator:	KAKU, R. OLD CASE #000747		
Water System:	DAVE GRIFFITH L A D W P		
Well Name:	Not reported		
Approx. Dist To Production Well (ft):		3121.377804802281952034429 3656	
Source of Cleanup Funding:		Tank	
Preliminary Site Assessment Workplan Submitted:		Not reported	
Preliminary Site Assessment Began:		Not reported	
Pollution Characterization Began:		11/28/1988	
Remediation Plan Submitted:		Not reported	
Remedial Action Underway:		Not reported	
Post Remedial Action Monitoring Began:		Not reported	
Enforcement Action Date:		Not reported	
Historical Max MTBE Date:		Not reported	
Hist Max MTBE Conc in Groundwater:		Not reported	
Hist Max MTBE Conc in Soil:		Not reported	
Significant Interim Remedial Action Taken:		Not reported	
GW Qualifier:	Not reported		
Soil Qualifier:	Not reported		
Organization:	Not reported		
Owner Contact:	Not reported		
Responsible Party:	MOBIL OIL CORPORATION		
RP Address:	3225 GALLOW RD, RM #6W319, FAIRFAX, VA 22037-0001		
Program:	LUST		
Lat/Long:	34.0527699 / -1		
Local Agency Staff:	PEJ		
Beneficial Use:	Not reported		
Priority:	Not reported		
Cleanup Fund Id:	Not reported		
Suspended:	Not reported		
Assigned Name:	2600649-001GEN		
Summary:	B11B FILE ALSO CLOSED BY DAB'S GROUP		23JULY96

T99 **MOBIL #18-HDH** **CA LUST** **S104406274**
East **520 ALAMEDA ST N** **N/A**
1/4-1/2 **LOS ANGELES, CA 90012**
0.380 mi.
2007 ft. **Site 2 of 2 in cluster T**

Relative:
Lower

Actual:
277 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900120243A	
Status:	Pollution Characterization	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		OT
Global ID:	T0603700520	
W Global ID:	W0605100649	
Staff:	CEC	
Local Agency:	19050	
Cross Street:	ALAMEDA/COMMERCIAL	
Enforcement Type:	SEL	
Date Leak Discovered:	6/24/1999	
Date Leak First Reported:		7/7/1999
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		7/30/1999
Date the Case was Closed:		Not reported
How Leak Discovered:	OM	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Other Source	
Operator:	Not reported	
Water System:	DAVE GRIFFITH L A D W P	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		3121.377804802281952034429 3656
Source of Cleanup Funding:		Other Source
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		1/7/2004
Pollution Characterization Began:		1/12/2004
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		5/10/2003
Hist Max MTBE Conc in Groundwater:		16.9
Hist Max MTBE Conc in Soil:		1.2
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	=	
Soil Qualifier:	=	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	PATRICK TOELKES	
RP Address:	3700 W. 190TH ST. TPT2	
Program:	LUST	
Lat/Long:	34.0527699 / -1	
Local Agency Staff:	Not reported	

MOBIL #18-HDH (Continued) **S104406274**

Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600649-001GEN
Summary:	SPILL BOX/PROBE FAILED. BOTH PROBLEMS HAVE BEEN CORRECTED.

---

100 WSW 1/4-1/2 0.381 mi. 2011 ft. **PACIFIC BELL TELEPHONE** **CA LUST** **1000250339**
420 S GRAND AVE **CAT080022809**
LOS ANGELES, CA 90017

Relative: Higher

Actual: 332 ft.

LUST:

Region:	STATE
Global Id:	T0603701232
Latitude:	34.052092
Longitude:	-118.2521652
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	03/13/1997
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900710016
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701232
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701232
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603701232
Status:	Completed - Case Closed
Status Date:	03/13/1997

Global Id:	T0603701232

PACIFIC BELL TELEPHONE (Continued) **1000250339**

Status: Open - Case Begin Date
Status Date: 12/10/1990

Global Id: T0603701232
Status: Open - Site Assessment
Status Date: 12/10/1990

Global Id: T0603701232
Status: Open - Site Assessment
Status Date: 10/25/1996

Regulatory Activities:
Global Id: T0603701232
Action Type: Other
Date: 12/10/1990
Action: Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900710016	
Status:	Case Closed	
Substance:	Diesel	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603701232	
W Global ID:	W0605100582	
Staff:	UNK	
Local Agency:	19050	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		12/10/1990
Date Leak Record Entered:	1/23/1991	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		2/28/1997
Date the Case was Closed:		3/13/1997
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	OLD CASE #012391-03	
Water System:	YMCA CAMP OF LOS ANGELES 2	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1769.4992621950073388176431721
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		12/10/1990
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		10/25/1996
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported

PACIFIC BELL TELEPHONE (Continued) **1000250339**

Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	PACIFIC BELL
RP Address:	100 N STONEMAN, RM #120, ALHAMBRA CA 91801
Program:	LUST
Lat/Long:	34.051262 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600582-001GEN
Summary:	PACIFIC BELL LOS ANGELES COMPLEX LOCATED AT 420/434 S GRAND AND 433 S OLIVE ARE ALL THE SAME FACILITY. BLDG TAKES UP THEBLOCK BETWEEN GRAND AND OLIVE.

---

101 ESE
1/4-1/2
0.386 mi.
2038 ft.

NORTHERN TRANSPORTATION CO. **CA ENVIROSTOR** **S107736917**
N/A

LOS ANGELES, CA

Relative: Lower

Actual: 272 ft.

ENVIROSTOR:

Facility ID:	80001119
Status:	Inactive - Needs Evaluation
Status Date:	07/01/2005
Site Code:	Not reported
Site Type:	Military Evaluation
Site Type Detailed:	FUDS
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Douglas Bautista
Division Branch:	Cleanup Cypress
Assembly:	53
Senate:	24
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	DERA
Latitude:	34.05
Longitude:	-118.2388
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CA99799FA44800

NORTHERN TRANSPORTATION CO. (Continued) **S107736917**

Alias Type:	Federal Facility ID
Alias Name:	J09CA7421
Alias Type:	INPR
Alias Name:	80001119
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Inventory Project Report (INPR)
Completed Date:	05/24/1999
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

102
ESE
1/4-1/2
0.395 mi.
2086 ft.

VETERANS AFFAIRS OUTPATIENT CL **CA LUST** **S102590721**
351 TEMPLE ST E **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
272 ft.

LUST:

Region:	STATE
Global Id:	T0603700522
Latitude:	34.052593
Longitude:	-118.238661
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/30/1997
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AS
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120261
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700522
Contact Type:	Regional Board Caseworker
Contact Name:	ADNAN SIDDIQUI
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	LOS ANGELES
Email:	asiddiqui@waterboards.ca.gov
Phone Number:	Not reported

VETERANS AFFAIRS OUTPATIENT CL (Continued) **S102590721**

Global Id:	T0603700522
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700522
Status:	Completed - Case Closed
Status Date:	07/30/1997

Global Id:	T0603700522
Status:	Open - Case Begin Date
Status Date:	06/22/1984

Global Id:	T0603700522
Status:	Open - Site Assessment
Status Date:	03/03/1989

Regulatory Activities:

Global Id:	T0603700522
Action Type:	Other
Date:	06/22/1984
Action:	Leak Discovery

Global Id:	T0603700522
Action Type:	Other
Date:	07/01/1985
Action:	Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900120261	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603700522	
W Global ID:	W0605100649	
Staff:	AS	
Local Agency:	19050	
Cross Street:	ALAMEDA ST	
Enforcement Type:	Not reported	
Date Leak Discovered:	6/22/1984	
Date Leak First Reported:		7/1/1985
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	

VETERANS AFFAIRS OUTPATIENT CL (Continued) **S102590721**

Date Case Last Changed on Database:	7/17/1997
Date the Case was Closed:	7/30/1997
How Leak Discovered:	Subsurface Monitoring
How Leak Stopped:	Not reported
Cause of Leak:	UNK
Leak Source:	UNK
Operator:	OLD CASE #030389-03
Water System:	DAVE GRIFFITH L A D W P
Well Name:	Not reported
Approx. Dist To Production Well (ft):	3324.3629614242763923333342148
Source of Cleanup Funding:	UNK
Preliminary Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	3/3/1989
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	VETERANS AFFAIRS OUTPATIENT CL
RP Address:	351 TEMPLE ST E, LOS ANGELES 90012
Program:	LUST
Lat/Long:	34.0518249 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600649-001GEN
Summary:	SUBSURFACE INVESTIGATION DONE TO DETERMINE LOCATION OF POSSIBLE FORMER GAS UGT. SOIL AND GROUNDWATER CONTAMINATION WAS FOUND. NEW CONSTRUCTION HAS PROBABLY CHANGED THIS AREA CONSIDERABLY. ONLY RPT DATED 7-1-85.

U103 **MOBIL #18-GP2 FORMER #11-GP** **CA RGA LUST** **S114653239**
SSW **747 INDIAN HILL BLVD** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.395 mi.
2086 ft. **Site 1 of 2 in cluster U**

Relative:
Lower

RGA LUST:

2004 MOBIL #18-GP2 FORMER #11-GP 747 INDIAN HILL BLVD

Actual:
262 ft.

U104
SSW
1/4-1/2
0.395 mi.
2086 ft.

UNOCAL #4782
797 INDIAN HILL BLVD
LOS ANGELES, CA

Site 2 of 2 in cluster U

CA RGA LUST **S114711261**
N/A

Relative:
Lower

Actual:
262 ft.

RGA LUST:

2004	UNOCAL #4782	797 INDIAN HILL BLVD	

105
WSW
1/4-1/2
0.427 mi.
2257 ft.

SOUTHERN CA GAS CENTER
501 005TH ST W
LOS ANGELES, CA 90013

CA LUST **S102437788**
N/A

Relative:
Lower

Actual:
294 ft.

LUST:

Region:	STATE
Global Id:	T0603700542
Latitude:	34.0495171
Longitude:	-118.2527224
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	06/06/2001
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	AT
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900130052
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700542
Contact Type:	Regional Board Caseworker
Contact Name:	ARMAN TOUMARI
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 WEST 4TH STREET, SUITE 200
City:	LOS ANGELES
Email:	atoumari@waterboards.ca.gov
Phone Number:	2135766708

Global Id:	T0603700542
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700542
Status:	Completed - Case Closed
Status Date:	06/06/2001

Global Id:	T0603700542

SOUTHERN CA GAS CENTER (Continued) **S102437788**

Status: Open - Case Begin Date
Status Date: 01/17/1989

Global Id: T0603700542
Status: Open - Site Assessment
Status Date: 03/01/1989

Regulatory Activities:
Global Id: T0603700542
Action Type: Other
Date: 01/17/1989
Action: Leak Discovery

Global Id: T0603700542
Action Type: Other
Date: 02/17/1989
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900130052
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Not reported
Global ID: T0603700542
W Global ID: W0605100582
Staff: AT
Local Agency: 19050
Cross Street: OLIVE & GRAND
Enforcement Type: Not reported
Date Leak Discovered: 1/17/1989
Date Leak First Reported: 2/17/1989
Date Leak Record Entered: Not reported
Date Confirmation Began: Not reported
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 4/17/1990
Date the Case was Closed: 6/6/2001
How Leak Discovered: Subsurface Monitoring
How Leak Stopped: Not reported
Cause of Leak: UNK
Leak Source: Tank
Operator: ADDRESSES 501 THROUGH 503
Water System: YMCA CAMP OF LOS ANGELES 2
Well Name: Not reported
Approx. Dist To Production Well (ft): 1272.799432139382739732846852 9
Source of Cleanup Funding: Tank
Preliminary Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: 3/1/1989
Remediation Plan Submitted: Not reported

SOUTHERN CA GAS CENTER (Continued) **S102437788**

Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	1/1/1965
Hist Max MTBE Conc in Groundwater:	2
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Yes
GW Qualifier:	<
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	MIKE HENEFENT
RP Address:	555 W. 5TH ST., SUITE #700
Program:	LUST
Lat/Long:	34.0495171 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	LOP/MODERATE - POTENTIAL WATER IMPACT
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600582-001GEN
Summary:	NEED TO VISIT LA CO ASSESSOR FOR CURRENT OWNER,INFO LTR 3/12/97; 12/23/98 - CASE REVIEW

---

106 **A & A TOWING CO** **CA RGA LUST** **S114567521**
East **415 COMMERCIAL ST E** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.436 mi.
2303 ft.

Relative: RGA LUST:
Lower

2004	A & A TOWING CO	415 COMMERCIAL ST E	

Actual:
280 ft.

V107 **LIBRARY SQUARE CONSTRUCTION** **CA LUST** **S104406319**
WSW **633 5TH ST W** **N/A**
1/4-1/2 **LOS ANGELES, CA 90071**
0.458 mi.
2418 ft. **Site 1 of 3 in cluster V**

Relative: LUST:
Higher

Region:	STATE
Global Id:	T0603701235
Actual: Latitude:	34.0529799
332 ft. Longitude:	-118.2565505
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	06/11/2002
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	EL
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900710043
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

LIBRARY SQUARE CONSTRUCTION (Continued) **S104406319**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701235
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701235
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603701235
Status:	Completed - Case Closed
Status Date:	06/11/2002

Global Id:	T0603701235
Status:	Open - Case Begin Date
Status Date:	07/31/1987

Global Id:	T0603701235
Status:	Open - Site Assessment
Status Date:	08/04/1987

Regulatory Activities:

Global Id:	T0603701235
Action Type:	Other
Date:	07/31/1987
Action:	Leak Discovery

Global Id:	T0603701235
Action Type:	Other
Date:	08/04/1987
Action:	Leak Reported

Global Id:	T0603701235
Action Type:	Other
Date:	08/04/1987
Action:	Leak Stopped

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles

LIBRARY SQUARE CONSTRUCTION (Continued) **S104406319**

Facility Id:	900710043	
Status:	Pollution Characterization	
Substance:	Waste Oil	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603701235	
W Global ID:	W0607701254	
Staff:	UNK	
Local Agency:	19050	
Cross Street:	4TH ST	
Enforcement Type:	Not reported	
Date Leak Discovered:	7/31/1987	
Date Leak First Reported:		8/4/1987
Date Leak Record Entered:	8/14/1987	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	8/4/1987	
Date Case Last Changed on Database:		3/3/2000
Date the Case was Closed:		Not reported
How Leak Discovered:	OM	
How Leak Stopped:	Not reported	
Cause of Leak:	Corrosion	
Leak Source:	Tank	
Operator:	TODD, WILLIAM	
Water System:	UNOCAL - JIM SCOTT	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1919.962413982882027542670463 4
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		8/4/1987
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	TURNER CONSTRUCTION	
RP Address:	445 S. FIGUEROA ST., LOS ANGELES, CA 90071	
Program:	LUST	
Lat/Long:	34.0529799 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	3901254-001GEN	
Summary:	OLD CASE #005057; 445 S. FIGUEROA ST. LOS ANGELES IS OFFICE ADDRESS FOR TURNER CONSTRUCTION WHO WAS THE GENERAL CONSTRUCTOR FOR LIBRARY SQUARE . (SEE INFORM. LTR PRIOR 3/3/00)	

V108 **LIBRARY SQUARE CONSTRUCTION** **CA RGA LUST** **S114643962**
WSW **633 5TH ST W** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.458 mi.
2418 ft. **Site 2 of 3 in cluster V**

Relative:
Higher

Actual:
332 ft.

RGA LUST:

2012	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2011	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2010	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2009	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2008	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2007	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2006	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2005	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2004	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2003	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2002	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2001	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W
2000	LIBRARY SQUARE CONSTRUCTION	633 5TH ST W

W109 **UNION STATION** **SEMS-ARCHIVE** **1003877943**
ENE **800 NORTH ALAMEDA STREET** **CAD983566571**
1/4-1/2 **LOS ANGELES, CA 90012**
0.461 mi.
2435 ft. **Site 1 of 2 in cluster W**

Relative:
Lower

Actual:
282 ft.

SEMS-ARCHIVE:

Site ID:	900013
EPA ID:	CAD983566571
Federal Facility:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

Following information was gathered from the prior CERCLIS update completed in 10/2013:

Site ID:	0900013
Federal Facility:	Not a Federal Facility
NPL Status:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:

Contact Sequence ID:	13289132.00000
Person ID:	13003854.00000
Contact Sequence ID:	13294727.00000
Person ID:	13003858.00000
Contact Sequence ID:	13300585.00000
Person ID:	13004003.00000

CERCLIS-NFRAP Assessment History:

Action:	DISCOVERY
Date Started:	/ /
Date Completed:	06/07/90
Priority Level:	Not reported
Action:	ARCHIVE SITE
Date Started:	/ /
Date Completed:	07/20/92

UNION STATION (Continued) **1003877943**

Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 07/20/92
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

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V110 **LA CITY GENERAL SERVICES DPT** **CA LUST** **S100866067**
WSW **630 005TH ST W** **N/A**
1/4-1/2 **LOS ANGELES, CA 90071**
0.464 mi.
2449 ft. **Site 3 of 3 in cluster V**

Relative:
Higher

Actual:
299 ft.

LUST:

Region:	STATE
Global Id:	T0603700581
Latitude:	34.050342
Longitude:	-118.254458
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/24/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900170016
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700581
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603700581
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700581
Status:	Completed - Case Closed
Status Date:	07/24/1996

Global Id:	T0603700581

LA CITY GENERAL SERVICES DPT (Continued) **S100866067**

Status: Open - Case Begin Date
Status Date: 11/09/1984

Global Id: T0603700581
Status: Open - Site Assessment
Status Date: 04/21/1988

Regulatory Activities:
Global Id: T0603700581
Action Type: Other
Date: 11/09/1984
Action: Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	900170016	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Groundwater	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603700581	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19050	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		11/9/1984
Date Leak Record Entered:	12/31/1986	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		4/7/1989
Date the Case was Closed:		7/24/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Tank	
Operator:	CENTRAL LIBRARY PARKING LOT	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1864.3867231258478104662997962
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		4/21/1988
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported

LA CITY GENERAL SERVICES DPT (Continued) **S100866067**

Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Yes
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	CITY OF LOS ANGELES
RP Address:	600 S SPRING ST, SUITE 200, LOS ANGELES CA 90014
Program:	LUST
Lat/Long:	34.050342 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	SA WORK COMPLETED. CLEANUP PLANNED DURING CONSTRUCTION OF LIBRARY. (3/88)LIBRARY REQUESTED TO INVESTIGATE GROUNDWATER. 04/89 REPORT HAS BEEN DELAYED

W111 **METRO RAIL** **CA SLIC** **S103547105**
ENE **UNION STATION** **N/A**
1/4-1/2 **LOS ANGELES, CA 90023**
0.473 mi.
2499 ft. **Site 2 of 2 in cluster W**

Relative:
Lower

Actual:
282 ft.

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	08/16/1996
Global Id:	SLT43207205
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number:	Not reported
Latitude:	34.056806
Longitude:	-118.235709
Case Type:	Cleanup Program Site
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	0311
File Location:	Not reported
Potential Media Affected:	Not reported
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

SLIC REG 4:

Region:	4
Facility Status:	No further action required
SLIC:	0311
Substance:	TPH
Staff:	Manjulika Chakarbarti

112
WNW
1/4-1/2
0.476 mi.
2513 ft.

CALIFORNIA NATIONAL BANK
221 FIGUEROA ST.
LOS ANGELES, CA 90012

CA LUST **S110121787**
N/A

Relative:
Higher

Actual:
317 ft.

LUST:

Region:	STATE
Global Id:	T10000001752
Latitude:	34.0564994214708
Longitude:	-118.253788948059
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/06/2010
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	MT
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120507
LOC Case Number:	1531
File Location:	Regional Board
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel, Stoddard solvent / Mineral Spriits / Distillates
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T10000001752
Contact Type:	Regional Board Caseworker
Contact Name:	MARYAM TAIDY
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	LOS ANGELES
Email:	mtaidy@waterboards.ca.gov
Phone Number:	2135766741

Global Id:	T10000001752
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T10000001752
Status:	Completed - Case Closed
Status Date:	08/06/2010

Global Id:	T10000001752
Status:	Open - Case Begin Date
Status Date:	01/16/2008

Global Id:	T10000001752
Status:	Open - Referred
Status Date:	12/28/2009

Global Id:	T10000001752

CALIFORNIA NATIONAL BANK (Continued) **S110121787**

Status: Open - Site Assessment
Status Date: 04/23/2010

Regulatory Activities:
Global Id: T10000001752
Action Type: ENFORCEMENT
Date: 04/23/2010
Action: Staff Letter

Global Id: T10000001752
Action Type: Other
Date: 01/16/2008
Action: Leak Discovery

Global Id: T10000001752
Action Type: RESPONSE
Date: 05/24/2010
Action: Other Report / Document

Global Id: T10000001752
Action Type: RESPONSE
Date: 05/20/2010
Action: Soil and Water Investigation Workplan

Global Id: T10000001752
Action Type: Other
Date: 01/16/2008
Action: Leak Reported

Global Id: T10000001752
Action Type: RESPONSE
Date: 05/20/2010
Action: Soil and Water Investigation Report

Global Id: T10000001752
Action Type: ENFORCEMENT
Date: 08/06/2010
Action: Closure/No Further Action Letter

X113 **ARCO PARKING STRUCTURE** **CA RGA LUST** **S114575460**
West **400 FLOWER ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.477 mi.
2519 ft. **Site 1 of 3 in cluster X**

Relative:
Higher

Actual:
296 ft.

RGA LUST:

2012	ARCO PARKING STRUCTURE	400 FLOWER ST S
2011	ARCO PARKING STRUCTURE	400 FLOWER ST S
2010	ARCO PARKING STRUCTURE	400 FLOWER ST S
2009	ARCO PARKING STRUCTURE	400 FLOWER ST S
2008	ARCO PARKING STRUCTURE	400 FLOWER ST S
2007	ARCO PARKING STRUCTURE	400 FLOWER ST S
2006	ARCO PARKING STRUCTURE	400 FLOWER ST S
2005	ARCO PARKING STRUCTURE	400 FLOWER ST S
2004	ARCO PARKING STRUCTURE	400 FLOWER ST S
2003	ARCO PARKING STRUCTURE	400 FLOWER ST S

ARCO PARKING STRUCTURE (Continued) **S114575460**

2002	ARCO PARKING STRUCTURE	400 FLOWER ST S
2001	ARCO PARKING STRUCTURE	400 FLOWER ST S
2000	ARCO PARKING STRUCTURE	400 FLOWER ST S
1998	ARCO PARKING STRUCTURE	400 FLOWER ST S
1997	ARCO PARKING STRUCTURE	400 FLOWER ST S
1995	ARCO PARKING STRUCTURE	400 FLOWER ST S
1994	ARCO PARKING STRUCTURE	400 FLOWER ST S

X114 **ARCO PARKING STRUCTURE** **CA RGA LUST** **S114575462**
West **400 FLOWER STREET S.** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.477 mi.
2519 ft. **Site 2 of 3 in cluster X**

Relative:
Higher

RGA LUST:

1993	ARCO PARKING STRUCTURE	400 FLOWER STREET S.

Actual:
296 ft.

X115 **ARCO PARKING STRUCTURE** **CA LUST** **S101586515**
West **400 S FLOWER ST** **N/A**
1/4-1/2 **LOS ANGELES, CA 90071**
0.477 mi.
2519 ft. **Site 3 of 3 in cluster X**

Relative:
Higher

Actual:
296 ft.

LUST:

Region:	STATE
Global Id:	T0603701234
Latitude:	34.052674
Longitude:	-118.2547834
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	05/01/2003
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	EL
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900710034
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603701234
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603701234
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF

ARCO PARKING STRUCTURE (Continued) **S101586515**

Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603701234
Status: Completed - Case Closed
Status Date: 05/01/2003

Global Id: T0603701234
Status: Open - Case Begin Date
Status Date: 02/04/1987

Global Id: T0603701234
Status: Open - Site Assessment
Status Date: 02/04/1987

Regulatory Activities:
Global Id: T0603701234
Action Type: Other
Date: 02/04/1987
Action: Leak Discovery

Global Id: T0603701234
Action Type: Other
Date: 02/04/1987
Action: Leak Reported

Global Id: T0603701234
Action Type: Other
Date: 02/04/1987
Action: Leak Stopped

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900710034
Status: Leak being confirmed
Substance: Waste Oil
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603701234
W Global ID: W0607701254
Staff: UNK
Local Agency: 19050
Cross Street: 5TH ST
Enforcement Type: Not reported
Date Leak Discovered: 2/4/1987
Date Leak First Reported: 2/4/1987
Date Leak Record Entered: 4/23/1987
Date Confirmation Began: 2/4/1987

ARCO PARKING STRUCTURE (Continued) **S101586515**

Date Leak Stopped:	2/4/1987	
Date Case Last Changed on Database:		8/10/1987
Date the Case was Closed:		Not reported
How Leak Discovered:	Tank Closure	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	UNOCAL - JIM SCOTT	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2439.2347312715564438223653667
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	ARCO	
RP Address:	444 S FLOWER ST, LOS ANGELES, CA 90017	
Program:	LUST	
Lat/Long:	34.052674 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	3901254-001GEN	
Summary:	Not reported	

Y116 **FORMER LEACH CORP. FACILITY** **CA LUST** **S103438000**
West **444 FLOWER ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA 90071**
0.491 mi.
2592 ft. **Site 1 of 3 in cluster Y**

Relative:
Higher

Actual:
303 ft.

LUST:

Region:	STATE
Global Id:	T0603701233
Latitude:	34.052134
Longitude:	-118.2552815
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	06/17/1998
Lead Agency:	LOS ANGELES, CITY OF
Case Worker:	EL
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900710025
LOC Case Number:	Not reported

FORMER LEACH CORP. FACILITY (Continued) **S103438000**

File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Aviation
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603701233
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603701233
Contact Type: Local Agency Caseworker
Contact Name: ELOY LUNA
Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Status History:
Global Id: T0603701233
Status: Completed - Case Closed
Status Date: 06/17/1998

Global Id: T0603701233
Status: Open - Case Begin Date
Status Date: 06/17/1998

Regulatory Activities:
Global Id: T0603701233
Action Type: Other
Date: 06/17/1998
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900710025
Status: Case Closed
Substance: 1
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603701233
W Global ID: W0607701254
Staff: UNK

FORMER LEACH CORP. FACILITY (Continued) **S103438000**

Local Agency:	19050	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		6/17/1998
Date Leak Record Entered:	6/29/1998	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		6/17/1998
Date the Case was Closed:		6/17/1998
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	UNOCAL - JIM SCOTT	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2283.5402581688112584998334621
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	BLANK RP	
RP Address:	Not reported	
Program:	LUST	
Lat/Long:	34.052134 / -1	
Local Agency Staff:	PEJ	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	3901254-001GEN	
Summary:	Not reported	

Y117 **FORMER LEACH CORP. FACILITY** **CA RGA LUST** **S114622654**
West **444 FLOWER ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.491 mi.
2592 ft. **Site 2 of 3 in cluster Y**

Relative:
Higher

Actual:
303 ft.

RGA LUST:

2012	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2011	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2010	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2009	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2008	FORMER LEACH CORP. FACILITY	444 FLOWER ST S

FORMER LEACH CORP. FACILITY (Continued) **S114622654**

2007	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2006	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2005	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2004	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2003	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2002	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2001	FORMER LEACH CORP. FACILITY	444 FLOWER ST S
2000	FORMER LEACH CORP. FACILITY	444 FLOWER ST S

Y118 **CITIBANK CENTER,CONCOURSE LEVL** **CA RGA LUST** **S114602325**
West **444 FLOWER ST S** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.491 mi.
2592 ft. **Site 3 of 3 in cluster Y**

Relative:
Higher

RGA LUST:

1998	CITIBANK CENTER,CONCOURSE LEVL	444 FLOWER ST S

Actual:
303 ft.

Z119 **LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV** **CA LUST** **U001560553**
South **519 WALL ST** **N/A**
1/4-1/2 **LOS ANGELES, CA 90013**
0.493 mi.
2602 ft. **Site 1 of 2 in cluster Z**

Relative:
Lower

Actual:
255 ft.

LUST:

Region:	STATE
Global Id:	T0603721851
Latitude:	34.04473
Longitude:	-118.246311
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/14/2015
Lead Agency:	SWRCB
Case Worker:	MC
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	Not reported
LOC Case Number:	TTXS0001098
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	MTBE / TBA / Other Fuel Oxygenates
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603721851
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603721851
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA

LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV (Continued) **U001560553**

Organization Name: LOS ANGELES, CITY OF
Address: 200 North Main Street, Suite 1780
City: LOS ANGELES
Email: eloy.luna@lacity.org
Phone Number: Not reported

Global Id: T0603721851
Contact Type: Regional Board Caseworker
Contact Name: MATTHEW COHEN
Organization Name: SWRCB
Address: 1001 I Street
City: SACRAMENTO
Email: mcohen@waterboards.ca.gov
Phone Number: 9163415751

Status History:
Global Id: T0603721851
Status: Completed - Case Closed
Status Date: 07/14/2015

Global Id: T0603721851
Status: Open - Case Begin Date
Status Date: 01/26/2000

Global Id: T0603721851
Status: Open - Eligible for Closure
Status Date: 12/12/2013

Global Id: T0603721851
Status: Open - Eligible for Closure
Status Date: 08/05/2014

Global Id: T0603721851
Status: Open - Site Assessment
Status Date: 05/20/2003

Regulatory Activities:
Global Id: T0603721851
Action Type: ENFORCEMENT
Date: 07/14/2015
Action: Closure/No Further Action Letter

Global Id: T0603721851
Action Type: Other
Date: 01/26/2000
Action: Leak Discovery

Global Id: T0603721851
Action Type: Other
Date: 01/01/2001
Action: Leak Reported

Global Id: T0603721851
Action Type: ENFORCEMENT
Date: 05/20/2003
Action: Technical Correspondence / Assistance / Other

LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV (Continued) **U001560553**

Global Id: T0603721851
Action Type: ENFORCEMENT
Date: 02/11/2009
Action: Notice of Violation - #20093

Global Id: T0603721851
Action Type: ENFORCEMENT
Date: 05/08/2014
Action: Notification - Public Notice of Case Closure

Global Id: T0603721851
Action Type: RESPONSE
Date: 09/22/1999
Action: Correspondence

Global Id: T0603721851
Action Type: RESPONSE
Date: 12/19/2002
Action: Site Assessment Report

Global Id: T0603721851
Action Type: RESPONSE
Date: 03/05/2009
Action: Soil and Water Investigation Workplan

Global Id: T0603721851
Action Type: RESPONSE
Date: 05/07/2008
Action: Site Assessment Report

Global Id: T0603721851
Action Type: RESPONSE
Date: 01/28/2003
Action: Soil and Water Investigation Workplan

Global Id: T0603721851
Action Type: ENFORCEMENT
Date: 08/05/2014
Action: State Water Board Closure Order

Z120 **LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV** **CA RGA LUST** **S114642764**
South **519 S WALL ST** **N/A**
1/4-1/2 **LOS ANGELES, CA**
0.493 mi.
2602 ft. **Site 2 of 2 in cluster Z**

Relative:
Lower

Actual:
255 ft.

RGA LUST:

2012	LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV	519 S WALL ST
2011	LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV	519 S WALL ST
2010	LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV	519 S WALL ST
2009	LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV	519 S WALL ST
2008	LAPD - CENTRAL FACILITIES MOTOR TRANSPORT DIV	519 S WALL ST

121
North
1/4-1/2
0.497 mi.
2623 ft.

MOBIL #11-HPB (FORMER)
706 SUNSET BLVD W
LOS ANGELES, CA 90012

CA LUST **S104406271**
N/A

Relative:
Higher

Actual:
358 ft.

LUST:

Region:	STATE
Global Id:	T0603700514
Latitude:	33.9988591
Longitude:	-118.4679799
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/23/1996
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	YR
Local Agency:	LOS ANGELES, CITY OF
RB Case Number:	900120189
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700514
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Global Id:	T0603700514
Contact Type:	Local Agency Caseworker
Contact Name:	ELOY LUNA
Organization Name:	LOS ANGELES, CITY OF
Address:	200 North Main Street, Suite 1780
City:	LOS ANGELES
Email:	eloy.luna@lacity.org
Phone Number:	Not reported

Status History:

Global Id:	T0603700514
Status:	Completed - Case Closed
Status Date:	10/23/1996

Global Id:	T0603700514
Status:	Open - Case Begin Date
Status Date:	06/16/1987

Global Id:	T0603700514
Status:	Open - Site Assessment
Status Date:	09/11/1987

Global Id:	T0603700514

MOBIL #11-HPB (FORMER) (Continued) **S104406271**

Status: Open - Site Assessment
Status Date: 06/27/1996

Regulatory Activities:
Global Id: T0603700514
Action Type: Other
Date: 06/16/1987
Action: Leak Discovery

Global Id: T0603700514
Action Type: Other
Date: 09/07/1994
Action: Leak Reported

Global Id: T0603700514
Action Type: Other
Date: 06/16/1987
Action: Leak Stopped

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: 900120189
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Groundwater
Abatement Method Used at the Site: Excavate and Dispose
Global ID: T0603700514
W Global ID: W0605100649
Staff: UNK
Local Agency: 19050
Cross Street: GRAND
Enforcement Type: Not reported
Date Leak Discovered: 6/16/1987
Date Leak First Reported: 9/7/1994
Date Leak Record Entered: 10/14/1987
Date Confirmation Began: Not reported
Date Leak Stopped: 6/16/1987
Date Case Last Changed on Database: 2/24/1997
Date the Case was Closed: 10/23/1996
How Leak Discovered: OM
How Leak Stopped: Not reported
Cause of Leak: UNK
Leak Source: UNK
Operator: Not reported
Water System: DAVE GRIFFITH L A D W P
Well Name: Not reported
Approx. Dist To Production Well (ft): 493.36131200656906319508206053
Source of Cleanup Funding: UNK
Preliminary Site Assessment Workplan Submitted: 6/27/1996
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: 9/11/1987

MOBIL #11-HPB (FORMER) (Continued) **S104406271**

Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	1/1/1965
Hist Max MTBE Conc in Groundwater:	400
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	MOBIL OIL CORP
RP Address:	3700 W 190TH ST, TORRANCE CA 90509
Program:	LUST
Lat/Long:	34.0606766 / -1
Local Agency Staff:	PEJ
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	2600649-001GEN
Summary:	12/13/96 - WELL ABANDONMENT REPORT

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122 SW 1/2-1 0.510 mi. 2695 ft. **MGR JEWELRY** **CA ENVIROSTOR** **S106835553**
314 W SIXTH STREET **N/A**
LOS ANGELES, CA 90014

Relative: Lower

Actual: 263 ft.

ENVIROSTOR:

Facility ID:	71003112
Status:	Refer: Other Agency
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.04695
Longitude:	-118.2524
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD982519704

MGR JEWELRY (Continued) **S106835553**

Alias Type: EPA Identification Number
Alias Name: 71003112
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

123
SSE
1/2-1
0.513 mi.
2708 ft.

AMETEK INC, L A DIE CASTING **CA ENVIROSTOR** **1000102043**
340 CROCKER ST **N/A**
LOS ANGELES, CA 90013

Relative:
Lower

Actual:
263 ft.

ENVIROSTOR:
Facility ID: 71003622
Status: Refer: Other Agency
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Chatsworth
Assembly: 53
Senate: 30
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.04554
Longitude: -118.2408
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD084340272
Alias Type: EPA Identification Number
Alias Name: 71003622
Alias Type: Envirostor ID Number

AMETEK INC, L A DIE CASTING (Continued) **1000102043**

Completed Info:
- Completed Area Name: PROJECT WIDE
- Completed Sub Area Name: Not reported
- Completed Document Type: Phase 1 Non-Submittal
- Completed Date: 05/24/2001
- Comments: Not reported

- Future Area Name: Not reported
- Future Sub Area Name: Not reported
- Future Document Type: Not reported
- Future Due Date: Not reported
- Schedule Area Name: Not reported
- Schedule Sub Area Name: Not reported
- Schedule Document Type: Not reported
- Schedule Due Date: Not reported
- Schedule Revised Date: Not reported

124
SW
1/2-1
0.521 mi.
2750 ft.

PARK CENTRAL BUILDING **CA ENVIROSTOR** **1000596822**
412 W 6TH ST **CAD983608027**
LOS ANGELES, CA 90014

Relative:
Lower

Actual:
268 ft.

ENVIROSTOR:
- Facility ID: 71003138
- Status: Refer: Other Agency
- Status Date: Not reported
- Site Code: Not reported
- Site Type: Tiered Permit
- Site Type Detailed: Tiered Permit
- Acres: Not reported
- NPL: NO
- Regulatory Agencies: NONE SPECIFIED
- Lead Agency: NONE SPECIFIED
- Program Manager: Not reported
- Supervisor: Not reported
- Division Branch: Cleanup Chatsworth
- Assembly: Not reported
- Senate: Not reported
- Special Program: Not reported
- Restricted Use: NO
- Site Mgmt Req: NONE SPECIFIED
- Funding: Not reported
- Latitude: 0
- Longitude: 0
- APN: NONE SPECIFIED
- Past Use: NONE SPECIFIED
- Potential COC: NONE SPECIFIED
- Confirmed COC: NONE SPECIFIED
- Potential Description: NONE SPECIFIED
- Alias Name: CAD983608027
- Alias Type: EPA Identification Number
- Alias Name: 71003138
- Alias Type: Envirostor ID Number

Completed Info:
- Completed Area Name: Not reported
- Completed Sub Area Name: Not reported

PARK CENTRAL BUILDING (Continued) **1000596822**

Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

AA125 **M & M HOLDING, LLC** **CA ENVIROSTOR** **S110494027**
SW **629 S. HILL STREET #1202** **N/A**
1/2-1 **LOS ANGELES, CA 90014**
0.575 mi.
3037 ft. **Site 1 of 2 in cluster AA**

Relative:
Lower

Actual:
265 ft.

ENVIROSTOR:
Facility ID: 71003306
Status: Refer: Other Agency
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Chatsworth
Assembly: Not reported
Senate: Not reported
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 0
Longitude: 0
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAL000213712
Alias Type: EPA Identification Number
Alias Name: 71003306
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1 Non-Submittal
Completed Date: 04/30/2001
Comments: Not reported

M & M HOLDING, LLC (Continued) **S110494027**

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

AA126 **LOS ANGELES UNITED INVESTMENT CO.** **CA ENVIROSTOR** **S110494021**
SW **650 S. HILL STREET #1010** **N/A**
1/2-1 **LOS ANGELES, CA 90014**
0.579 mi.
3059 ft. **Site 2 of 2 in cluster AA**

Relative:
Lower

Actual:
264 ft.

ENVIROSTOR:
Facility ID: 71003114
Status: Refer: Other Agency
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Chatsworth
Assembly: Not reported
Senate: Not reported
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 0
Longitude: 0
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAD982522344
Alias Type: EPA Identification Number
Alias Name: 110009547598
Alias Type: EPA (FRS #)
Alias Name: 71003114
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported

LOS ANGELES UNITED INVESTMENT CO. (Continued) **S110494021**

Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

127
East
1/2-1
0.620 mi.
3273 ft.

SO CAL GAS/ALISO MGP, SECTOR A - EAST PARCEL **CA ENVIROSTOR** **S102564461**
KELLER ST., VIGNES ST., AND 101 FREEWAY **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
282 ft.

ENVIROSTOR:

Facility ID:	19490240
Status:	Active
Status Date:	08/18/2008
Site Code:	301005
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.2
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05431
Longitude:	-118.2318
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Arsenic Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas TPH-MOTOR OIL Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC:	30472-NO 30019-NO 30024-NO 30025-NO 30001-NO 3002502-NO
Potential Description:	OTH, SOIL
Alias Name:	ALISO A
Alias Type:	Alternate Name
Alias Name:	ALISO MANUFACTURED GAS PLANT
Alias Type:	Alternate Name
Alias Name:	ALISO STREET TOWNE GAS SITE
Alias Type:	Alternate Name
Alias Name:	ALISO/RAMIREZ
Alias Type:	Alternate Name
Alias Name:	ALLISO/RAMIREZ ST. TOWNE GAS SITE
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES GAS AND ELECTRIC
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/ALISO A MGP
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/ALISO-RAMIREZ MGP

SO CAL GAS/ALISO MGP, SECTOR A - EAST PARCEL (Continued) **S102564461**

Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/RAMIREZ (ALISO) MGP
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/RAMIREZ MGP
Alias Type:	Alternate Name
Alias Name:	SO. CAL. GAS, ALISO A
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIF GAS CO - ALISO A
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS CO., ALISO A
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY - ALISO
Alias Type:	Alternate Name
Alias Name:	110033609414
Alias Type:	EPA (FRS #)
Alias Name:	300456
Alias Type:	Project Code (Site Code)
Alias Name:	300615
Alias Type:	Project Code (Site Code)
Alias Name:	300880
Alias Type:	Project Code (Site Code)
Alias Name:	301005
Alias Type:	Project Code (Site Code)
Alias Name:	19490240
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Mitigated Neg. Dec. (MND)
Completed Date:	02/23/1998
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	10/20/2000
Comments:	DTSC entered into a Voluntary Cleanup Agreement (Agreement) with Southern California Gas Company (Proponent). The purpose of this Agreement is for the Proponent to conduct a Remedial Investigation/Feasibility Study to further characterize the existing soil and groundwater contamination and, if necessary, to prepare a removal action workplan and implement a removal action under the oversight of DTSC. If appropriate, the Proponent has agreed to implement a deed restriction for the Site.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Consent Order
Completed Date:	08/15/1996
Comments:	On 08/15/1996 DTSC & The Gas Company executed a Consent Order for a Preliminary Endangerment Assessment for a portio (Sector A) of the former Aliso Manufactured Gas Plant Site - which is being investigated in 5 sectors or units. The "530 Ramirez" site (CalSites

SO CAL GAS/ALISO MGP, SECTOR A - EAST PARCEL (Continued) **S102564461**

19490235) is a portion of Sector A.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Amendment - Order/Agreement
Completed Date:	01/04/1999
Comments:	Transition to Chapter 6.5 - Amendment to the existing Consent Order, No. 96/97-008, signed by the RP.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	01/26/2004
Comments:	Notices of Determination for Aliso Street Section A West Parcel and Sector A East Parcel were hand-delivered to the Governor's Office of Planning and Research on 1/26/2004.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation / Feasibility Study
Completed Date:	12/13/2002
Comments:	Feasibility Study Report for Aliso Street Sector A.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/26/1997
Comments:	PEA completed. Further investigation (RI/FS) warranted for the site as PAH, VOC, TPH, metals and cyanide contamination exist in both soil and groundwater.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	10/10/2007
Comments:	DTSC provided a partial site certification letter, dated 10/10/07. Full site certification due upon investigation and remediation of groundwater.

Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2021
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2017
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Certification
Schedule Due Date:	05/22/2016
Schedule Revised Date:	08/02/2017

128
SW
1/2-1
0.640 mi.
3380 ft.

UNITED BUILDING ASSOCIATES
707 S BROADWAY #411
LOS ANGELES, CA 90014

CA ENVIROSTOR **S110494422**
N/A

Relative:
Lower

Actual:
258 ft.

ENVIROSTOR:

Facility ID:	71003260
Status:	Refer: Other Agency
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Chatsworth
Assembly:	Not reported
Senate:	Not reported
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	0
Longitude:	0
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAL000059257
Alias Type:	EPA Identification Number
Alias Name:	71003260
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

129
SW
1/2-1
0.643 mi.
3393 ft.

JEWELRY DESIGN CENTER
404 W. 7TH STREET #221
LOS ANGELES, CA 90014

CA ENVIROSTOR **S110493956**
N/A

Relative:
Lower

Actual:
262 ft.

ENVIROSTOR:

Facility ID:	71003145
Status:	Refer: Other Agency
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Chatsworth
Assembly:	Not reported
Senate:	Not reported
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	0
Longitude:	0
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD983615139
Alias Type:	EPA Identification Number
Alias Name:	110009549140
Alias Type:	EPA (FRS #)
Alias Name:	71003145
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

130
NNW
1/2-1
0.645 mi.
3406 ft.

BANK OF AMERICA DATA CENTER
1000 W TEMPLE ST
LOS ANGELES, CA 90012

CA ENVIROSTOR **S101617131**
N/A

Relative:
Higher

Actual:
344 ft.

ENVIROSTOR:

Facility ID:	71003397
Status:	Refer: Other Agency
Status Date:	Not reported
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Not reported
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.06143
Longitude:	-118.2517
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAL913236278
Alias Type:	EPA Identification Number
Alias Name:	71003397
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

131
NW
1/2-1
0.649 mi.
3427 ft.

VISTA HERMOSA
1101 W. 1ST STREET
LOS ANGELES, CA 90012

CA ENVIROSTOR **S107737580**
N/A

Relative:
Higher

Actual:
336 ft.

ENVIROSTOR:

Facility ID:	60000001
Status:	Certified / Operation & Maintenance
Status Date:	10/26/2010
Site Code:	304420
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	35
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Ivy Osornio
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	51
Senate:	24
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05937
Longitude:	-118.2542
APN:	NONE SPECIFIED
Past Use:	SCHOOL - OTHER, FUEL - VEHICLE STORAGE/ REFUELING, MANUFACTURING - PETROLEUM
Potential COC:	Benzene Methane Hydrogen sulfide TPH-diesel Benzo[a]pyrene
Confirmed COC:	Methane Hydrogen sulfide
Potential Description:	SV, IA
Alias Name:	Belmont Learning Center
Alias Type:	Alternate Name
Alias Name:	Belmont Learning Complex
Alias Type:	Alternate Name
Alias Name:	Central Los Angeles High School #11
Alias Type:	Alternate Name
Alias Name:	E.R. Roybal Learning Center
Alias Type:	Alternate Name
Alias Name:	LAUSD-VISTA HERMOSA
Alias Type:	Alternate Name
Alias Name:	Vista Hermosa
Alias Type:	Alternate Name
Alias Name:	Vista Hermosa Park
Alias Type:	Alternate Name
Alias Name:	110033614337
Alias Type:	EPA (FRS #)
Alias Name:	300728
Alias Type:	Project Code (Site Code)
Alias Name:	304420
Alias Type:	Project Code (Site Code)
Alias Name:	19820013
Alias Type:	Envirostor ID Number
Alias Name:	60000001
Alias Type:	Envirostor ID Number

VISTA HERMOSA (Continued) **S107737580**

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/21/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	09/04/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	09/05/2002
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	05/31/2006
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	12/06/2003
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Public Participation
Completed Date:	04/21/2004
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Environmental Impact Report
Completed Date:	03/25/2004
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Public Participation
Completed Date:	01/19/2005
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/22/2008
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

VISTA HERMOSA (Continued) **S107737580**

Completed Document Type: * Public Participation
Completed Date: 11/13/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/22/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/28/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 02/06/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/22/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 10/11/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/07/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/31/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 11/07/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/26/2007
Comments: Not reported

VISTA HERMOSA (Continued) **S107737580**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 05/02/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 12/21/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/26/2010
Comments: DTSC certified that the response action according to the DTSC-approved RAP is complete. Operation and maintenance is required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 04/13/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 06/10/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 01/04/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 03/10/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 02/27/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 12/11/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

VISTA HERMOSA (Continued) **S107737580**

Completed Document Type: Technical Report
Completed Date: 09/16/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 12/05/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 04/13/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/16/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 02/01/2006
Comments: First Quarter 2005 Groundwater monitoring report for OU2.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Design/Implementation Workplan
Completed Date: 02/07/2006
Comments: Remedial Design Document was approved pending minor revisions in accordance with the comments provided in the DTSC approval letter. Construction of school scheduled to begin in late Feb. 2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 09/29/2003
Comments: New RI/FS for Vista Hermosa was submitted to DTSC on 9/29/03.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/29/2002
Comments: Fieldwork on 8/22/02

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/29/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.15 Request

VISTA HERMOSA (Continued) **S107737580**

Completed Date: 05/10/2005
Comments: Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 05/06/2008
Comments: Vista Hermosa Park RACR approved on 5/6/08

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 07/18/2008
Comments: Proposed Central Los Angeles HS #11 RACR approved on 7/18/2008.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Plan
Completed Date: 07/18/2008
Comments: site approved for occupany on 7/17/2008

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 05/20/2010
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 09/21/2010
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/17/2010
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 03/08/2011
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/12/2012
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE

VISTA HERMOSA (Continued) **S107737580**

Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/23/2009
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 05/11/2009
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 09/04/2009
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 09/29/2008
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/31/2008
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/21/2008
Comments: Historical O&M report uplodaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/19/2008
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/26/2009
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 02/27/2009
Comments: Historical O&M report uploaded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 05/24/2011

VISTA HERMOSA (Continued) **S107737580**

Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 10/26/2011
Comments: DTSC approved the methane mitigation system design at the new Emergency Operation Center building.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 08/10/2011
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 05/07/2012
Comments: DTSC approved the O&M report provided DTSC comments are addressed during future field work/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 08/16/2012
Comments: DTSC approved the O&M report provided DTSC comments are addressed in future reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 02/25/2014
Comments: DTSC approved the report with comments

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/27/2012
Comments: DTSC approved the report provide comments are addressed in future fieldwork/reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 09/03/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/29/2013
Comments: DTSC approval of baseline testing for EOC

Completed Area Name: PROJECT WIDE

VISTA HERMOSA (Continued) **S107737580**

Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 07/15/2014
Comments: DTSC approved the report provided DTSC comments are addressed in the field/future reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 07/16/2014
Comments: DTSC approved the workplan provided reporting requirements are incorporated into the site monitoring plan

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/18/2014
Comments: DTSC approved the revised oil well abandonment workplan

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/29/2015
Comments: DTSC approved the O&M report provided DTSC comments are addressed in future reports

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 03/26/2015
Comments: DTSC submitted comments electronically on the report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 06/04/2015
Comments: Concurred with the Report with a comment.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/11/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 07/08/2008
Comments: DTSC executed an O&M agreement for ongoing monitoring at the Vista Hermosa and Roybal site

VISTA HERMOSA (Continued) **S107737580**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	02/22/1999
Comments:	Rec'd signed agreement and sent fully executed agreement to district
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Annual Oversight Cost Estimate
Completed Date:	09/08/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	02/10/2000
Comments:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2019
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Operations and Maintenance Report
Future Due Date:	2016
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Operations and Maintenance Report
Schedule Due Date:	05/15/2016
Schedule Revised Date:	Not reported
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Operations and Maintenance Plan
Schedule Due Date:	04/14/2016
Schedule Revised Date:	Not reported

AB132 **SOUTH REGION ELEMENTARY SCHOOL #7, SITE 2** **CA ENVIROSTOR** **S108054414**
WNW **EAST 89TH STREET/EAST 90TH STREET/COMPTON AVENUE** **N/A**
1/2-1 **LOS ANGELES, CA 90002**
0.669 mi.
3533 ft. **Site 1 of 2 in cluster AB**

Relative:
Higher

Actual:
384 ft.

ENVIROSTOR:

Facility ID:	60000393
Status:	Certified
Status Date:	08/13/2008
Site Code:	304533
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	5.08
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Amit Pathak
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53

SOUTH REGION ELEMENTARY SCHOOL #7, SITE 2 (Continued) **S108054414**

Senate: 24
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.05630
Longitude: -118.2573
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ROW CROPS
Potential COC: Arsenic Benzene Chlordane Lead Mercury (elemental TPH-diesel TPH-gas TPH-JET FUEL TPH-MOTOR OIL 1,1,1-Trichloroethane (TCA Trichloroethylene (TCE Vinyl chloride Benzo[a]pyrene
Confirmed COC: 30001-NO 30003-NO Chlordane Lead 30014-NO 30024-NO 30025-NO 30026-NO 3002501-NO 3002502-NO Benzo[a]pyrene 30028-NO 30027-NO
Potential Description: SOIL
Alias Name: Los Angeles Unified School District
Alias Type: Alternate Name
Alias Name: 110033616736
Alias Type: EPA (FRS #)
Alias Name: 304533
Alias Type: Project Code (Site Code)
Alias Name: 60000393
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 01/08/2008
Comments: NOE was faxed to OPR. According to OPR NOE is considered filed as of 1/8/2008.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 08/13/2008
Comments: DTSC certified that response action according to the DTSC-approved RAW is complete.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/13/2008
Comments: DTSC prepared project close out Cost Recovery Unit Memorandum.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 09/18/2006
Comments: Field Work for PEA Started 9/19/06

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/22/2007
Comments: DTSC determined based on the Preliminary Environmental Assessment that "Further Action" is required to address TPH, Lead and OCPs detected onsite

SOUTH REGION ELEMENTARY SCHOOL #7, SITE 2 (Continued) **S108054414**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	12/26/2007
Comments:	DTSC approved the Removal Action Workplan for implementation
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	06/30/2008
Comments:	DTSC approved the Removal Action Completion Report with a No Further Action determination
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fact Sheets
Completed Date:	01/10/2008
Comments:	Approved
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Public Notice
Completed Date:	01/10/2008
Comments:	Completed
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	06/30/2008
Comments:	DTSC Completed ESD to explain variances from the approved RAW
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AB133 **CENTRAL REGION HIGH SCHOOL #16, SITE3A** **CA ENVIROSTOR** **S108054481**
WNW **EAST 52ND STREET/SAN PEDRO STREET AND TOWNE AVENUE/EAST 54TH** **N/A**
1/2-1 **LOS ANGELES, CA 90011**
0.669 mi.
3533 ft. **Site 2 of 2 in cluster AB**

Relative:
Higher

Actual:
384 ft.

ENVIROSTOR:

Facility ID:	60000392
Status:	Certified
Status Date:	10/26/2010
Site Code:	304535
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	13.24
NPL:	NO
Regulatory Agencies:	SMBRP, ORANGE COUNTY
Lead Agency:	SMBRP

CENTRAL REGION HIGH SCHOOL #16, SITE3A (Continued) **S108054481**

Program Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Assembly: 53
Senate: 24
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.05630
Longitude: -118.2573
APN: 5101-001-900
Past Use: RESIDENTIAL AREA, RETAIL, RETAIL - VEHICLES, SCHOOL - OTHER, TRANSPORTATION - WAREHOUSING
Potential COC: Benzene Chlordane DDD DDE DDT Endrin Lead Polynuclear aromatic hydrocarbons (PAHs Tetrachloroethylene (PCE Toxaphene TPH-diesel TPH-gas TPH-MOTOR OIL Trichloroethylene (TCE Dieldrin Heptachlor Heptachlor epoxide
Confirmed COC: 30003-NO Chlordane 30207-NO 30019-NO Tetrachloroethylene (PCE 30024-NO 30025-NO Heptachlor epoxide 3002502-NO 30023-NO 30027-NO Heptachlor Lead DDD DDE DDT 30010-NO
Potential Description: SOIL, SV
Alias Name: Los Angeles Unified School District
Alias Type: Alternate Name
Alias Name: 5101-001-900
Alias Type: APN
Alias Name: 110033619412
Alias Type: EPA (FRS #)
Alias Name: 304535
Alias Type: Project Code (Site Code)
Alias Name: 60000392
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 08/11/2008
Comments: Initial Study/Negative Declaration and Notice of Determination completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 07/23/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 10/18/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/18/2010
Comments: DTSC certified that response action according to the DTSC-approved

CENTRAL REGION HIGH SCHOOL #16, SITE3A (Continued) **S108054481**

RAW is complete.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 08/18/2006
Comments: DTSC concurs with Scoping Document. Sampling scheduled to begin 8/21/2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/21/2007
Comments: DTSC issues FA determination for VOCs and metals. Methane and CrVI not properly characterized.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report
Completed Date: 01/07/2008
Comments: DTSC determined that Further Action is required based on the Supplemental Site Investigation report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 08/11/2008
Comments: DTSC approved the Remedial Action plan for implementation

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.15 Request
Completed Date: 07/02/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Design/Implementation Workplan
Completed Date: 10/16/2008
Comments: DTSC approved the Remedial Design Document for implementation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 02/26/2009
Comments: DTSC approved the Remedial Action Completion Report for Areas C and D. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 02/01/2006
Comments: Phase I submitted for background information.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Supplemental Site Investigation Report

CENTRAL REGION HIGH SCHOOL #16, SITE3A (Continued) **S108054481**

Completed Date:	08/12/2009
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Action Completion Report
Completed Date:	01/28/2010
Comments:	DTSC concurs with the recommendation of No Further Action for the Area B RACR. The entire site has now been investigated/remediated.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AC134 **SO CAL GAS/ALISO SECTOR C, BLOCK L** **CA ENVIROSTOR** **S107616211**
East **CENTER ST @ COMMERCIAL,DUCOMMUN &JACKSON** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.703 mi.
3711 ft. **Site 1 of 2 in cluster AC**

Relative:
Lower

Actual:
274 ft.

ENVIROSTOR:

Facility ID:	19490242
Status:	Certified O&M - Land Use Restrictions Only
Status Date:	12/07/2004
Site Code:	300999
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Folashade Simpson
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	YES
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05245
Longitude:	-118.2323
APN:	5173-017-008
Past Use:	FUEL TERMINALS, MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Not reported
Confirmed COC:	30525-NO 30550-NO 30019-NO 30024-NO 30025-NO 30100-NO 30312-NO 30003-NO 30013-NO 30593-NO 30594-NO
Potential Description:	OTH, SOIL
Alias Name:	ALISO C
Alias Type:	Alternate Name

SO CAL GAS/ALISO SECTOR C, BLOCK L (Continued) **S107616211**

Alias Name: ALISO MANUFACTURED GAS PLANT
Alias Type: Alternate Name
Alias Name: Aliso Sector C, Block L
Alias Type: Alternate Name
Alias Name: BLOCK L
Alias Type: Alternate Name
Alias Name: SO CAL GAS - ALISO C
Alias Type: Alternate Name
Alias Name: SOUTHERN CALIFORNIA GAS
Alias Type: Alternate Name
Alias Name: SOUTHERN CALIFORNIA GAS COMPANY
Alias Type: Alternate Name
Alias Name: SOUTHERN CALIFORNIA GAS COMPANY, ALISO C
Alias Type: Alternate Name
Alias Name: 5173-017-008
Alias Type: APN
Alias Name: 110033609441
Alias Type: EPA (FRS #)
Alias Name: 300642
Alias Type: Project Code (Site Code)
Alias Name: 300885
Alias Type: Project Code (Site Code)
Alias Name: 300999
Alias Type: Project Code (Site Code)
Alias Name: 19490242
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 12/03/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 07/26/2004
Comments: Block L - Polycyclic aromatic hydrocarbon (PAH) and volatile organic hydrocarbon (VOC) contaminated soil was excavated and thermally treated offsite. Site has been backfilled with clean soil. Subsurface contamination did not extend laterally to offsite areas. Contamination was found, as expected, at the ground water table, and will be addressed in a later, regional effort. As the soil was remediated to industrial cleanup goals, a deed restriction will limit use of the site, preventing residential or other sensitive uses on this parcel.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 09/10/2003
Comments: Block L - The Special initial Study described the proposed polycyclic aromatic hydrocarbon (PAH) and volatile organic hydrocarbon (VOC) contaminated soil remediation activity and its insignificant impact upon the environment.

Completed Area Name: PROJECT WIDE

SO CAL GAS/ALISO SECTOR C, BLOCK L (Continued) **S107616211**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/27/2003
Comments: Block L - PEA-E investigated the former manufactured gas plant and petroleum transfer site. VOCs, SVOCs, PAHs and hydrocarbons were found to impact the site. A Renivak Action Work Plan will address clean up of this contamination. PEA-E completion was delayed due to further Site Characterization activities and delays in receiving the Human Human Health Risk Assessment reports associated with the PEA-E.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 07/25/2004
Comments: Fieldwork completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 01/14/2014
Comments: Complete

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 12/23/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/01/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 09/10/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 12/07/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 10/10/2002
Comments: Tosco Corporation and DTSC signed and executed a VCA to charaterize and cleanup Block L of Sector C within the Aliso Street Former MGP Completion of characterization and cleanup cleanup is expected during the summer of 2003.

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported

SO CAL GAS/ALISO SECTOR C, BLOCK L (Continued) **S107616211**

Future Document Type:	5 Year Review Reports
Future Due Date:	2019
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AD135 **SO CAL GAS/ALISO SECTOR C, BLOCK O** **CA ENVIROSTOR** **S107737357**
East **SOUTHWEST CORNER OF DUCOMMUN AND CENTER STREETS** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.710 mi.
3750 ft. **Site 1 of 2 in cluster AD**

Relative:
Lower

Actual:
272 ft.

ENVIROSTOR:

Facility ID:	60000169
Status:	Active
Status Date:	01/19/2001
Site Code:	300885
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05138
Longitude:	-118.2323
APN:	5173-016-008, 5173016008
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Not reported
Confirmed COC:	30525-NO 30550-NO 30019-NO 30024-NO 30025-NO 30100-NO 30312-NO 30003-NO 30013-NO 30593-NO 30594-NO
Potential Description:	OTH, SOIL
Alias Name:	Aliso Sector C, Block O
Alias Type:	Alternate Name
Alias Name:	5173-016-008
Alias Type:	APN
Alias Name:	5173016008
Alias Type:	APN
Alias Name:	110033609450
Alias Type:	EPA (FRS #)
Alias Name:	300885
Alias Type:	Project Code (Site Code)
Alias Name:	60000169
Alias Type:	Envirostor ID Number

Completed Info:

SO CAL GAS/ALISO SECTOR C, BLOCK O (Continued) **S107737357**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	01/19/2001
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Report
Completed Date:	03/19/2008
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Workplan
Completed Date:	03/04/2002
Comments:	Remedial Investigation Master Work Plan approved.
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2017
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2017
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AC136 **SO CAL GAS/ALISO SECTOR C, BLOCK G** **CA ENVIROSTOR** **S107737354**
East **NORTHWEST CORNER OF COMMERCIAL AND CENTER STREETS** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.714 mi.
3768 ft. **Site 2 of 2 in cluster AC**

Relative:
Lower

Actual:
274 ft.

ENVIROSTOR:

Facility ID:	60000173
Status:	Active
Status Date:	01/19/2001
Site Code:	300885
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party

SO CAL GAS/ALISO SECTOR C, BLOCK G (Continued) **S107737354**

Latitude: 34.05315
Longitude: -118.2321
APN: NONE SPECIFIED
Past Use: MANUFACTURED GAS PLANT
Potential COC: Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Not reported
Confirmed COC: NONE SPECIFIED
Potential Description: OTH, SOIL
Alias Name: 110033609423
Alias Type: EPA (FRS #)
Alias Name: 300885
Alias Type: Project Code (Site Code)
Alias Name: 60000173
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Participation Plan / Community Relations Plan
Completed Date: 01/20/2005
Comments: Block G - DTSC approved the RI dated 11 Nov 04. Public Participation activities were completed for Sector C, Block G of the former Aliso Street MGP site. Activities included a community profile, notices, fact sheets during the course of the investigation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 03/04/2002
Comments: Remedial Investigation Master Work Plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 01/20/2005
Comments: Completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/19/2001
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: 5 Year Review Reports
Future Due Date: 2022
Schedule Area Name: PROJECT WIDE
Schedule Sub Area Name: Not reported
Schedule Document Type: Land Use Restriction
Schedule Due Date: 06/05/2016
Schedule Revised Date: Not reported
Schedule Area Name: PROJECT WIDE
Schedule Sub Area Name: Not reported
Schedule Document Type: Certification
Schedule Due Date: 10/11/2015
Schedule Revised Date: 05/18/2016

137
East
1/2-1
0.721 mi.
3808 ft.

SO CAL GAS/ALISO SITE-WIDE - GROUNDWATER
TEMPLE/VIGNES/LYON/KELLER/ALHAMBRA STS.
LOS ANGELES, CA 90013

CA ENVIROSTOR **S107737359**
N/A

Relative:
Lower

Actual:
275 ft.

ENVIROSTOR:

Facility ID:	19490248
Status:	Active
Status Date:	01/19/2001
Site Code:	300885
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	52
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05369
Longitude:	-118.2320
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs 1,3-Butadiene Styrene Toluene Xylenes Zinc
Confirmed COC:	NONE SPECIFIED
Potential Description:	OTH, SOIL
Alias Name:	ALISO STREET FORMER MGP
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/ALISO STREET FORMER MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY
Alias Type:	Alternate Name
Alias Name:	THE GAS COMPANY
Alias Type:	Alternate Name
Alias Name:	110033609478
Alias Type:	EPA (FRS #)
Alias Name:	300885
Alias Type:	Project Code (Site Code)
Alias Name:	19490248
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Amendment - Order/Agreement
Completed Date:	01/04/1999
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Annual Oversight Cost Estimate
Completed Date:	09/11/2015

SO CAL GAS/ALISO SITE-WIDE - GROUNDWATER (Continued) **S107737359**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/28/1997
Comments: DTSC and the Southern California Gas Company executed a Consent Order for a Preliminary Endangerment Assessment for Sector C of the former Aliso Street Manufactured Gas Plant site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/22/1999
Comments: Contamination found in both soil and groundwater. Contaminants include PAH's, VOC's and metals. RI recommended.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 03/04/2002
Comments: Remedial Investigation Master Work Plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Plan
Completed Date: 01/27/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 11/29/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Well Installation Workplan
Completed Date: 11/29/2011
Comments: Geo needs more time.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 08/29/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 05/29/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 12/12/2013

SO CAL GAS/ALISO SITE-WIDE - GROUNDWATER (Continued) **S107737359**

Comments: DTSC approved the Aliso 2012 GW Monitoring Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 06/26/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 08/26/2015
Comments: Report Approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/13/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/29/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/29/2014
Comments: Cost estimate for FY 2014-2015.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/19/2001
Comments: DTSC entered into a "Master" Voluntary Cleanup Agreement (Docket No. HSA-A 00/01-173) with the Southern California Gas Company (The Gas Company) (Proponent). The purpose of this Agreement is for The Gas Company, as a former owner and/or operator of the Aliso Street Former Manufactured Gas Plant site, to conduct and complete all necesary remedial investigations, removal actions, and/or remedial actions under the oversight of DTSC. All previous agreements for the Aliso Street Former MGP Site are hereby terminated. (VCA for Sectors A, B, C, D, and E.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: PROJECT WIDE
Schedule Sub Area Name: Not reported
Schedule Document Type: Remedial Investigation Report
Schedule Due Date: 06/13/2016
Schedule Revised Date: Not reported

AE138 **ALISO SECTOR A DENNY'S PARCEL** **CA ENVIROSTOR** **S103988355**
East **530 RAMIREZ STREET** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.748 mi.
3952 ft. **Site 1 of 3 in cluster AE**

Relative:
Lower

Actual:
280 ft.

ENVIROSTOR:

Facility ID:	60001379
Status:	Certified / Operation & Maintenance
Status Date:	02/19/2000
Site Code:	301005
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.4
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05473
Longitude:	-118.2318
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	TPH-diesel TPH-MOTOR OIL
Confirmed COC:	TPH-diesel TPH-MOTOR OIL
Potential Description:	OTH
Alias Name:	301005
Alias Type:	Project Code (Site Code)
Alias Name:	60001379
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Annual Oversight Cost Estimate
Completed Date:	09/11/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	06/20/2000
Comments:	RACR approved.
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2021
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2017
Future Area Name:	PROJECT WIDE

ALISO SECTOR A DENNY'S PARCEL (Continued) **S103988355**

Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2016
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AE139 **SO CAL GAS/ALISO MGP, SECTOR A - WEST PARCEL** **CA ENVIROSTOR** **S102564460**
East **KELLER ST, VIGNES ST, AND 101 FREEWAY** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.750 mi.
3962 ft. **Site 2 of 3 in cluster AE**

Relative:
Lower

Actual:
280 ft.

ENVIROSTOR:

Facility ID:	19490235
Status:	Active
Status Date:	10/02/2008
Site Code:	300456
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	3
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	30
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05008
Longitude:	-118.2531
APN:	5409-022-905
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	* UNSPECIFIED OIL CONTAINING WASTE Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas Toluene Xylenes Zinc
Confirmed COC:	NONE SPECIFIED
Potential Description:	OTH, SOIL
Alias Name:	ALISO STREET TOWNE GAS SITE
Alias Type:	Alternate Name
Alias Name:	ALISO/RAMIREZ
Alias Type:	Alternate Name
Alias Name:	ALISO/RAMIREZ ST. TOWNE GAS SITE
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES GAS AND ELECTRIC
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/ALISO-RAMIREZ MGP
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/RAMIREZ MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY

SO CAL GAS/ALISO MGP, SECTOR A - WEST PARCEL (Continued) **S102564460**

Alias Type: Alternate Name
Alias Name: 5409-022-905
Alias Type: APN
Alias Name: 110033609414
Alias Type: EPA (FRS #)
Alias Name: 300456
Alias Type: Project Code (Site Code)
Alias Name: 19490235
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 01/04/1999
Comments: Transition to Chapter 6.5 - Amendment to the existing Consent Order, No. 96/97-064 signed by the RP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 07/07/1997
Comments: DTSC and The Gas Company signed a Consent Order calling for the preparation of a Removal Action Workplan and the implementation of a remedial action at the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/16/1994
Comments: A Remedial Action Consent Order is executed by the Depart- ment. The Order provides for the completion of a Remedial Investigation/Feasibility Study to determine the extent of removal/remedial action necessary to allow planned highway construction.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 02/01/2007
Comments: VOC & PAH contaminated soil removed. Residual contamination to be addressed in overall groundwater investigation proposed for the entire 52-acre site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 06/16/1998
Comments: On June 16, 1998, DTSC approved the RAW for removal of contaminated soil at the site. Approximately 9000 cubic yards of contaminated soil will be removed. Soil contamination includes PAHs, VOCs and Metals.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 03/27/1997
Comments: RI/FS for soil only. Groundwater to be evaluated as part of the Towne Gas Study. Interim measures include, capping and removal of

SO CAL GAS/ALISO MGP, SECTOR A - WEST PARCEL (Continued) **S102564460**

contaminated soil from top two feet.

Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2022
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Certification
Schedule Due Date:	11/24/2015
Schedule Revised Date:	Not reported
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Land Use Restriction
Schedule Due Date:	03/30/2016
Schedule Revised Date:	Not reported

AD140 **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY** **CA ENVIROSTOR** **1000283260**
East **410 CENTER STREET** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.759 mi.
4010 ft. **Site 2 of 2 in cluster AD**

Relative:
Lower

Actual:
272 ft.

ENVIROSTOR:

Facility ID:	60000170
Status:	Certified O&M - Land Use Restrictions Only
Status Date:	12/05/2007
Site Code:	301333
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.4
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Folashade Simpson
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	YES
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05131
Longitude:	-118.2309
APN:	5173-021-002, 5173-021-003, 5173021002, 5173021003
Past Use:	MANUFACTURED GAS PLANT, MACHINE SHOP, MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Tetrachloroethylene (PCE Naphthalene
Confirmed COC:	30525-NO 30550-NO 30019-NO 30024-NO 30025-NO 30100-NO 30312-NO 30003-NO 30013-NO 30593-NO 30594-NO Naphthalene Tetrachloroethylene (PCE
Potential Description:	OTH, SOIL, OTH, SV
Alias Name:	Aliso Sector C, Block N
Alias Type:	Alternate Name
Alias Name:	Manley Oil
Alias Type:	Alternate Name

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (Continued) **1000283260**

Alias Name: 5173-021-002
Alias Type: APN
Alias Name: 5173-021-003
Alias Type: APN
Alias Name: 5173021002
Alias Type: APN
Alias Name: 5173021003
Alias Type: APN
Alias Name: 110033612892
Alias Type: EPA (FRS #)
Alias Name: 301001
Alias Type: Project Code (Site Code)
Alias Name: 301333
Alias Type: Project Code (Site Code)
Alias Name: 60000170
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 12/05/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Consultative Service Agreement
Completed Date: 04/09/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 12/14/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 02/06/2004
Comments: Block N - The Site Investigation Report was approved for the Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 09/09/2005
Comments: RAW approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/03/2006
Comments: Completion Report dated 30 Oct 06 accepted by DTSC

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 01/09/2006

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (Continued) **1000283260**

Comments: Fieldwork completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 01/23/2007
Comments: Proposed work was performed without opportunity for DTSC review of document. No determination was made regarding the submitted work plan.
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 02/19/2007
Comments: Supplemental soil gas field work performed 15-19 Feb 07

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 04/27/2007
Comments: No change in site conditions

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/11/2008
Comments: Annual Inspection Report accepted.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 09/12/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 12/23/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 12/06/2013
Comments: Inspection completed and documented

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/01/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 08/20/2004
Comments: Not reported

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY (Continued) **1000283260**

Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2017
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AF141 **SO CAL GAS/ALISO SECTOR C, BLOCKS Q&R** **CA ENVIROSTOR** **S107737358**
East **SOUTHEAST AND SOUTHWEST CORNERS OF JACKSON AND CENTER STREET** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.760 mi.
4012 ft. **Site 1 of 2 in cluster AF**

Relative:
Lower

Actual:
270 ft.

ENVIROSTOR:

Facility ID:	60000172
Status:	Active
Status Date:	07/15/2010
Site Code:	300999
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	2
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05056
Longitude:	-118.2316
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc
Confirmed COC:	30525-NO 30550-NO 30019-NO 30100-NO 30312-NO 30003-NO 30013-NO 30593-NO 30594-NO
Potential Description:	OTH, SOIL
Alias Name:	110033609469
Alias Type:	EPA (FRS #)
Alias Name:	300999
Alias Type:	Project Code (Site Code)
Alias Name:	60000172
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Workplan
Completed Date:	09/24/2001
Comments:	Work Plan is satisfactory.

SO CAL GAS/ALISO SECTOR C, BLOCKS Q&R (Continued) **S107737358**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 01/27/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 03/06/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 04/26/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 02/25/2014
Comments: DTSC comments are addressed and report approved with deed restriction.
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/03/2001
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Certification
Future Due Date: 2017
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Land Use Restriction
Future Due Date: 2018
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

AE142 **SO CAL GAS/ALISO B MGP** **CA ENVIROSTOR** **S103664837**
East **555 RAMIREZ STREET** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.768 mi.
4053 ft. **Site 3 of 3 in cluster AE**

Relative:
Lower

Actual:
281 ft.

ENVIROSTOR:
Facility ID: 19490244
Status: Active
Status Date: 01/19/2001
Site Code: 301054
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup

SO CAL GAS/ALISO B MGP (Continued) **S103664837**

Acres:	14
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05446
Longitude:	-118.2313
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene Lead Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Not reported
Confirmed COC:	30525-NO 30550-NO 30019-NO 30024-NO 30025-NO 30100-NO 30312-NO 30003-NO 30013-NO 30593-NO 30594-NO
Potential Description:	OTH, SOIL
Alias Name:	ALISO B
Alias Type:	Alternate Name
Alias Name:	SO CAL GAS/ALISO B
Alias Type:	Alternate Name
Alias Name:	SO. CAL. GAS, ALISO B
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIF GAS CO - ALISO B
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS CO., ALISO B
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY - ALISO
Alias Type:	Alternate Name
Alias Name:	110033609370
Alias Type:	EPA (FRS #)
Alias Name:	300805
Alias Type:	Project Code (Site Code)
Alias Name:	301054
Alias Type:	Project Code (Site Code)
Alias Name:	19490244
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	06/07/2000
Comments:	Soil contamination exists onsite. Contaminants include PAHs and VOCs. A Remedial Investigation/Feasibility Study recommended.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	08/29/2005

SO CAL GAS/ALISO B MGP (Continued) **S103664837**

Comments:	DTSC approved surface soil sampling at the Former Aliso Sector B site. Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Report
Completed Date:	03/16/2007
Comments:	DTSC approved RI report.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	10/25/1999
Comments:	DTSC entered into a Voluntary Cleanup Agreement with Southern California Gas Company to conduct a Preliminary Endangerment Assessment for the Site.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

143
NE
1/2-1
0.769 mi.
4059 ft.

MAGNUS COMPANY, INC
860 NORTH MAIN STREET
LOS ANGELES, CA 90012

CA ENVIROSTOR **S101480911**
N/A

Relative:
Lower

Actual:
291 ft.

ENVIROSTOR:

Facility ID:	19370356
Status:	No Further Action
Status Date:	01/24/1984
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	0
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	* Mmonroy
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	* RCRA 3012 - Past Haz Waste Disp Inven Site
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.06083
Longitude:	-118.2352
APN:	NONE SPECIFIED
Past Use:	MANUFACTURING - METAL
Potential COC:	NONE SPECIFIED No Contaminants found

MAGNUS COMPANY, INC (Continued) **S101480911**

Confirmed COC: 31000-NO
Potential Description: NMA
Alias Name: CAD980636138
Alias Type: EPA Identification Number
Alias Name: 19370355
Alias Type: Envirostor ID Number
Alias Name: 19370356
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/28/1983
Comments: FACILITY IDENTIFIED ID FROM ERRIS

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 10/27/1994
Comments: Database verification project confirms NFA for DTSC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 01/24/1984
Comments: FACILITY DRIVE-BY ASAP. ZONING & ACTIVITY CHANGES AT THIS AREA-US POSTAL SERVICE BLDG. SUBMIT TO EPA PRELIM ASSESS DONE RCRA 3012

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

AF144 **ALISO SECTOR C BLOCK R** **CA ENVIROSTOR** **S113804690**
East **820 EAST JACKSON STREET** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.782 mi.
4130 ft. **Site 2 of 2 in cluster AF**

Relative:
Lower

Actual:
272 ft.

ENVIROSTOR:
Facility ID: 60001890
Status: Active
Status Date: 04/01/2013
Site Code: 301617
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 16
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Chand Sultana
Supervisor: Allan Plaza

ALISO SECTOR C BLOCK R (Continued) **S113804690**

Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	24
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05056
Longitude:	-118.2316
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene Polynuclear aromatic hydrocarbons (PAHs Tetrachloroethylene (PCE 1,1,1-Trichloroethane (TCA Trichloroethylene (TCE Vinyl chloride
Confirmed COC:	Benzene Polynuclear aromatic hydrocarbons (PAHs Tetrachloroethylene (PCE 1,1,1-Trichloroethane (TCA Trichloroethylene (TCE Vinyl chloride
Potential Description:	OTH, SOIL
Alias Name:	301617
Alias Type:	Project Code (Site Code)
Alias Name:	60001890
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Report
Completed Date:	11/04/2013
Comments:	completed
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2020
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2016
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2016
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

145
East
1/2-1
0.790 mi.
4171 ft.

SO CAL GAS/ALISO SECTOR C, BLOCK K **CA ENVIROSTOR** **S107737355**
NORTHEAST CORNER OF DUCOMMUN AND CENTER STREETS **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
273 ft.

ENVIROSTOR:

Facility ID:	60000171
Status:	Active
Status Date:	01/19/2001
Site Code:	300885
Site Type:	Voluntary Cleanup

SO CAL GAS/ALISO SECTOR C, BLOCK K (Continued) **S107737355**

Site Type Detailed: Voluntary Cleanup
Acres: 1.8
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Chand Sultana
Supervisor: Allan Plaza
Division Branch: Cleanup Chatsworth
Assembly: 53
Senate: 24
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.05214
Longitude: -118.2308
APN: NONE SPECIFIED
Past Use: MANUFACTURED GAS PLANT
Potential COC: Benzene Lead TPH-diesel TPH-gas 1,3-Butadiene Hexachlorobutadiene Styrene Toluene Xylenes Zinc Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC: Not reported
Potential Description: OTH, SOIL
Alias Name: 110033609432
Alias Type: EPA (FRS #)
Alias Name: 300885
Alias Type: Project Code (Site Code)
Alias Name: 60000171
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 09/09/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 03/04/2002
Comments: Remedial Investigation Master Work Plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 05/25/2005
Comments: DTSC approved the RI Report

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 09/09/2005
Comments: RAW approved by DTSC

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Participation Plan / Community Relations Plan
Completed Date: 09/09/2005

SO CAL GAS/ALISO SECTOR C, BLOCK K (Continued) **S107737355**

Comments:	Plan executed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	10/06/2008
Comments:	All fieldwork on subject property is completed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	11/24/2009
Comments:	RAW Completion Report - approved!
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	01/19/2001
Comments:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2022
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Certification
Schedule Due Date:	02/22/2016
Schedule Revised Date:	Not reported
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Land Use Restriction
Schedule Due Date:	02/28/2016
Schedule Revised Date:	Not reported

146
SW
1/2-1
0.810 mi.
4277 ft.

JOHNSON BRONZE COMPANY **CA ENVIROSTOR** **S101480797**
1818 S. GRAND AVENUE **N/A**
LOS ANGELES, CA 90017

Relative:
Lower

Actual:
259 ft.

ENVIROSTOR:

Facility ID:	19340506
Status:	Refer: Other Agency
Status Date:	08/15/1995
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Chatsworth
Assembly:	59
Senate:	30
Special Program:	* Site Char & Assess Grant (CERCLA 104)

JOHNSON BRONZE COMPANY (Continued) **S101480797**

Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.03388
Longitude: -118.2675
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: * HALOGENATED SOLVENTS * OIL/WATER SEPARATION SLUDGE * UNSPECIFIED SOLVENT MIXTURES
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: JOHNSON AUTOMOTIVE
Alias Type: Alternate Name
Alias Name: PARKER HANNIFIN CORP(1968-PRESENT)
Alias Type: Alternate Name
Alias Name: CAD981425002
Alias Type: CERCLIS ID
Alias Name: 19340506
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 09/11/1981
Comments: FACILITY IDENTIFIED ID BY 1947 PAC TEL DIR. BEARINGS: BABBITT, BRONZE, ETC.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

147
ENE
1/2-1
0.811 mi.
4281 ft.

MOGUL CORPORATION **CA ENVIROSTOR** **S101481023**
967 VIGNES **N/A**
LOS ANGELES, CA 99999

Relative:
Lower

Actual:
289 ft.

ENVIROSTOR:
Facility ID: 19510059
Status: No Further Action
Status Date: 09/09/1985
Site Code: Not reported
Site Type: Evaluation
Site Type Detailed: Evaluation
Acres: 0
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: * Frances Collier
Division Branch: Cleanup Chatsworth

MOGUL CORPORATION (Continued) **S101481023**

Assembly:	51
Senate:	24
Special Program:	EPA - PASI
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	EPA Grant
Latitude:	34.05848
Longitude:	-118.2327
APN:	5409016026
Past Use:	MANUFACTURING - CHEMICALS
Potential COC:	Arsenic Chromium VI
Confirmed COC:	30153-NO 30001-NO
Potential Description:	SOIL, SV
Alias Name:	SKASOL OF SOUTHERN CALIFORNIA INC
Alias Type:	Alternate Name
Alias Name:	5409016026
Alias Type:	APN
Alias Name:	CAD056437460
Alias Type:	EPA Identification Number
Alias Name:	110002650774
Alias Type:	EPA (FRS #)
Alias Name:	19510059
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	12/04/1987
Comments:	SITE SCREENING DONE ON CERCLIS

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report
Completed Date:	02/05/1984
Comments:	T/C W/ D.BORES & D.WILBUR,MOGUL,216-272- 1353 - 1)SOURCE ACT: BLEND & PACKAGE WATER TREATMENT CHEM. 2)WASTE: (MOGUL) HAULED BY CHEMICAL WASTE MFMT.(SKASOL) ONSITE DISP-EVAP/PERCOLATION ON SOILLAND SODIUM DICHROMATE,BASES,DICHLOROBENZEN, HYDRAZINE,HYDROCHLORIC,SULFURIC ACID, FINAL STRATEGY RECOM INSP, SAMPLING, & SOIL ANALYSIS SUBMIT TO EPA PRELIM ASSESS DONE RCRA 3012

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/28/1983
Comments:	FACILITY IDENTIFIED ID FROM ERRIS

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

148
NNE
1/2-1
0.857 mi.
4525 ft.

BLOSSOM PLAZA
900 NORTH BROADWAY
LOS ANGELES, CA 90012

CA ENVIROSTOR **S109691862**
N/A

Relative:
Higher

Actual:
307 ft.

ENVIROSTOR:

Facility ID:	60001902
Status:	Certified
Status Date:	04/14/2015
Site Code:	301619
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.9
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.06425
Longitude:	-118.2366
APN:	5414013012, 5414013900
Past Use:	HOTEL, RETAIL, RETAIL - SERVICE STATION, UNDERGROUND STORAGE TANKS
Potential COC:	Under Investigation Benzene Lead Methane TPH-diesel TPH-gas Ethylbenzene Toluene Xylenes
Confirmed COC:	Benzene 30013-NO Methane 30024-NO 30025-NO Ethylbenzene Xylenes Toluene 31001-NO
Potential Description:	OTH, SOIL, SV, UE
Alias Name:	5414013012
Alias Type:	APN
Alias Name:	5414013900
Alias Type:	APN
Alias Name:	301619
Alias Type:	Project Code (Site Code)
Alias Name:	60001902
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	08/27/2013
Comments:	Further action required at the Site.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Workplan
Completed Date:	09/18/2013
Comments:	DTSC reviewed and approved the Soil Vapor Sampling Plan to characterize the presence and nature of VOCs, methane, and hydrogen sulfide in the vadose zone beneath the proposed building foundation.
Completed Area Name:	PROJECT WIDE

BLOSSOM PLAZA (Continued) **S109691862**

Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 12/20/2013
Comments: DTSC approved the Soil Vapor Survey Results and determined no further environmental investigation of the Sit is required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 12/18/2013
Comments: DTSC concurred with the Risk Management Plan for soil, soil vapor, and groundwater for implementation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 12/18/2013
Comments: DTSC approved the HHRE. Based on the HHRE, the residual petroleum-related VOCs detected in soil vapor do not pose an unacceptable risk to future occupants in the proposed multi-level buildings.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 10/21/2014
Comments: DTSC approved final TCRA Completion Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Time Critical Removal Action Workplan
Completed Date: 06/30/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 04/01/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 01/06/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 04/01/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 06/09/2013
Comments: DTSC and Project Proponent (Forest City Blossom, LLC) entered into a

BLOSSOM PLAZA (Continued) **S109691862**

Voluntary Cleanup Agreement to review and comment on PEAE documents.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 11/01/2013
Comments: VCA Amendment to amend Scope of Work and DTSC Oversight Cost Estimate

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: No Further Action Letter
Completed Date: 12/20/2013
Comments: Based on available Site data, DTSC concludes that further environmental investigation of the Site is not required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/18/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 12/18/2014
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

149
NE
1/2-1
0.875 mi.
4621 ft.

CORNFIELD SITE **CA ENVIROSTOR** **S104573224**
1245 N. SPRING STREET **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
292 ft.

ENVIROSTOR:
Facility ID: 19400013
Status: Active
Status Date: 11/17/2014
Site Code: 301019
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 32
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Tedd Yargeau
Supervisor: Javier Hinojosa
Division Branch: Cleanup Chatsworth
Assembly: 51

CORNFIELD SITE (Continued) **S104573224**

Senate: 24
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.06805
Longitude: -118.2322
APN: NONE SPECIFIED
Past Use: FUEL - VEHICLE STORAGE/ REFUELING, RAIL ROAD MAINTENANCE SHOP, RAILROAD RIGHT OF WAY
Potential COC: Arsenic Lead TPH-MOTOR OIL
Confirmed COC: Arsenic Lead TPH-MOTOR OIL
Potential Description: OTH, SOIL
Alias Name: CORNFIELDS
Alias Type: Alternate Name
Alias Name: CORNFIELDS RAILYARD
Alias Type: Alternate Name
Alias Name: CORNFIELDS SITE
Alias Type: Alternate Name
Alias Name: FORMER CORNFIELDS SITE
Alias Type: Alternate Name
Alias Name: 110033613686
Alias Type: EPA (FRS #)
Alias Name: 301019
Alias Type: Project Code (Site Code)
Alias Name: 19400013
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Mitigated Neg. Dec. (MND)
Completed Date: 11/15/2002
Comments: VCA2

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/17/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/28/2001
Comments: DTSC and proponent, Dept. of Parks and Recreation, enter into Voluntary Cleanup Agreement.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/21/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 02/28/2003

CORNFIELD SITE (Continued) **S104573224**

Comments: VCA2

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 11/18/2002
Comments: DTSC approves Removal Action Workplan for Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/16/2002
Comments: Site characterization activities which included additional sampling have been completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 12/20/2001
Comments: Draft Final PEA Report conditionally approved pending the submittal of the waste manifests to be included in the Final PEA Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 03/01/1989
Comments: Investigation did not identify major areas of concern.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 04/01/1999
Comments: Additional subsurface characterization required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/01/1999
Comments: Further characterization required at site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/17/2002
Comments: Removal Action workplan will be drafted.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 10/01/1999
Comments: Investigation indicated both sale area (Cornfield site, 32 acre sub-parcel of a 50 acre site) and non-sale area (remaining property)contained impacted soil and groundwater.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report

CORNFIELD SITE (Continued) **S104573224**

Completed Date:	10/01/2002
Comments:	Report submitted.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Technical Workplan
Completed Date:	09/11/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan w/ESD
Completed Date:	03/13/2015
Comments:	Not reported
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2016
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Removal Action Completion Report
Schedule Due Date:	04/21/2016
Schedule Revised Date:	Not reported

AG150 **SO CAL GAS/ALISO D MGP** **CA ENVIROSTOR** **S103393772**
ENE **CESAR CHAVEZ AND LYONS STREETS** **N/A**
1/2-1 **LOS ANGELES, CA 90012**
0.879 mi.
4641 ft. **Site 1 of 2 in cluster AG**

Relative:
Lower

Actual:
284 ft.

ENVIROSTOR:

Facility ID:	19490243
Status:	Active
Status Date:	01/19/2001
Site Code:	301053
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	10.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05611
Longitude:	-118.2297
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Arsenic Benzene Tetrachloroethylene (PCE Trichloroethylene (TCE 1,3-Butadiene Carbon disulfide Dicyclopentadiene Polynuclear aromatic hydrocarbons (PAHs Styrene Toluene 1,2,4-Trimethylbenzene Xylenes

SO CAL GAS/ALISO D MGP (Continued) **S103393772**

Confirmed COC: 30472-NO 30525-NO 30550-NO 30577-NO 30022-NO 30027-NO 30100-NO 30115-NO 30206-NO 30001-NO 30003-NO 30593-NO
Potential Description: OTH, SOIL
Alias Name: ALISO D
Alias Type: Alternate Name
Alias Name: ALISO MANUFACTURED GAS PLANT
Alias Type: Alternate Name
Alias Name: SECTOR D
Alias Type: Alternate Name
Alias Name: SOUTHERN CALIFORNIA GAS
Alias Type: Alternate Name
Alias Name: SOUTHERN CALIFORNIA GAS COMPANY
Alias Type: Alternate Name
Alias Name: 110033609389
Alias Type: EPA (FRS #)
Alias Name: 300706
Alias Type: Project Code (Site Code)
Alias Name: 300885
Alias Type: Project Code (Site Code)
Alias Name: 301053
Alias Type: Project Code (Site Code)
Alias Name: 19490243
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 09/12/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 01/04/1999
Comments: Transition to Chapter 6.5 - Amendment to the existing Voluntary Cleanup Agreement, No. HSA 97/98-054 signed by the RP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 03/30/2008
Comments: The Gas Company excavated and restored the Area 8 for MTA Parking Lot.
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/11/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 07/30/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE

SO CAL GAS/ALISO D MGP (Continued) **S103393772**

Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/28/2000
Comments: The Preliminary Endangerment Assessment (PEA) indicated that significant contamination exists at the site. Contaminants include VOCs and PAHs. A Remedial Investigation/Feasibility Study recommended.
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Feasibility Study Report
Completed Date: 01/03/2006
Comments: FS was completed on Jan 3, 2006 and RAP is being prepared for the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 07/19/2005
Comments: DTSC approved RI Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 06/23/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Plan
Completed Date: 09/13/2006
Comments: DTSC approved RAP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Design/Implementation Workplan
Completed Date: 09/13/2007
Comments: DTSC approved RD.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/14/2007
Comments: The limit of contamination, as close possible to the Street and MTA Building 1 evaluated.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 06/20/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 12/10/2010
Comments: Not reported

SO CAL GAS/ALISO D MGP (Continued) **S103393772**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	11/05/2009
Comments:	Field Work on Area 10 completed.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Well Installation Workplan
Completed Date:	06/16/2015
Comments:	Plan approved by an e-mail dated 6-16-2015.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	10/29/2015
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	06/26/1998
Comments:	DTSC and Southern California Gas Company executed a Voluntary Cleanup Agreement to conduct a Preliminary Endangerment Assessment on "Sector D" of the former Aliso Manufactured Gas Plant site.
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Operations and Maintenance Plan
Future Due Date:	2017
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2024
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Operations and Maintenance Report
Future Due Date:	2017
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2017
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2018
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Remedial Action Completion Report
Schedule Due Date:	02/13/2016
Schedule Revised Date:	Not reported

151 South 1/2-1 0.888 mi. 4688 ft.

ACE PLATING CO., INC.
719 TOWNE AVENUE
LOS ANGELES, CA 90021

CA ENVIROSTOR **S105632824**
N/A

Relative: Lower

Actual: 250 ft.

ENVIROSTOR:

Facility ID:	71002245
Status:	Inactive - Needs Evaluation
Status Date:	05/09/2012
Site Code:	Not reported
Site Type:	Tiered Permit
Site Type Detailed:	Tiered Permit
Acres:	0
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Referred - Not Assigned
Division Branch:	Cleanup Chatsworth
Assembly:	53
Senate:	30
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.03924
Longitude:	-118.2459
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD008514648
Alias Type:	EPA Identification Number
Alias Name:	71002245
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	Not reported
Completed Sub Area Name:	Not reported
Completed Document Type:	Not reported
Completed Date:	Not reported
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

AG152 **ALISO STREET INVESTIGATION** **CA ENVIROSTOR** **S109821389**
ENE **BAUCHET STREET, TEMPLE STREET, CESAR CEVAZ, VIGNES STREET, K** **N/A**
1/2-1 **LOS ANGELES, CA 90013**
0.918 mi.
4847 ft. **Site 2 of 2 in cluster AG**

Relative:
Lower

Actual:
285 ft.

ENVIROSTOR:

Facility ID:	60001142
Status:	Active
Status Date:	06/01/2009
Site Code:	300885
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	52
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05611
Longitude:	-118.229
APN:	NONE SPECIFIED
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Lead Methyl tertbutyl ether (MTBE Polychlorinated biphenyls (PCBs Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas TPH-MOTOR OIL 1,1,1-Trichloroethane (TCA Trichloroethylene (TCE
Confirmed COC:	Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas 1,1,1-Trichloroethane (TCA TPH-MOTOR OIL Polychlorinated biphenyls (PCBs Trichloroethylene (TCE Lead
Potential Description:	SOIL
Alias Name:	300885
Alias Type:	Project Code (Site Code)
Alias Name:	60001142
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Workplan
Completed Date:	10/08/2009
Comments:	DTSC approved the Workplan to perform investigation on Aliso Streets.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Remedial Investigation Report
Completed Date:	11/20/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	04/30/2010
Comments:	Fieldwork for Aliso Streets Investigationtion was completed in 2010.

ALISO STREET INVESTIGATION (Continued) **S109821389**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Annual Oversight Cost Estimate
Completed Date:	09/29/2014
Comments:	2014-2015 Estimated Oversight Costs.
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2022
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2018
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Land Use Restriction
Future Due Date:	2018
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

153
East
1/2-1
0.955 mi.
5044 ft.

SANTA FE/MACY STREET **CA ENVIROSTOR** **S102564449**
MACY STREET/ALISO ST/KELLER ST **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
267 ft.

ENVIROSTOR:

Facility ID:	19400010
Status:	Certified O&M - Land Use Restrictions Only
Status Date:	08/11/2009
Site Code:	300568
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	2.5
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Chand Sultana
Supervisor:	Allan Plaza
Division Branch:	Cleanup Chatsworth
Assembly:	51
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	YES
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.05480
Longitude:	-118.2281
APN:	5409-021-902, 5409021902
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	Benzene TPH-diesel TPH-gas Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC:	NONE SPECIFIED
Potential Description:	OTH, SOIL
Alias Name:	MACY STREET SITE

SANTA FE/MACY STREET (Continued) **S102564449**

Alias Type: Alternate Name
Alias Name: 5409-021-902
Alias Type: APN
Alias Name: 5409021902
Alias Type: APN
Alias Name: 110033609986
Alias Type: EPA (FRS #)
Alias Name: 300568
Alias Type: Project Code (Site Code)
Alias Name: 19400010
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 03/30/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 06/17/2008
Comments: DTSC approved the Site Inspection Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/11/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Land Use Restriction Monitoring Report
Completed Date: 06/08/2007
Comments: Site is in compliance with the LUC restrictions.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 03/30/2006
Comments: LAND USE COVENANT (LUC) DOCUMENT FOR THE FORMER MACY STREET SITE WAS RECORDED WITH LOS ANGELES COUNTY RECORD OFFICE.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/30/2004
Comments: Contaminated soil was excavated in accordance with the approved RAW.
As contamination remains in deeper soils, DTSC requires a deed restriction. Also, groundwater monitoring should continue on schedule.
Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 02/04/2004
Comments: Public Comment Period was from December 16, 2002 to January 17, 2003.

SANTA FE/MACY STREET (Continued) **S102564449**

No response from public, Removal Action Work Plan was finalized on February 4, 2003.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/29/2001
Comments: RI report for Macy Street Site accepted on 06/29/01 closing the RI phase. DTSC expects RAW by 8/31. Origianlly an RI/FS was planned for the Site. However, since no feasibility study was needed an RI (PEAe commitment) was done instead. DTSC has approved the RI Report. Removal Action Plan due on 8/15/01.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 05/12/2009
Comments: Annual Inspection.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Land Use Restriction Monitoring Report
Completed Date: 10/03/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 04/20/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Land Use Restriction Monitoring Report
Completed Date: 11/25/2012
Comments: Annual Inspection Report reviewed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Land Use Restriction Monitoring Report
Completed Date: 03/21/2014
Comments: completed

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 04/21/2013
Comments: Annual Inspection report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 12/18/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

SANTA FE/MACY STREET (Continued) **S102564449**

Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	04/17/1996
Comments:	VCP agreement signed.
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	5 Year Review Reports
Future Due Date:	2019
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Certification
Future Due Date:	2017
Schedule Area Name:	PROJECT WIDE
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Land Use Restriction
Schedule Due Date:	05/04/2016
Schedule Revised Date:	Not reported

154
WNW
1/2-1
0.958 mi.
5056 ft.

GRATTS ELEMENTARY SCHOOL **CA ENVIROSTOR** **S104576005**
309 LUCAS AVENUE **N/A**
LOS ANGELES, CA 90017

Relative:
Higher

Actual:
417 ft.

ENVIROSTOR:

Facility ID:	19820074
Status:	Certified / Operation & Maintenance
Status Date:	07/09/2014
Site Code:	300762
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	5.2
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Ivy Osornio
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	53
Senate:	24
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.05784
Longitude:	-118.2623
APN:	5153-025-900, 5153-025-901, 5153-025-902, 5153-025-903, 5153-025-904, 5153-025-905, 5153-025-906, 5153-025-907, 5153-025-908, 5153-025-909, 5153025901, 5153025909
Past Use:	VEHICLE MAINTENANCE
Potential COC:	Benzene Tetrachloroethylene (PCE TPH-diesel
Confirmed COC:	Benzene Tetrachloroethylene (PCE TPH-diesel
Potential Description:	OTH
Alias Name:	GRATTS ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	GRATTS ELEMENTARY SCHOOL
Alias Type:	Alternate Name
Alias Name:	LOS ANGELES UNIFIED SCHOOL DISTRICT

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Alias Type: Alternate Name
Alias Name: 5153-025-900
Alias Type: APN
Alias Name: 5153-025-901
Alias Type: APN
Alias Name: 5153-025-902
Alias Type: APN
Alias Name: 5153-025-903
Alias Type: APN
Alias Name: 5153-025-904
Alias Type: APN
Alias Name: 5153-025-905
Alias Type: APN
Alias Name: 5153-025-906
Alias Type: APN
Alias Name: 5153-025-907
Alias Type: APN
Alias Name: 5153-025-908
Alias Type: APN
Alias Name: 5153-025-909
Alias Type: APN
Alias Name: 5153025901
Alias Type: APN
Alias Name: 5153025909
Alias Type: APN
Alias Name: 110033620696
Alias Type: EPA (FRS #)
Alias Name: T0603700588
Alias Type: GeoTracker Global ID
Alias Name: 300762
Alias Type: Project Code (Site Code)
Alias Name: 19820074
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/09/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/22/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation / Feasibility Study
Completed Date: 09/15/2000
Comments: Not reported

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 05/02/2005
Comments: Not reported

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 04/25/2006
Comments: No Comments

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/07/2006
Comments: Approved the report with comments

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 04/24/2007
Comments: Comments sent for future

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 06/14/2007
Comments: Conditional approval with comments

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/26/2007
Comments: accepted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/26/2007
Comments: Accepted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/03/2008
Comments: Acceped with the comments to be considered in the future.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Pilot Study/Treatability Workplan
Completed Date: 06/23/2008
Comments: DTSC approved the Pilot Study Workplan for implementation provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 03/17/2008
Comments: DTSC did not have any comments on the Report

Completed Area Name: GW OU
Completed Sub Area Name: Not reported

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Completed Document Type: Treatability Study Workplan
Completed Date: 07/01/2008
Comments: DTSC approved the Pilot Study Workplan for implementation provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Treatability Study Report
Completed Date: 08/19/2009
Comments: DTSC approved the Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/30/2008
Comments: DTSC accepted the Operation and Maintenance report provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 12/23/2008
Comments: DTSC accepted Operation and Maintenance report provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/08/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/29/2009
Comments: DTSC concurred with the report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 01/29/2010
Comments: Not reported

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 05/20/2010
Comments: DTSC concurred with the report.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 09/28/2010
Comments: DTSC reviewed the O&M report and had no comments

Completed Area Name: GW OU
Completed Sub Area Name: Not reported

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Completed Document Type: Monitoring Report
Completed Date: 12/07/2010
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 01/24/2013
Comments: DTSC finalized a Community Profile

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 01/24/2013
Comments: DTSC finalized a Fact Sheet

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Plan
Completed Date: 12/16/2013
Comments: DTSC approved the OMP

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 06/08/2011
Comments: DTSC reviwed the O&M report and had no comments

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 08/11/2011
Comments: DTSC did not have any comments on the O&M report

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/18/2011
Comments: DTSC issued comments on the injection pilot test

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 11/30/2011
Comments: DTSC reviewed the O&M report and had no comments

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/18/2013
Comments: Approval of RAW for Implementaton letter w/ Public RTC and NOE.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 11/09/2011

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Comments:	DTSC comments on the injection pilot test results will be addressed in the removal action workplan
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Monitoring Report
Completed Date:	02/29/2012
Comments:	DTSC reviewed the O&M report and had no comments
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Treatability Study Workplan
Completed Date:	02/07/2012
Comments:	DTSC concurred with the proposed microbial testing
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Treatability Study Report
Completed Date:	03/12/2012
Comments:	DTSC provided a comment on the TM that should be addressed in the draft RAW
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Monitoring Report
Completed Date:	04/03/2012
Comments:	DTSC issued comments on the 3rd and 4th Quarter 2011 remediation status report
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Monitoring Report
Completed Date:	06/14/2012
Comments:	DTSC approved the O&M report provided DTSC comments are incorporated in future fieldwork/reports.
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Operations and Maintenance Report
Completed Date:	09/13/2012
Comments:	DTSC approved the remediation status report with comments
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Operations and Maintenance Report
Completed Date:	09/25/2012
Comments:	DTSC approved the O&M report without comments
Completed Area Name:	GW OU
Completed Sub Area Name:	Not reported
Completed Document Type:	Operations and Maintenance Report
Completed Date:	01/24/2013
Comments:	DTSC concurs with the report conclusions and recommendations and provided minor comments which may be addressed in future report submittals.
Completed Area Name:	GW OU

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 01/24/2013
Comments: DTSC finalized a Public Notice

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/19/2014
Comments: DTSC approved the O&M report/RACR provided DTSC comments are addressed in future reports/fieldwork

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 07/03/2013
Comments: The Report included National Pollutant Discharge Elimination System, Interim Measure Status, and Groundwater and Soil Vapor Monitoring Report for the First Quarter 2013. DTSC concurs with the Report's recommendations and considers the Report to be Final.

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 09/25/2013
Comments: DTSC approved the report provided comments are addressed in future reports/fieldwork

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Monitoring Report
Completed Date: 01/14/2014
Comments: DTSC approved the O&M report with comments

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 09/18/2014
Comments: DTSC approved the O&M report provided comments are addressed during fieldwork/future reports

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/02/2015
Comments: DTSC concurred with the O&M report provided DTSC comments are addressed during field work/future reports

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 04/09/2015
Comments: DTSC approved the O&M report provided comments are addressed in future reports

Completed Area Name: GW OU
Completed Sub Area Name: Not reported

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Completed Document Type: Operations and Maintenance Report
Completed Date: 06/09/2015
Comments: DTSC approved the O&M report provided DTSC comments are incorporated in future field work/reports

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 08/31/2015
Comments: Not reported

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 12/22/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 01/25/2016
Comments: Not reported

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 04/10/2014
Comments: Not reported

Completed Area Name: GW OU
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 03/28/2013
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 07/09/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/08/2014
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2018
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2017
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported

GRATTS ELEMENTARY SCHOOL (Continued) **S104576005**

Future Document Type: Operations and Maintenance Report
Future Due Date: 2016
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

155
ENE
1/2-1
0.959 mi.
5062 ft.

SO CAL GAS/ALISO E MGP - 496 BAUCHET STREET **CA ENVIROSTOR** **S107737353**
SECTOR E EXTENDS FROM THE SURVED SECTION OF BAUCHET STREET N **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
292 ft.

ENVIROSTOR:
Facility ID: 70000159
Status: Active
Status Date: 06/21/2010
Site Code: 301200
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 9
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Chand Sultana
Supervisor: Allan Plaza
Division Branch: Cleanup Chatsworth
Assembly: 51
Senate: 24
Special Program: Voluntary Cleanup Program
Restricted Use: YES
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.05979
Longitude: -118.2300
APN: NONE SPECIFIED
Past Use: METAL PLATING - OTHER
Potential COC: Polychlorinated biphenyls (PCBs Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC: 30019-NO 30018-NO
Potential Description: OTH, SOIL, SV, IA
Alias Name: 110033609405
Alias Type: EPA (FRS #)
Alias Name: 300626
Alias Type: Project Code (Site Code)
Alias Name: 300885
Alias Type: Project Code (Site Code)
Alias Name: 301200
Alias Type: Project Code (Site Code)
Alias Name: 70000159
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 11/30/2001

SO CAL GAS/ALISO E MGP - 496 BAUCHET STREET (Continued) **S107737353**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 10/30/1996
Comments: VCA signed for the property.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 09/30/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 06/18/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 01/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/13/2001
Comments: DTSC approved the use of SVE to treat VOCs.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 03/31/1998
Comments: PEA completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 12/22/2006
Comments: RI Report approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 07/01/2008
Comments: DTSC approved the Completion Report.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Implementation Workplan
Completed Date: 12/22/2007
Comments: Field Work completed.

Completed Area Name: PROJECT WIDE

SO CAL GAS/ALISO E MGP - 496 BAUCHET STREET (Continued) **S107737353**

Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction Monitoring Report
Completed Date: 10/12/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Reimbursement Agreement
Completed Date: 06/12/2013
Comments: Gas Co. and DTSC signed the Agreement.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 01/04/1999
Comments: Not reported

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: 5 Year Review Reports
Future Due Date: 2019
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

156
East
1/2-1
0.968 mi.
5112 ft.

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY TRACK EXTENSION **CA ENVIROSTOR** **S109821388**
KELLER YARD IN VICINITY OF CESAR CHAVEZ **N/A**
LOS ANGELES, CA 90012

Relative:
Lower

Actual:
270 ft.

ENVIROSTOR:
Facility ID: 60001137
Status: No Further Action
Status Date: 01/21/2013
Site Code: 300568
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 2.7
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Chand Sultana
Supervisor: Allan Plaza
Division Branch: Cleanup Chatsworth
Assembly: 51
Senate: 24
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.05472
Longitude: -118.2278
APN: NONE SPECIFIED
Past Use: MANUFACTURED GAS PLANT
Potential COC: Benzene Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY TRACK EXTENSION (Continued) **S109821388**

Confirmed COC: Polynuclear aromatic hydrocarbons (PAHs TPH-diesel TPH-gas
Potential Description: SOIL
Alias Name: 19400010
Alias Type: Former Project ID
Alias Name: 300568
Alias Type: Project Code (Site Code)
Alias Name: 60001137
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 08/06/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 08/30/2009
Comments: Limited Soil Investigation completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 02/15/2010
Comments: NOE Finalized.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Workplan
Completed Date: 07/07/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 03/04/2010
Comments: RI approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Tank Removal Workplan
Completed Date: 10/08/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/04/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 05/19/2011
Comments: Not reported

SOUTHERN CALIFORNIA REGIONAL RAIL AUTHORITY TRACK EXTENSION (Continued) **S109821388**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 5 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
LOS ANGELES	S105628645	GRATTS NEW PRIMARY CENTER	WEST 6TH STREET/BIXEL STREET	90017	CA ENVIROSTOR, CA SCH
LOS ANGELES	S116490706	RAMIREZ STREET INVESTIGATION	APPROXIMATELY 400-FOOT STRETCH	90012	CA ENVIROSTOR, CA VCP
LOS ANGELES	1003878990	LOS ANGELES HARBOR DRUM	LOS ANGELES HARBOR	90051	SEMS-ARCHIVE
LOS ANGELES	S105628641	ALTERNATE CENTRAL LOS ANGELES HS N	LUCAS AVENUE/MIRAMAR STREET	90026	CA ENVIROSTOR, CA SCH
LOS ANGELES	S107736103	CENTRAL LOS ANGELES MIDDLE SCHOOL	UNION AVENUE/WILSHIRE BOULEVAR	90017	CA ENVIROSTOR, CA SCH

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: N/A
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/13/2015
Date Data Arrived at EDR: 01/06/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 135

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 10

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/05/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/16/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 51

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/15/2016
Date Data Arrived at EDR: 02/17/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 44

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST: Geotracker's Leaking Underground Fuel Tank Report

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/11/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 49

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/01/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2015
Date Data Arrived at EDR: 12/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/22/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/20/2016
Date Data Arrived at EDR: 02/23/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 83

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 09/30/2015
Date Data Arrived at EDR: 01/19/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 63

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 11/25/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 16

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/08/2016
Date Data Arrived at EDR: 03/11/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 54

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 57

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/16/2015
Date Data Arrived at EDR: 01/27/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/27/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing

The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing

The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 61

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 34

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/12/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/12/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 28

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/26/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/08/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/04/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/07/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 03/02/2016
Date Made Active in Reports: 04/15/2016
Number of Days to Update: 44

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/02/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 03/01/2016
Date Data Arrived at EDR: 03/03/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 33

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/28/2016
Date Data Arrived at EDR: 03/30/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 40

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/30/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 02/08/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/05/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 48
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/22/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/26/2016
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53
Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 01/28/2016
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53
Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/17/2016
Date Data Arrived at EDR: 02/23/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 38
Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 58
Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/15/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

HIST CORTESE: Hazardous Waste & Substance Site List
The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/13/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 40
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/29/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 57
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 02/16/2016
Date Data Arrived at EDR: 02/17/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 44
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/18/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/08/2016
Date Made Active in Reports: 05/16/2016
Number of Days to Update: 69
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/16/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 54
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 07/23/2015
Date Data Arrived at EDR: 09/15/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 28
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/20/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/23/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 05/20/2016
Number of Days to Update: 86

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/12/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 41

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/11/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/14/2016
Date Made Active in Reports: 03/01/2016
Number of Days to Update: 47

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/11/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 03/21/2016
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 43

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 02/19/2016
Date Data Arrived at EDR: 02/23/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 38

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 02/02/2016
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 18

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/24/2016
Date Data Arrived at EDR: 02/26/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 35

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/02/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 03/07/2016
Number of Days to Update: 31

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/02/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/04/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 28

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/16/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 01/25/2016
Date Data Arrived at EDR: 01/27/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 26

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 03/01/2016
Date Data Arrived at EDR: 03/03/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 67

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/23/2016
Date Data Arrived at EDR: 02/25/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 36

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/09/2016
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 49

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern

San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: No Update Planned

HMS: Street Number List

Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 03/30/2016
Date Data Arrived at EDR: 04/01/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 38

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/01/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities

Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2016
Date Data Arrived at EDR: 01/20/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 62

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/20/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

City of Los Angeles Landfills

Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Varies

Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/12/2016
Date Data Arrived at EDR: 01/15/2016
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 24

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/02/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/05/2015
Date Data Arrived at EDR: 10/08/2015
Date Made Active in Reports: 10/15/2015
Number of Days to Update: 7

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/26/2016
Date Data Arrived at EDR: 03/01/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 64

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 03/03/2016
Date Data Arrived at EDR: 03/07/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 58

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 47

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/27/2016
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 18

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/12/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/10/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 51

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/11/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/07/2016
Date Data Arrived at EDR: 03/09/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 56

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/13/2016
Date Data Arrived at EDR: 04/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 60

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/06/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/06/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 03/15/2016
Date Data Arrived at EDR: 03/18/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/09/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 03/03/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 04/06/2016
Date Data Arrived at EDR: 04/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 26
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 02/24/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 37
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 10/14/2015
Date Data Arrived at EDR: 10/15/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 32
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 55
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/22/2016
Date Data Arrived at EDR: 03/04/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 66

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/05/2016
Date Data Arrived at EDR: 02/10/2016
Date Made Active in Reports: 04/01/2016
Number of Days to Update: 51

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 02/26/2016
Date Data Arrived at EDR: 03/01/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 64

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 03/18/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/22/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 48

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/21/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 44

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 04/05/2016
Date Data Arrived at EDR: 04/08/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 26

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/01/2016
Date Data Arrived at EDR: 04/05/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 34

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/28/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 03/14/2016
Date Data Arrived at EDR: 03/15/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 50

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 03/08/2016
Date Data Arrived at EDR: 03/11/2016
Date Made Active in Reports: 05/09/2016
Number of Days to Update: 59

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/21/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/28/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/22/2016
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/28/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/25/2016
Next Scheduled EDR Contact: 08/08/2016
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/26/2016
Date Data Arrived at EDR: 03/17/2016
Date Made Active in Reports: 05/04/2016
Number of Days to Update: 48

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/17/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 46

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 04/04/2016
Next Scheduled EDR Contact: 07/18/2016
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/29/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/13/2016
Next Scheduled EDR Contact: 08/29/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/12/2016
Next Scheduled EDR Contact: 07/25/2016
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2016
Next Scheduled EDR Contact: 08/15/2016
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/18/2016
Next Scheduled EDR Contact: 08/01/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/23/2016
Next Scheduled EDR Contact: 09/05/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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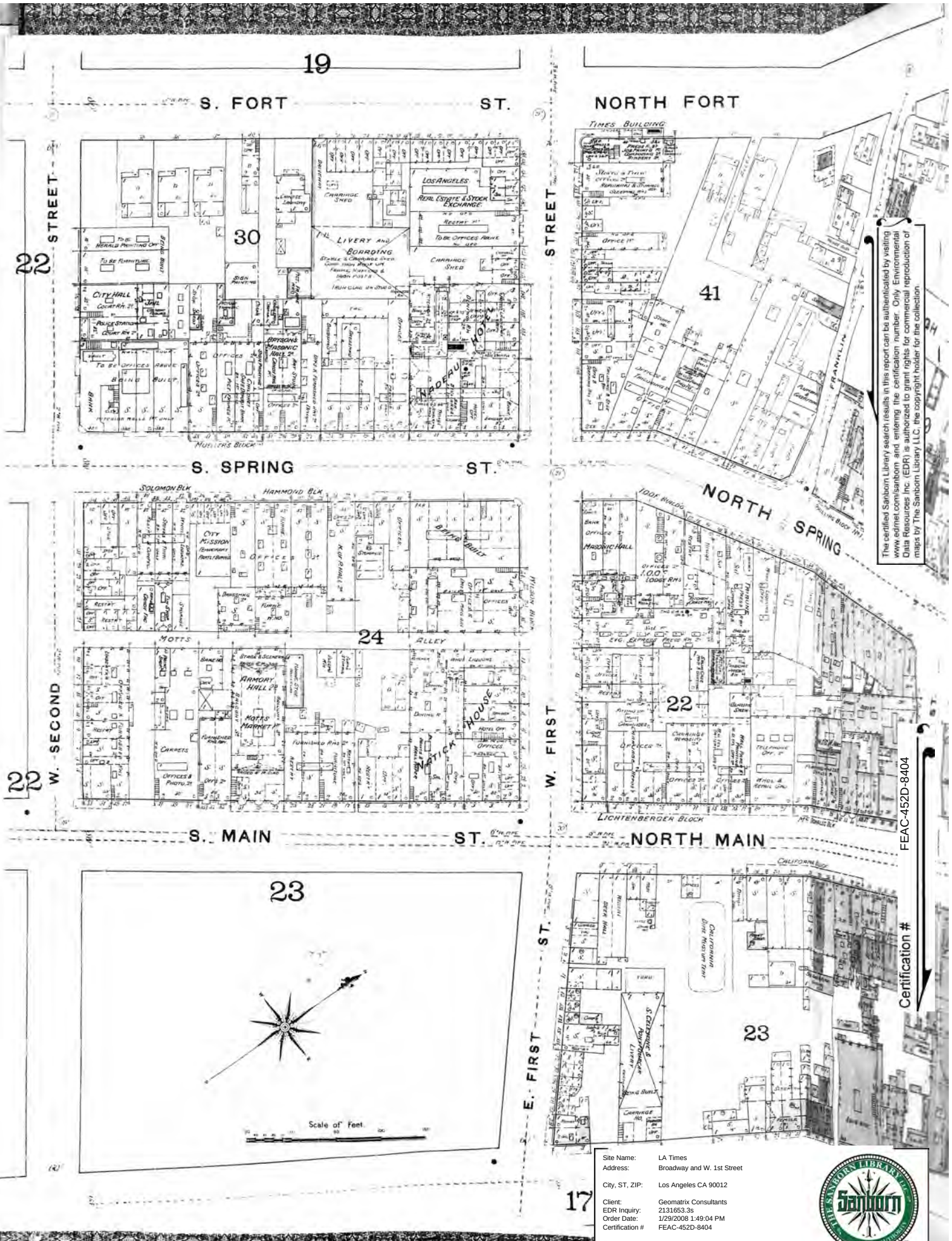
12.5 Sanborn Fire Insurance Maps



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Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

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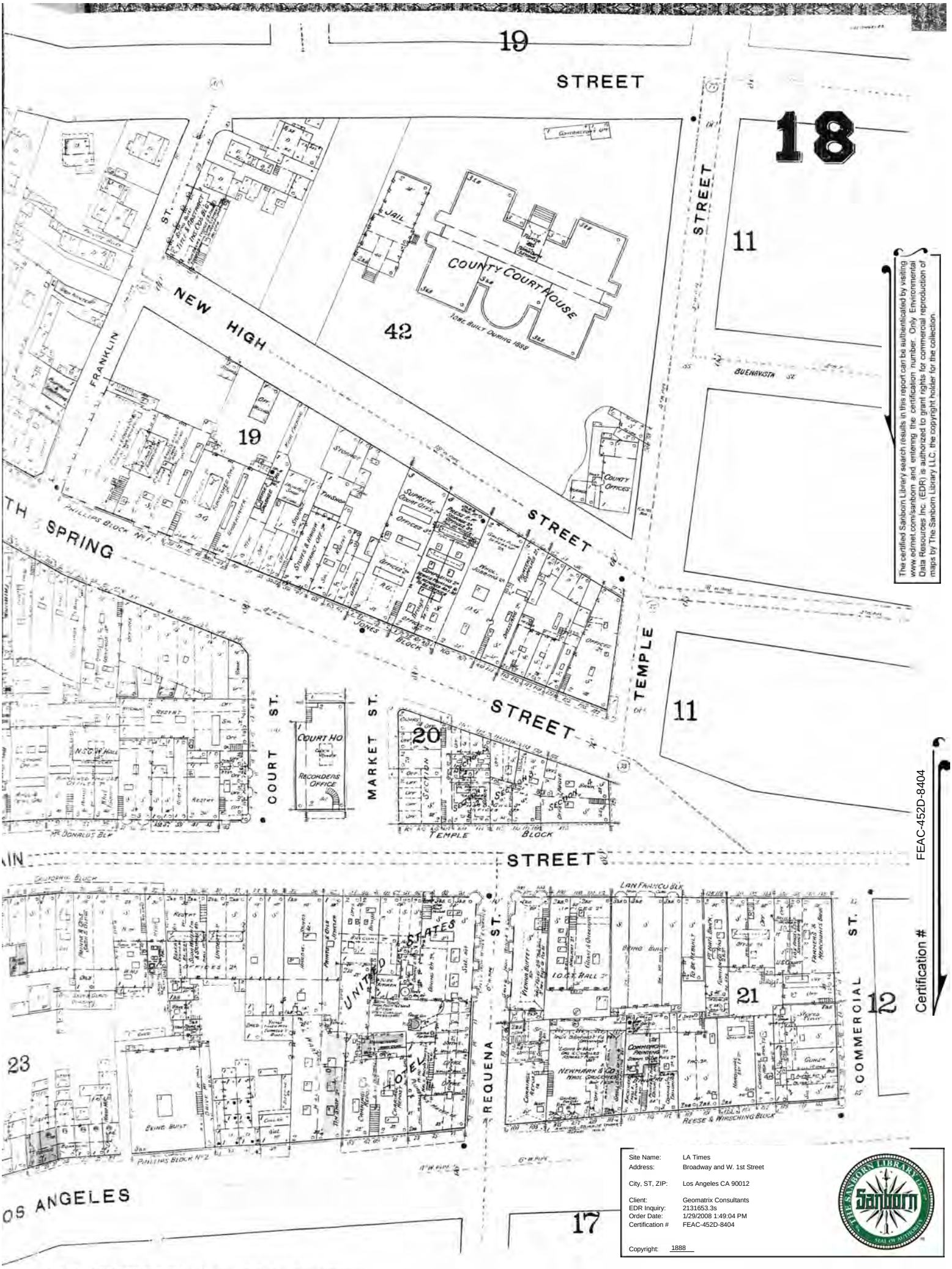

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EDR Inquiry:	2131653.3s
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Certification #	FEAC-452D-8404

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See Volume One

38

S. BROADWAY

N. BROADWAY

CHAMBER OF COMMERCE

W.F. BACON BLDG

THE HERALD

EAGLE LIVERY

30

271

Three

ST.

BRYSON BLDG

MUELLER BLDG

LOUIS ROEDER BLDG No 1

HOTEL NADEAU

131

S. SPRING

80 ft wide

N. SPRING ST.

Volume

TRUST BLDG

HAMMOND BLDG

SUMMERS BLDG

WILSON BLDG

W. 2ND

W. 1ST

CENTER

PL.

24

273

Two

NEWELL BLDG

EMPIRE LAUNDRY

MOTT BLDG

NATICK HO (HOTEL)

S. MAIN

N. MAIN ST.

147

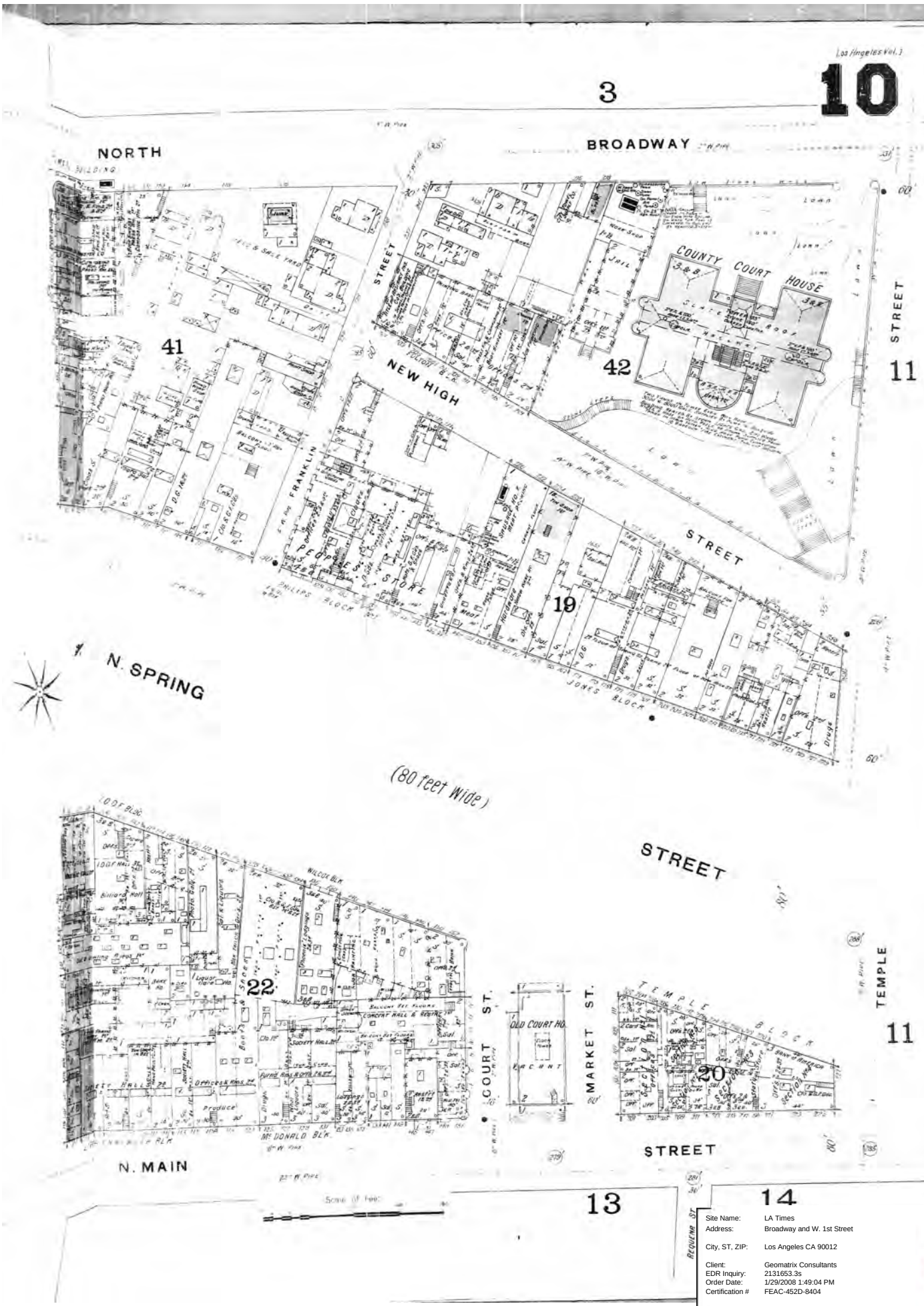
E. 1ST ST.

Scale of Feet

Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1906



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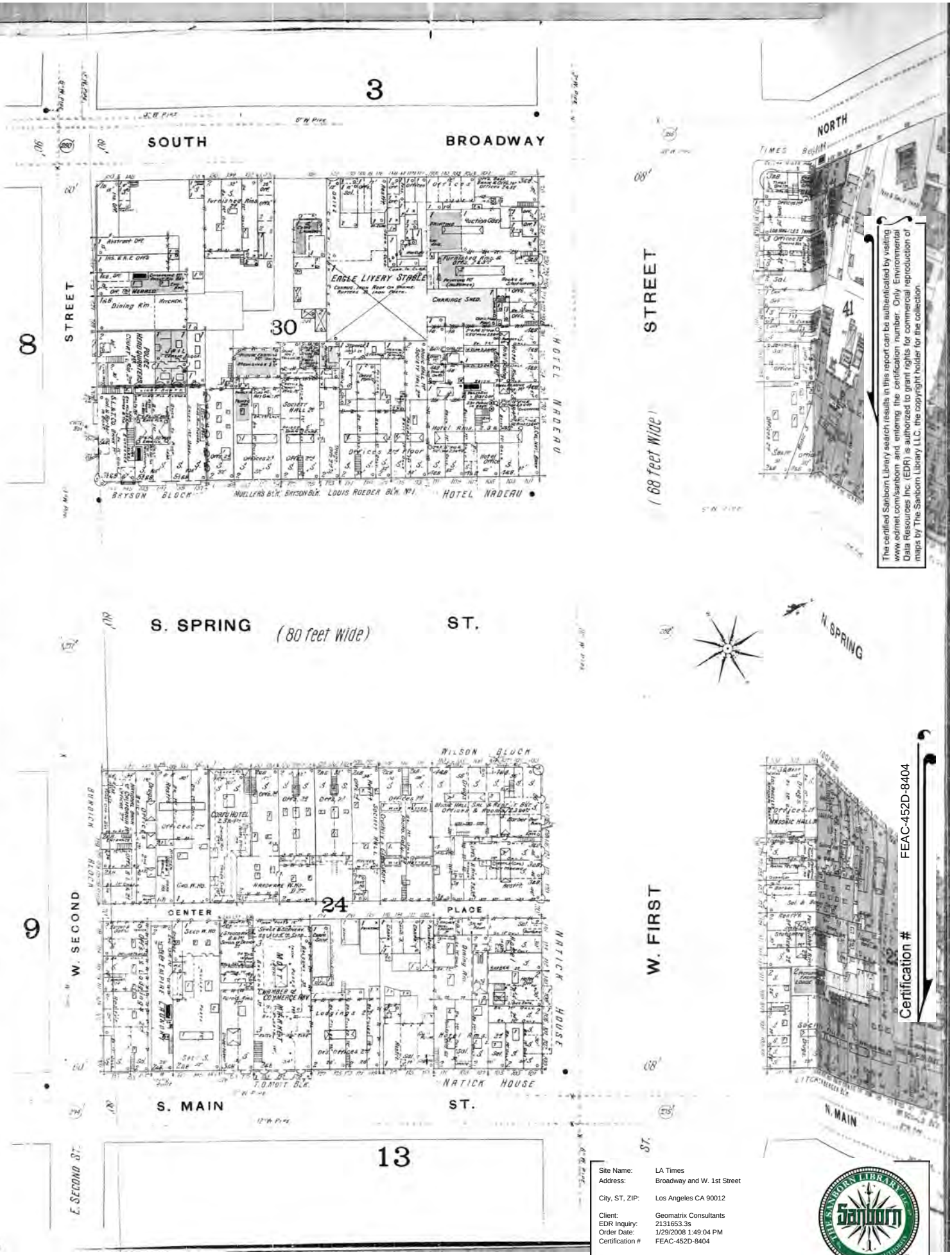
Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1894



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Certification # FEAC-452D-8404

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City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1894

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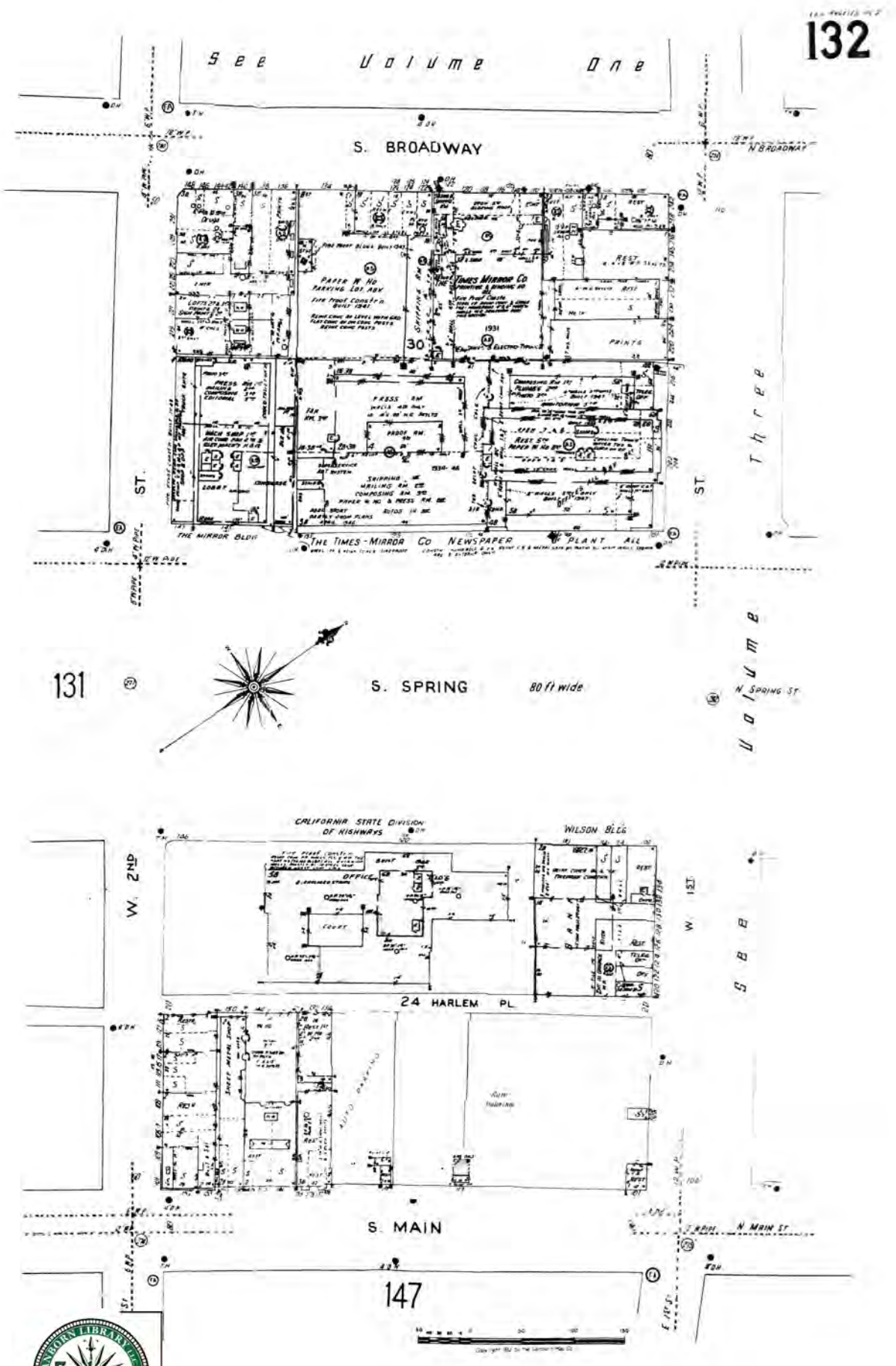

Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1954

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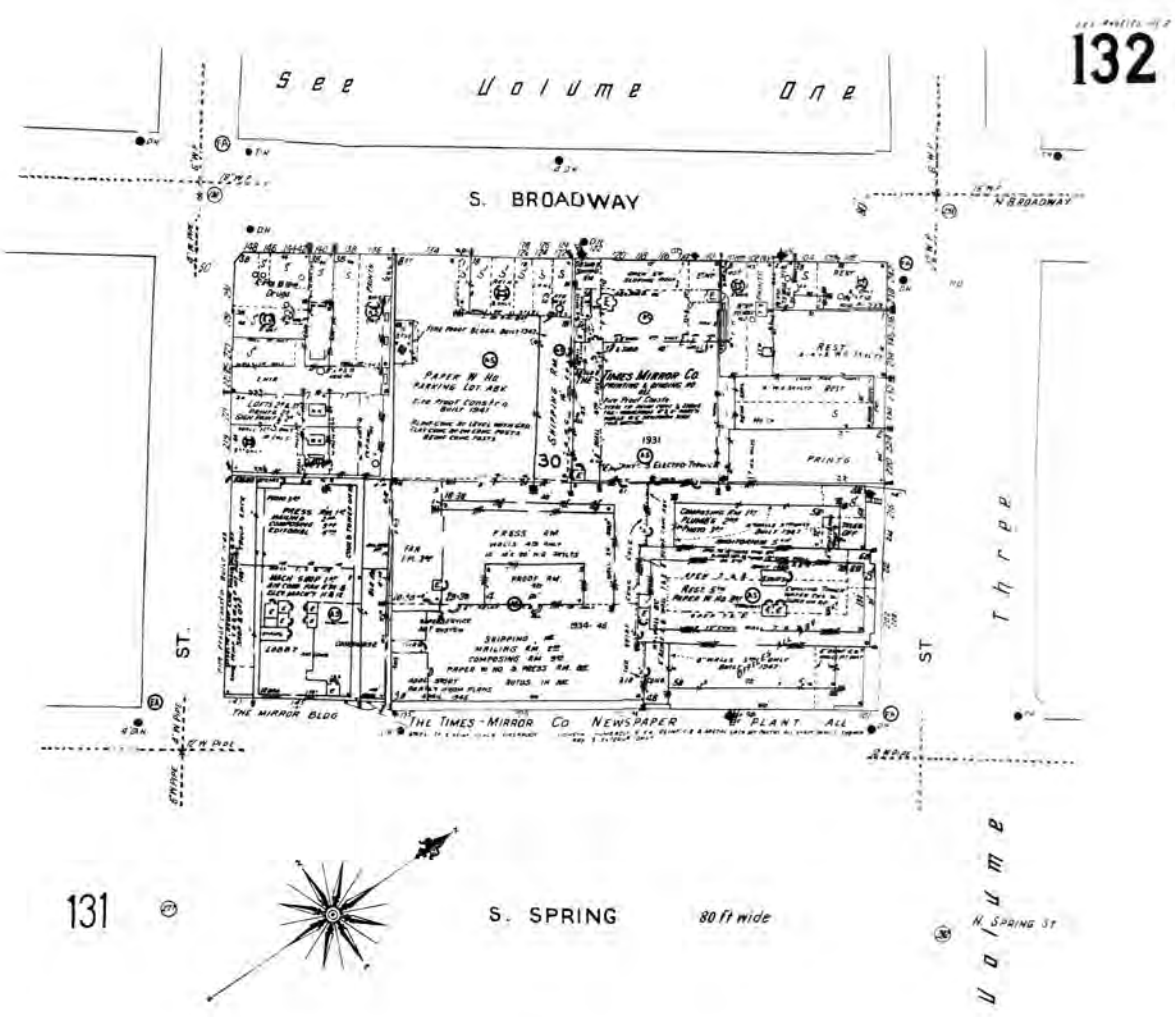
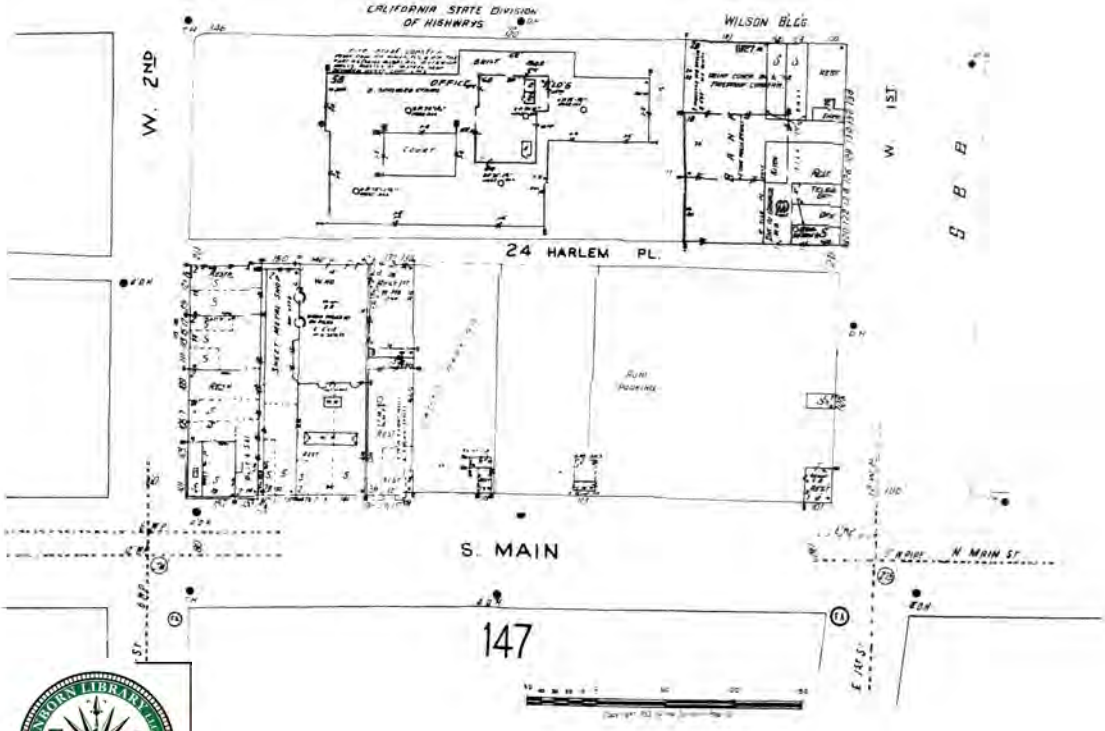
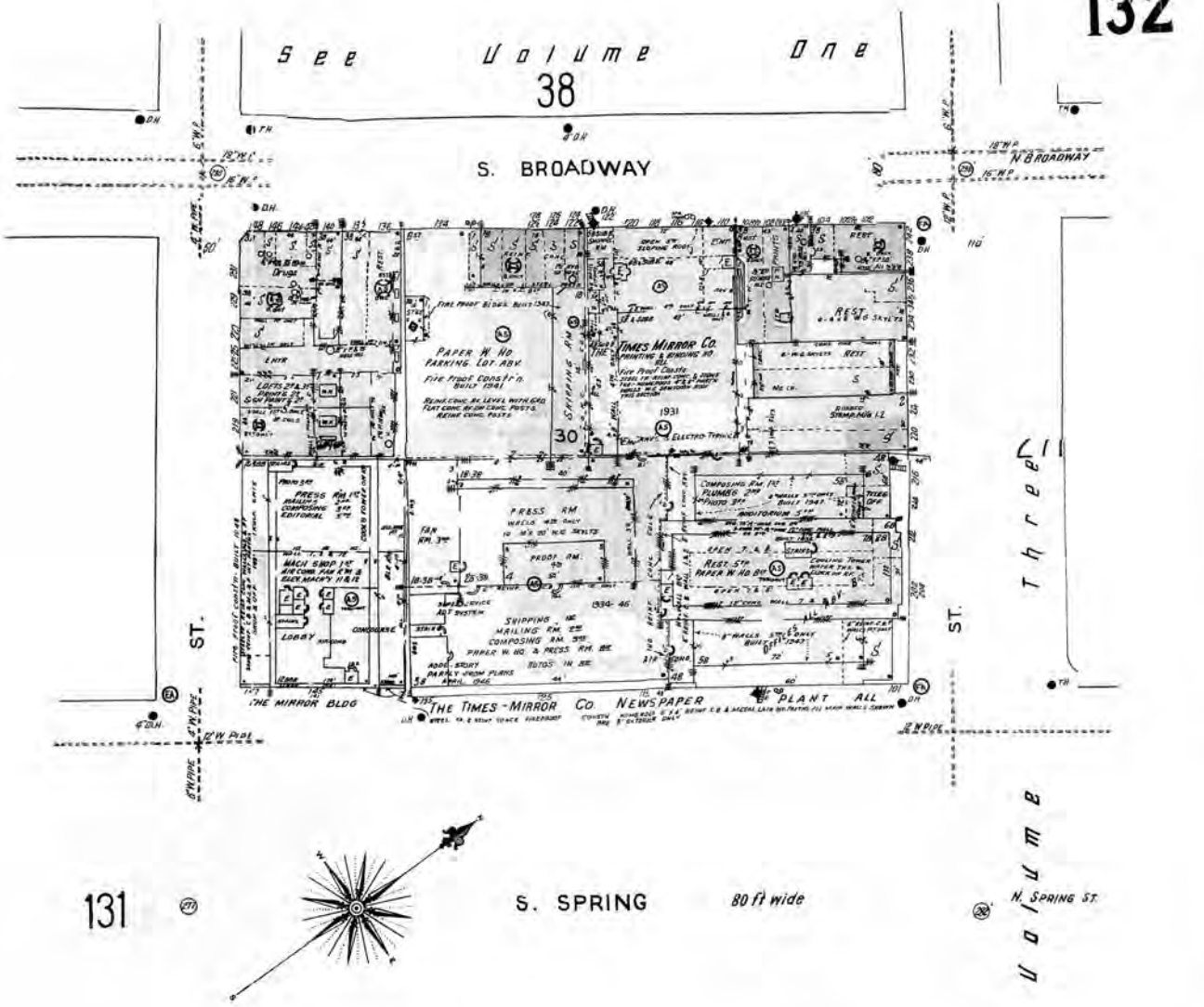


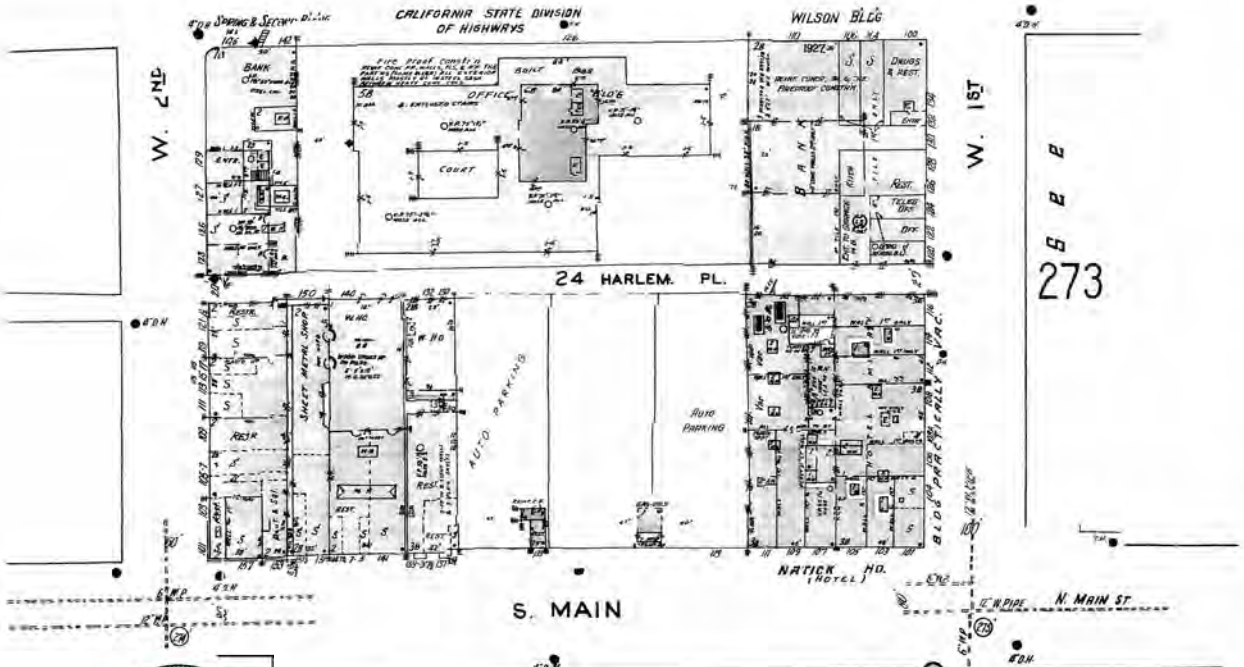


Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1953





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Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1950

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Sanborn
SEAL OF AUTHENTICITY

Scale of Feet

Copyright 1920 by the Sanborn Map Co.

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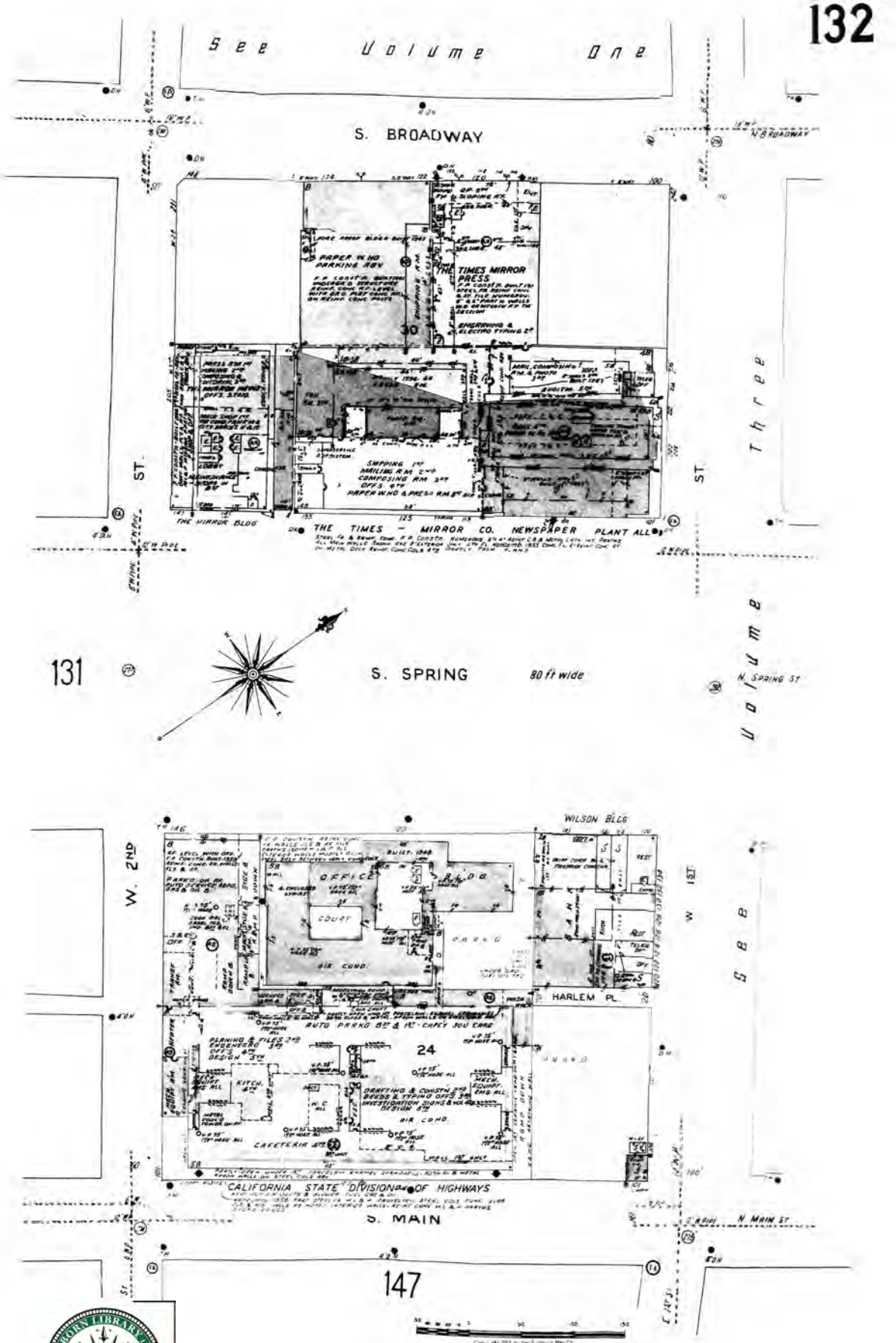

Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1970

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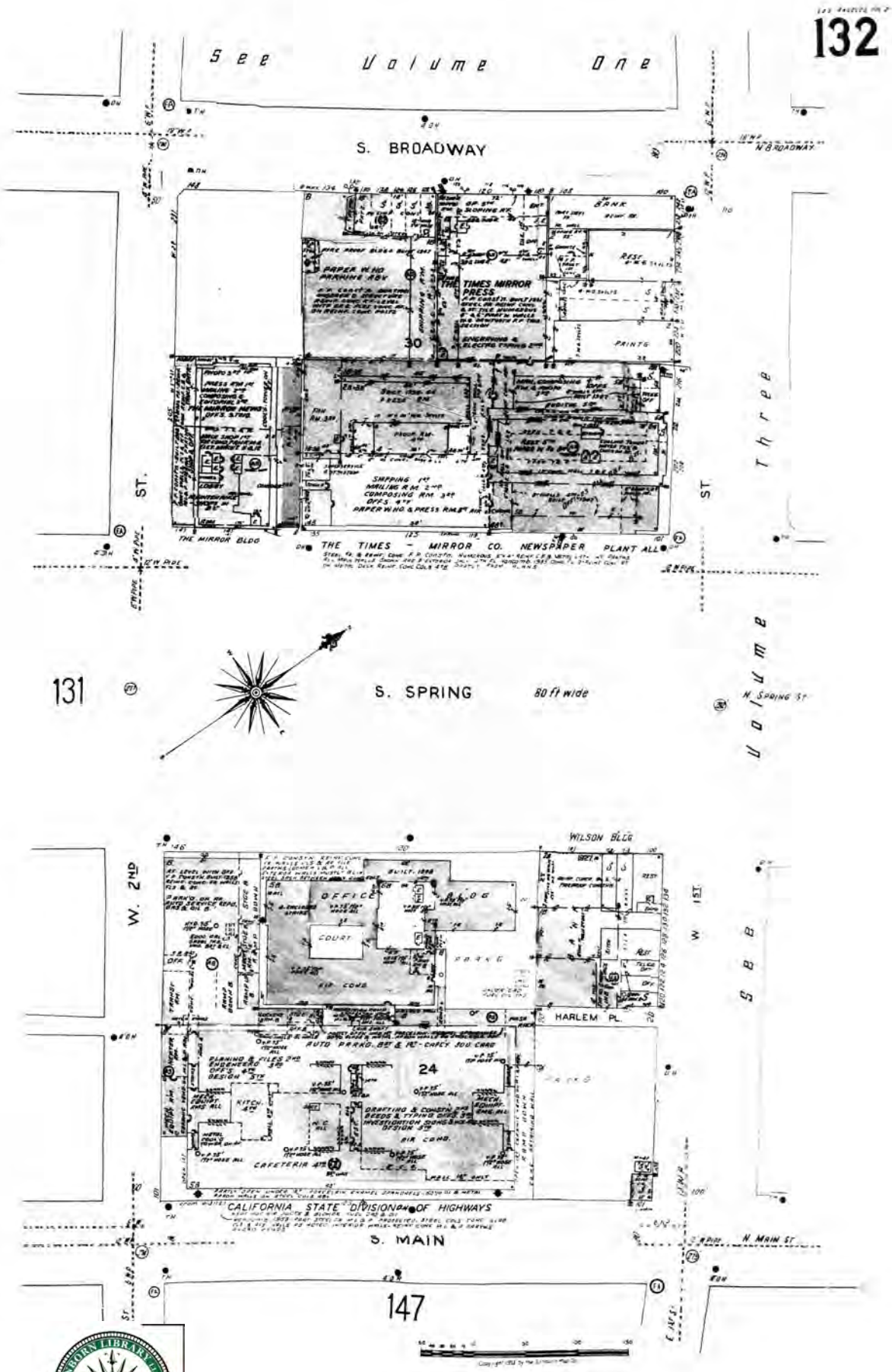
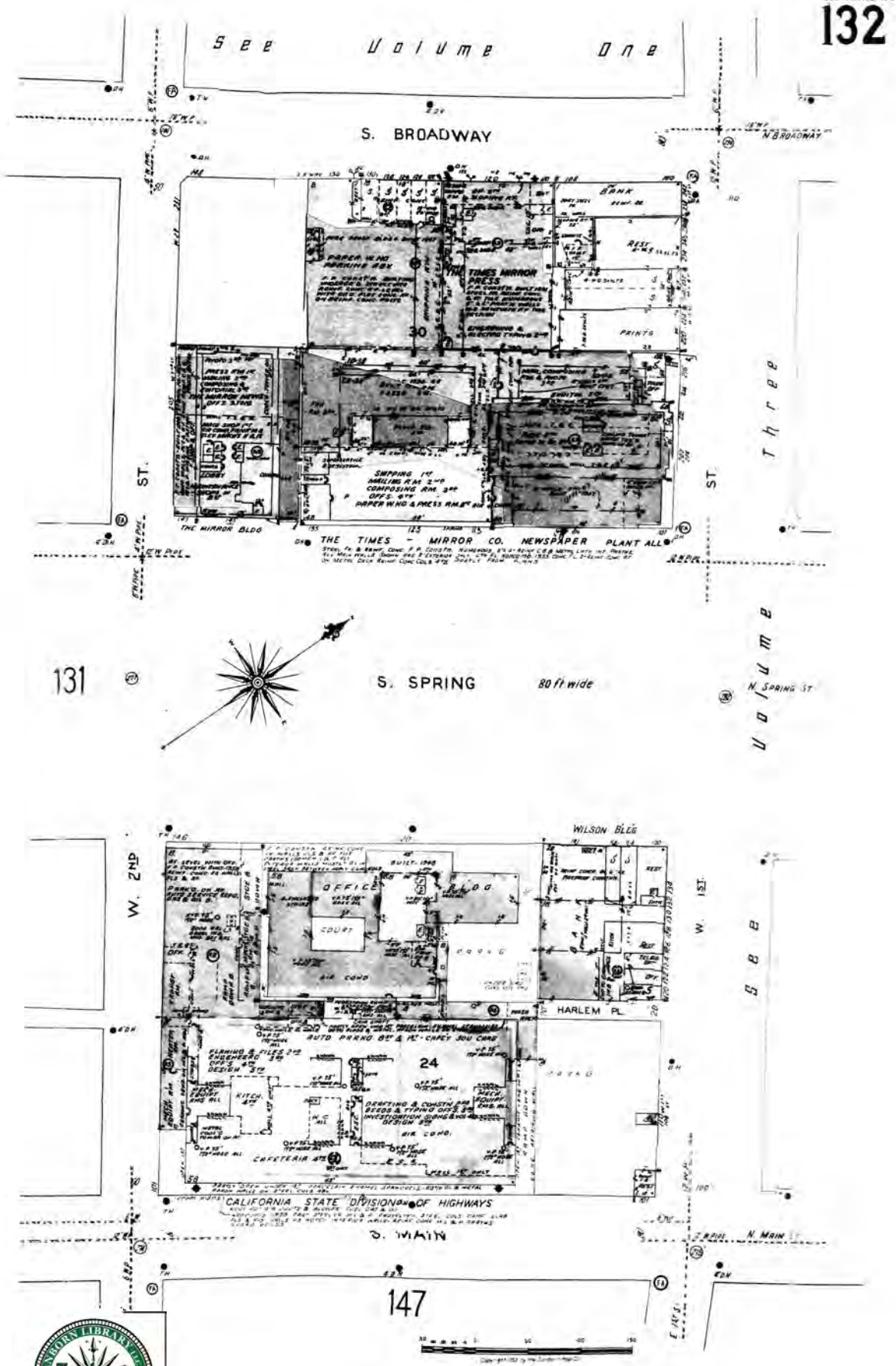


Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1967



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Certification # FEAC-452D-8404

Site Name:	LA Times
Address:	Broadway and W. 1st Street
City, ST, ZIP:	Los Angeles CA 90012
Client:	Geomatrix Consultants
EDR Inquiry:	2131653.3s
Order Date:	1/29/2008 1:49:04 PM
Certification #	FEAC-452D-8404

Copyright: 1960

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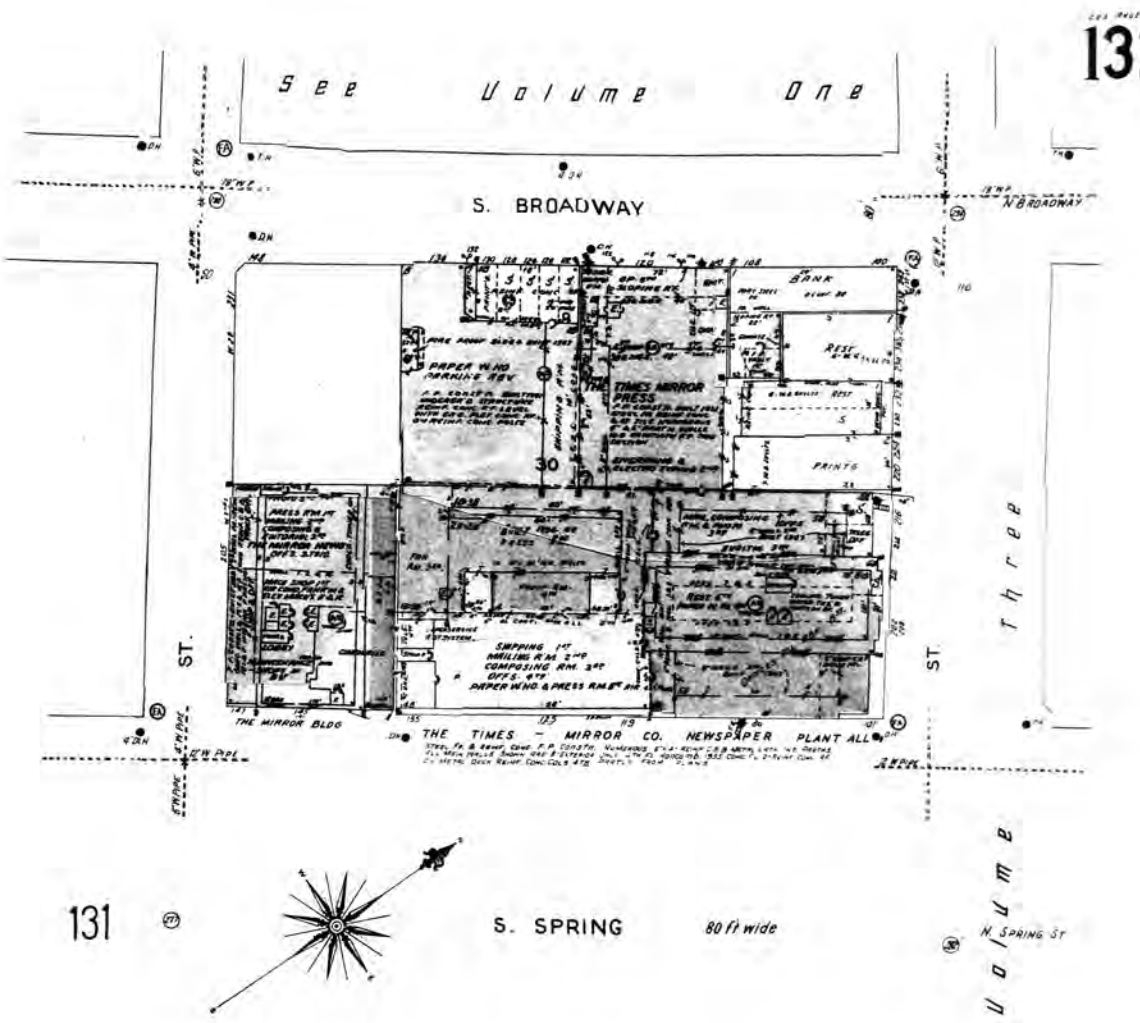
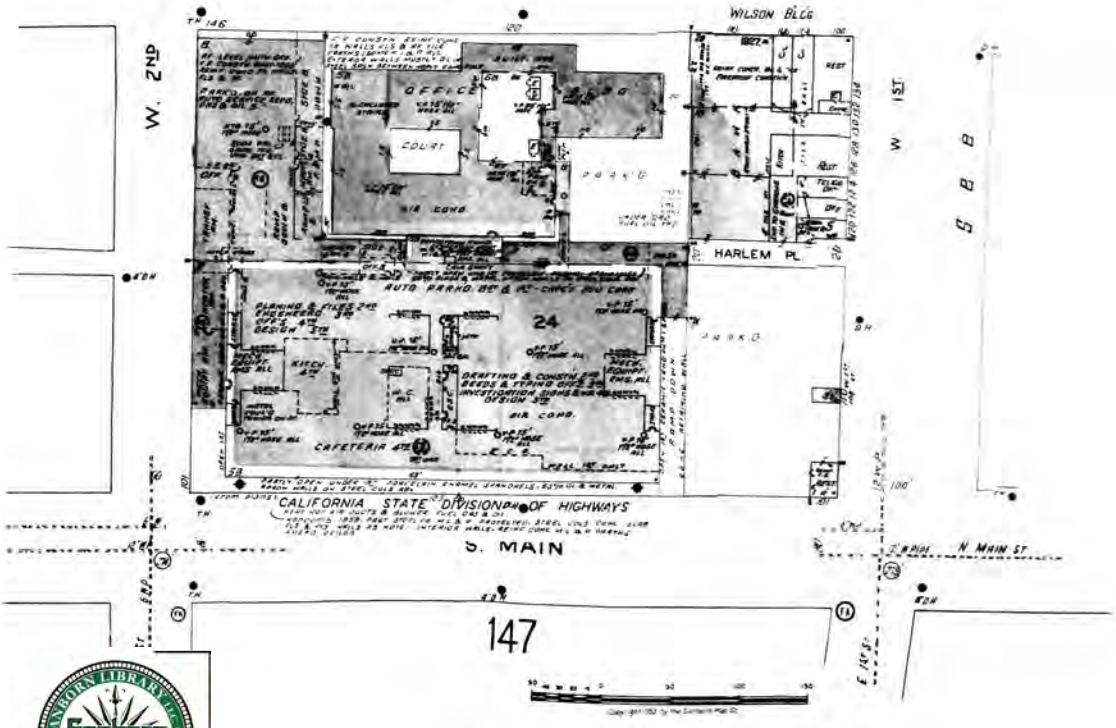




Certification # FEAC-452D-8404

Site Name: LA Times
Address: Broadway and W. 1st Street

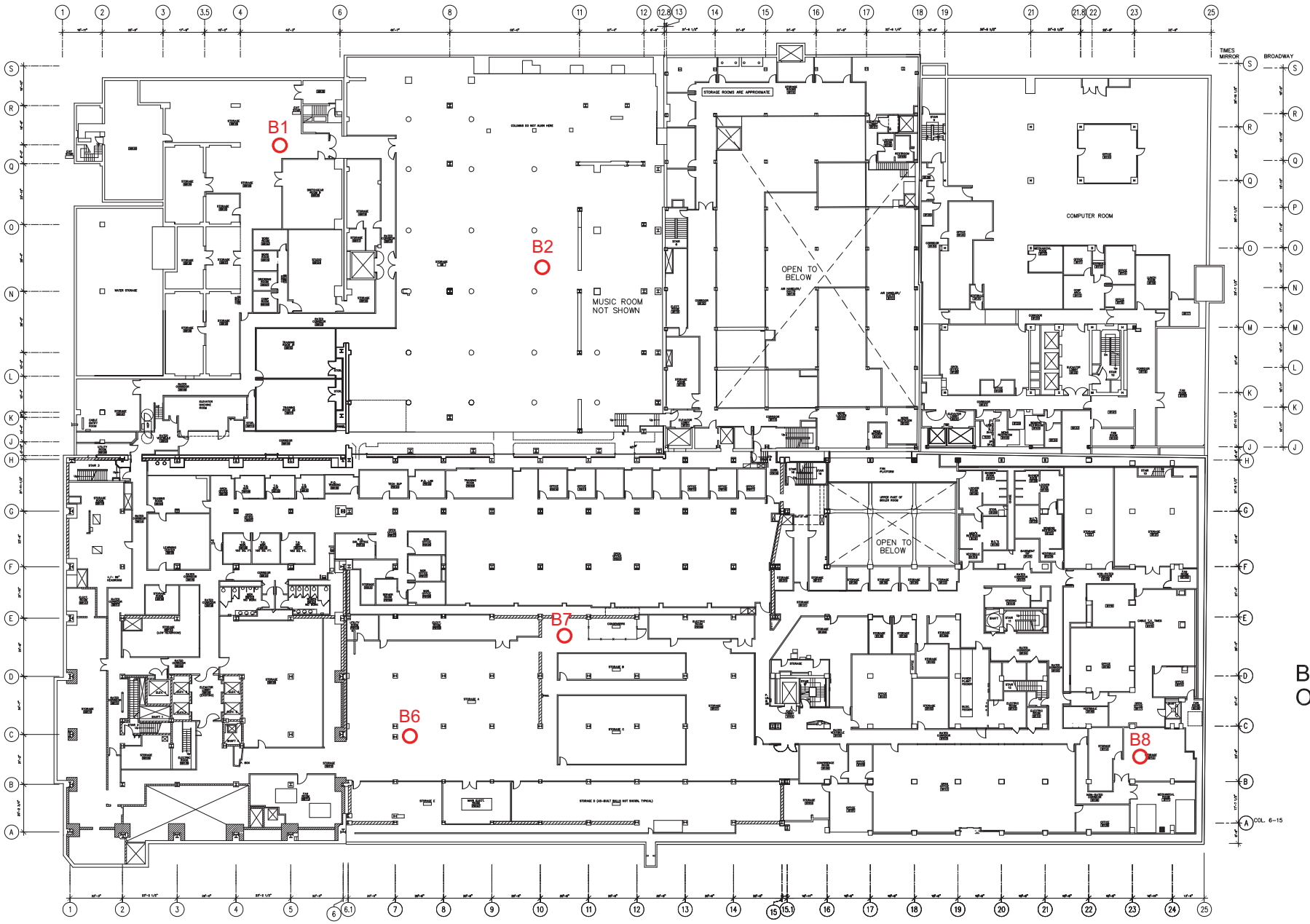
City, ST, ZIP: Los Angeles CA 90012

Client: Geomatrix Consultants
EDR Inquiry: 2131653.3s
Order Date: 1/29/2008 1:49:04 PM
Certification # FEAC-452D-8404

Copyright: 1959

12.6 Boring Location Plan

8.08



BASEMENT-
ONE PLAN

0 32'

WEST
SOUTH
NORTH
EAST

8.08

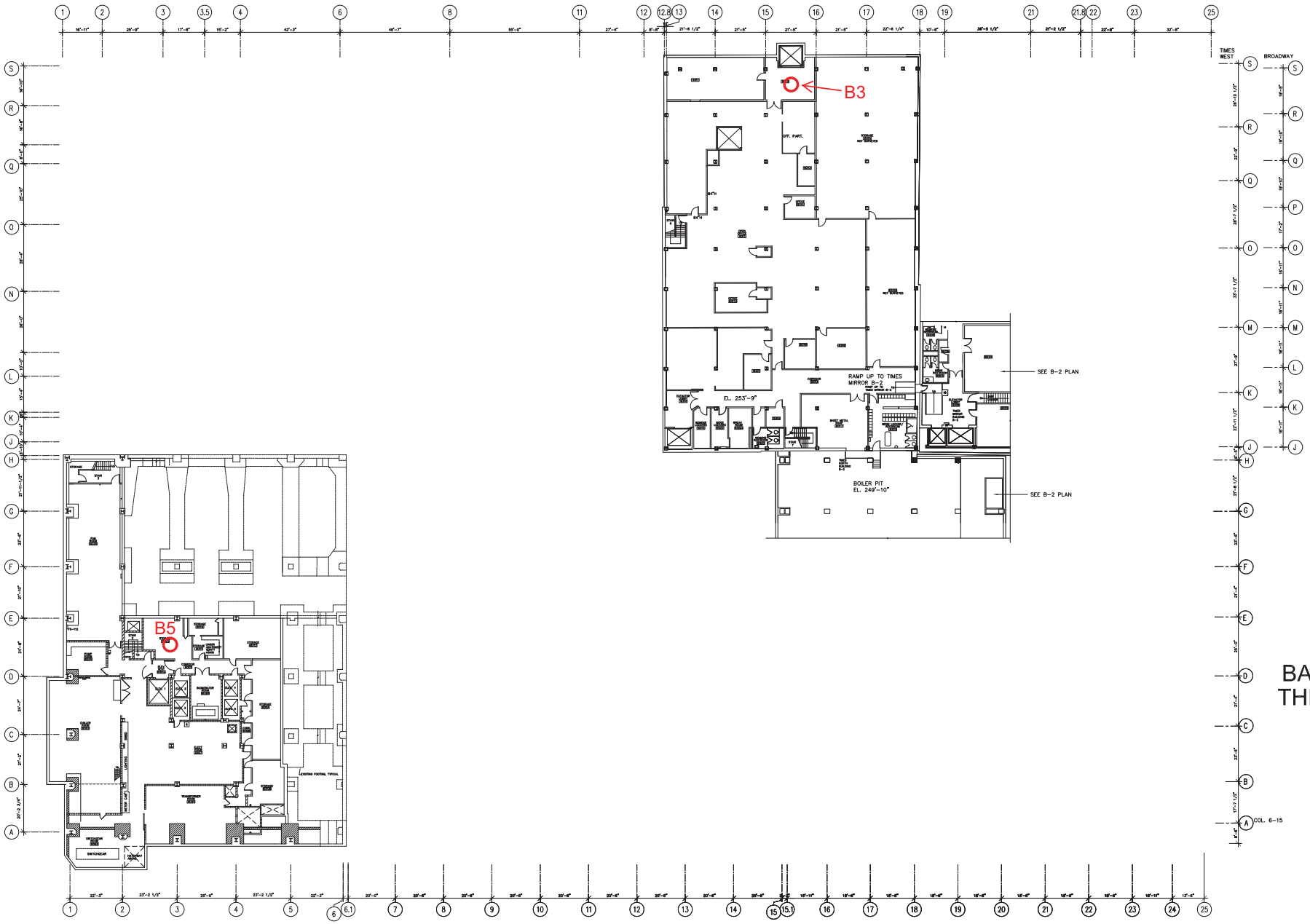


BASEMENT-TWO PLAN

0 32'

WEST
SOUTH
NORTH
EAST

8.08



BASEMENT-THREE PLAN

0 32'

WEST
SOUTH
NORTH
EAST

12.7 Analytical Laboratory Reports

American Environmental Testing Laboratory Inc.
2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Ordered By

Advantage Environmental Consultants
145 Vallecitos De Oro Suite 201
San Marcos, CA 92069-

Telephone: (760)744-3363
Attention: Dan Weis

Number of Pages	**14**
Date Received	**06/15/2016**
Date Reported	**06/21/2016**

Job Number	Order Date	Client
82540	06/15/2016	AEC

Project Name: LA TIMES
Site: 1st & Broadway
Los Angeles, CA

Enclosed please find results of analyses of 10 soil samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

American Environmental Testing Laboratory Inc.

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Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840

CHAIN OF CUSTODY RECORD

AETL JOB No. 82540

Page 1 of 1

COMPANY: Advantage Environmental — PHONE: 760-744-3363
PROJECT MANAGER: Dan Weis — FAX: -3303
PROJECT NAME: LA Times — PROJECT #:
SITE NAME AND ADDRESS: 1st AND Broadway, LA, CA

SAMPLE ID	LAB ID	DATE	TIME	MATRIX	CONTAINER NUMBER/SIZE	PRES.	TPH 8015 B	VOCs 8260B	Title 22 Metals (EPA 6010B/7471A)	TEST INSTRUCTIONS & COMMENTS
B1-0.5		6/15/16		Soil	1GJ	ICE	X		X	82540.01
B1-1										82540.02
B1-3								X	X	82540.03
B2-0.5									X	82540.04
B2-1										82540.05
B2-3								X	X	82540.06
B3-0.5									X	82540.07
B3-1										82540.08
B3-3								X	X	82540.09
B5-1									X	82540.10
B6-1									X	82540.11
B7-1									X	82540.12
B8-1							X	X	X	82540.13

Rush Friday Noon if Possible

SAMPLE RECEIPT - TO BE FILLED BY LABORATORY

TOTAL NUMBER OF CONTAINERS	13	PROPERLY COOLED Y / N / NA	Y
CUSTODY SEALS Y / N / NA	N	SAMPLES INTACT Y / N / NA	Y
RECEIVED IN GOOD COND. Y / N	Y	SAMPLES ACCEPTED Y / N	Y

TURN AROUND TIME

☐ NORMAL ☒ RUSH Friday Noon-
☐ SAME DAY ☐ 24 HRS. ☐ 48 HRS. ☐ 72 HRS.

RELINQUISHED BY SAMPLER: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
Signature:	Signature:	Signature:
Printed Name:	Printed Name:	Printed Name: Thomas Robinson
Date: 6/15/16 Time: 4:30pm	Date: Time:	Date: 6-15-16 Time: 1730
RECEIVED BY: 1.	**RECEIVED BY: 2.**	**RECEIVED BY LABORATORY: AETL 3.**
Signature:	Signature:	Signature:
Printed Name: Thomas Robinson	Printed Name:	Printed Name: Antin
Date: 6-15-16 Time: 1730	Date: Time:	Date: 6/15/16 Time: 1730

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator

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Ordered By

Advantage Environmental Consultants
145 Vallecitos De Oro Suite 201
San Marcos, CA 92069-

Telephone: (760)744-3363
Attention: Dan Weis

Project ID: None
Date Received 06/15/2016
Date Reported 06/21/2016

Job Number	Order Date	Client
82540	06/15/2016	AEC

CERTIFICATE OF ANALYSIS
CASE NARRATIVE

AETL received 13 samples with the following specification on 06/15/2016.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
82540.01	B1-0.5	06/15/2016	Soil	1
Method ^ Submethod		*Req Date*	*Priority*	*TAT*	*Units*
(6010B/7000CAM)		06/16/2016	2	Rush	mg/Kg
(M8015D) ^ C13-C40		06/16/2016	2	Rush	mg/Kg
(M8015G)		06/16/2016	2	Rush	mg/Kg
82540.02	B1-1	06/15/2016	Soil	1
82540.05	B2-1	06/15/2016	Soil	1
82540.08	B3-1	06/15/2016	Soil	1
Method ^ Submethod		*Req Date*	*Priority*	*TAT*	*Units*
ARCHIVE		06/16/2016	2	Rush	--
82540.03	B1-3	06/15/2016	Soil	1
82540.06	B2-3	06/15/2016	Soil	1
82540.09	B3-3	06/15/2016	Soil	1
Method ^ Submethod		*Req Date*	*Priority*	*TAT*	*Units*
(6010B/7000CAM)		06/16/2016	2	Rush	mg/Kg
(8260B)		06/16/2016	2	Rush	ug/Kg
82540.04	B2-0.5	06/15/2016	Soil	1
82540.07	B3-0.5	06/15/2016	Soil	1
82540.10	B5-1	06/15/2016	Soil	1
82540.11	B6-1	06/15/2016	Soil	1
82540.12	B7-1	06/15/2016	Soil	1
Method ^ Submethod		*Req Date*	*Priority*	*TAT*	*Units*
(6010B/7000CAM)		06/16/2016	2	Rush	mg/Kg
82540.13	B8-1	06/15/2016	Soil	1
Method ^ Submethod		*Req Date*	*Priority*	*TAT*	*Units*
(6010B/7000CAM)		06/16/2016	2	Rush	mg/Kg
(8260B)		06/16/2016	2	Rush	ug/Kg

Continued

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Ordered By

Advantage Environmental Consultants
145 Vallecitos De Oro Suite 201
San Marcos, CA 92069-

Telephone: (760)744-3363
Attention: Dan Weis

Project ID: None
Date Received 06/15/2016
Date Reported 06/21/2016

Job Number	Order Date	Client
82540	06/15/2016	AEC

CERTIFICATE OF ANALYSIS

CASE NARRATIVE

82540.13 B8-1 06/15/2016 Soil 1

Method ^ Submethod	Req Date	Priority	TAT	Units
(M8015D) ^ C13-C40	06/16/2016	2	Rush	mg/Kg
(M8015G)	06/16/2016	2	Rush	mg/Kg

The samples were analyzed as specified on the enclosed chain of custody. Analytical non-conformances have been noted on the report.

Unless otherwise noted, all results of soil and solid samples are based on wet weight.

Checked By: _____ Approved By: C. Razmara

Cyrus Razmara, Ph.D.
Laboratory Director

American Environmental Testing Laboratory Inc.
2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
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ANALYTICAL RESULTS

Ordered By

Advantage Environmental Consultants
145 Vallecitos De Oro
Suite 201
San Marcos, CA 92069-

Telephone: (760)744-3363
Attn: Dan Weis
Page: **2**

Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

QC Batch No: 061616OB1

Our Lab I.D.			Method Blank	**82540.01**	**82540.13**		
Client Sample I.D.				B1-0.5	B8-1		
Date Sampled				06/15/2016	06/15/2016		
Date Prepared			06/16/2016	06/16/2016	06/16/2016		
Preparation Method			5030	5030	5030		
Date Analyzed			06/16/2016	06/16/2016	06/16/2016		
Matrix			Soil	Soil	Soil		
Units			mg/Kg	mg/Kg	mg/Kg		
Dilution Factor			1	1	1		
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**		
TPH as Gasoline and Light HC. (C4-C12)	0.100	1.000	ND	ND	0.628J		
Our Lab I.D.			Method Blank	**82540.01**	**82540.13**		
Surrogates	**%Rec.Limit**		**% Rec.**	**% Rec.**	**% Rec.**		
Bromofluorobenzene	75-125		101	94.8	96.4		

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ANALYTICAL RESULTS

Ordered By

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Telephone: (760)744-3363
Attn: Dan Weis
Page: **3**

Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QC Batch No: 061616PB1

Our Lab I.D.			Method Blank	**82540.01**	**82540.13**		
Client Sample I.D.				B1-0.5	B8-1		
Date Sampled				06/15/2016	06/15/2016		
Date Prepared			06/16/2016	06/16/2016	06/16/2016		
Preparation Method			3550B	3550B	3550B		
Date Analyzed			06/16/2016	06/16/2016	06/16/2016		
Matrix			Soil	Soil	Soil		
Units			mg/Kg	mg/Kg	mg/Kg		
Dilution Factor			1	1	1		
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**		
TPH as Diesel (C13-C22)	1.0	5.0	ND	5.90	422		
TPH as Heavy Hydrocarbons (C23-C40)	1.0	5.0	ND	ND	377		
TPH Total as Diesel and Heavy HC.C13-C40	1.0	5.0	ND	5.90	799		
Our Lab I.D.			Method Blank	**82540.01**	**82540.13**		
Surrogates	**%Rec.Limit**		**% Rec.**	**% Rec.**	**% Rec.**		
Chlorobenzene	75-125		91.7	94.8	93.6		

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ANALYTICAL RESULTS

Ordered By

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San Marcos, CA 92069-

Telephone: (760)744-3363
Attn: Dan Weis
Page: **4**

Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

QC Batch No: 0616162C4

Our Lab I.D.			Method Blank	82540.01	82540.03	82540.04	82540.06
Client Sample I.D.				B1-0.5	B1-3	B2-0.5	B2-3
Date Sampled				06/15/2016	06/15/2016	06/15/2016	06/15/2016
Date Prepared			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Preparation Method			3050B	3050B	3050B	3050B	3050B
Date Analyzed			06/17/2016	06/17/2016	06/17/2016	06/17/2016	06/17/2016
Matrix			Soil	Soil	Soil	Soil	Soil
Units			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor			1	1	1	1	1
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Antimony	1.0	5.0	ND	ND	ND	ND	ND
Arsenic	1.0	5.0	ND	3.61J	2.08J	4.97J	6.18
Barium	2.5	5.0	ND	187	261	95.3	691
Beryllium	1.3	2.5	ND	ND	ND	ND	ND
Cadmium	1.3	2.5	ND	ND	ND	ND	ND
Chromium	2.5	5.0	ND	27.3	41.9	35.1	33.2
Cobalt	2.5	5.0	ND	7.49	9.13	9.21	8.62
Copper	2.5	5.0	ND	21.3	39.8	22.9	21.9
Lead	2.5	5.0	ND	18.1	ND	3.14J	3.13J
Mercury (By EPA 7471)	0.1	0.2	ND	0.125J	ND	0.113J	ND
Molybdenum	2.5	5.0	ND	ND	ND	ND	3.06J
Nickel	2.5	5.0	ND	18.3	29.6	27.4	34.7
Selenium	1.0	5.0	ND	ND	ND	ND	ND
Silver	2.5	5.0	ND	ND	ND	ND	ND
Thallium	1.0	5.0	ND	ND	ND	ND	ND
Vanadium	2.5	5.0	ND	38.1	48.5	41.0	35.2
Zinc	2.5	5.0	ND	74.3	73.8	67.3	67.6

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Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

QC Batch No: 0616162C4

Our Lab I.D.			82540.07	82540.09	82540.10	82540.11	82540.12
Client Sample I.D.			B3-0.5	B3-3	B5-1	B6-1	B7-1
Date Sampled			06/15/2016	06/15/2016	06/15/2016	06/15/2016	06/15/2016
Date Prepared			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Preparation Method			3050B	3050B	3050B	3050B	3050B
Date Analyzed			06/17/2016	06/17/2016	06/17/2016	06/17/2016	06/17/2016
Matrix			Soil	Soil	Soil	Soil	Soil
Units			mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Dilution Factor			1	1	1	1	1
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Antimony	1.0	5.0	ND	ND	ND	ND	ND
Arsenic	1.0	5.0	3.46J	3.57J	4.10J	ND	2.34J
Barium	2.5	5.0	349	77.2	302	90.2	109
Beryllium	1.3	2.5	ND	ND	ND	ND	ND
Cadmium	1.3	2.5	ND	ND	ND	ND	ND
Chromium	2.5	5.0	31.8	30.5	41.5	6.25	21.1
Cobalt	2.5	5.0	8.58	8.63	8.41	8.75	30.6
Copper	2.5	5.0	20.5	20.3	23.6	8.20	20.0
Lead	2.5	5.0	2.67J	2.84J	ND	5.02	95.8
Mercury (By EPA 7471)	0.1	0.2	ND	ND	ND	ND	ND
Molybdenum	2.5	5.0	ND	ND	3.60J	ND	ND
Nickel	2.5	5.0	20.9	18.3	26.4	7.39	13.4
Selenium	1.0	5.0	ND	ND	ND	ND	ND
Silver	2.5	5.0	ND	ND	ND	ND	ND
Thallium	1.0	5.0	ND	ND	ND	ND	ND
Vanadium	2.5	5.0	37.2	39.4	45.7	31.8	33.3
Zinc	2.5	5.0	65.5	61.9	66.8	40.8	44.7

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Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

QC Batch No: 0616162C4

Our Lab I.D.			82540.13				
Client Sample I.D.			B8-1				
Date Sampled			06/15/2016				
Date Prepared			06/16/2016				
Preparation Method			3050B				
Date Analyzed			06/17/2016				
Matrix			Soil				
Units			mg/Kg				
Dilution Factor			1				
Analytes	**MDL**	**PQL**	**Results**				
Antimony	1.0	5.0	ND				
Arsenic	1.0	5.0	ND				
Barium	2.5	5.0	101				
Beryllium	1.3	2.5	ND				
Cadmium	1.3	2.5	ND				
Chromium	2.5	5.0	22.9				
Cobalt	2.5	5.0	7.89				
Copper	2.5	5.0	21.7				
Lead	2.5	5.0	11.5				
Mercury (By EPA 7471)	0.1	0.2	0.157J				
Molybdenum	2.5	5.0	ND				
Nickel	2.5	5.0	15.8				
Selenium	1.0	5.0	ND				
Silver	2.5	5.0	ND				
Thallium	1.0	5.0	ND				
Vanadium	2.5	5.0	40.9				
Zinc	2.5	5.0	56.7				

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1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 0616162A1

Our Lab I.D.			Method Blank	82540.03	82540.06	82540.09	82540.13
Client Sample I.D.				B1-3	B2-3	B3-3	B8-1
Date Sampled				06/15/2016	06/15/2016	06/15/2016	06/15/2016
Date Prepared			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Preparation Method			5030	5030	5030	5030	5030
Date Analyzed			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Matrix			Soil	Soil	Soil	Soil	Soil
Units			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dilution Factor			1	1	1	1	1
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Acetone	25	50	ND	ND	ND	ND	ND
Benzene	1.0	10.0	ND	ND	2.22J	ND	ND
Bromobenzene (Phenyl bromide)	5.0	10.0	ND	ND	ND	ND	ND
Bromochloromethane	5.0	10.0	ND	ND	ND	ND	ND
Bromodichloromethane	5.0	10.0	ND	ND	ND	ND	ND
Bromoform (Tribromomethane)	25	50	ND	ND	ND	ND	ND
Bromomethane (Methyl bromide)	15	30	ND	ND	ND	ND	ND
2-Butanone (MEK)	25	50	ND	ND	ND	ND	ND
n-Butylbenzene	5.0	10.0	ND	ND	ND	ND	ND
sec-Butylbenzene	5.0	10.0	ND	ND	ND	ND	ND
tert-Butylbenzene	5.0	10.0	ND	ND	ND	ND	ND
Carbon Disulfide	25	50	ND	ND	ND	ND	ND
Carbon tetrachloride	5.0	10.0	ND	ND	ND	ND	ND
Chlorobenzene	5.0	10.0	ND	ND	ND	ND	ND
Chloroethane	15	30	ND	ND	ND	ND	ND
2-Chloroethyl vinyl ether	50	50	ND	ND	ND	ND	ND
Chloroform (Trichloromethane)	5.0	10.0	ND	ND	ND	ND	ND
Chloromethane (Methyl chloride)	15	30	ND	ND	ND	ND	ND
2-Chlorotoluene	5.0	10.0	ND	ND	ND	ND	ND
4-Chlorotoluene	5.0	10.0	ND	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane (DBCP)	25	50	ND	ND	ND	ND	ND
Dibromochloromethane	5.0	10.0	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	5.0	10.0	ND	ND	ND	ND	ND
Dibromomethane	5.0	10.0	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	5.0	10.0	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	5.0	10.0	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	5.0	10.0	ND	ND	ND	ND	ND

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ANALYTICAL RESULTS

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 0616162A1

Our Lab I.D.			Method Blank	82540.03	82540.06	82540.09	82540.13
Client Sample I.D.				B1-3	B2-3	B3-3	B8-1
Date Sampled				06/15/2016	06/15/2016	06/15/2016	06/15/2016
Date Prepared			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Preparation Method			5030	5030	5030	5030	5030
Date Analyzed			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Matrix			Soil	Soil	Soil	Soil	Soil
Units			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dilution Factor			1	1	1	1	1
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
Dichlorodifluoromethane	15	30	ND	ND	ND	ND	ND
1,1-Dichloroethane	5.0	10.0	ND	ND	ND	ND	ND
1,2-Dichloroethane (EDC)	5.0	10.0	ND	ND	ND	ND	ND
1,1-Dichloroethene	5.0	10.0	ND	ND	ND	ND	ND
cis-1,2-Dichloroethene	5.0	10.0	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	5.0	10.0	ND	ND	ND	ND	ND
1,2-Dichloropropane	5.0	10.0	ND	ND	ND	ND	ND
1,3-Dichloropropane	5.0	10.0	ND	ND	ND	ND	ND
2,2-Dichloropropane	5.0	10.0	ND	ND	ND	ND	ND
1,1-Dichloropropene	5.0	10.0	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	5.0	10.0	ND	ND	ND	ND	ND
trans-1,3-Dichloropropene	5.0	10.0	ND	ND	ND	ND	ND
Ethylbenzene	1.0	10.0	ND	ND	1.70J	ND	ND
Hexachlorobutadiene	15	30	ND	ND	ND	ND	ND
2-Hexanone	25	50	ND	ND	ND	ND	ND
Iodomethane	5.0	10.0	ND	ND	ND	ND	ND
Isopropylbenzene	5.0	10.0	ND	ND	ND	ND	ND
p-Isopropyltoluene	5.0	10.0	ND	ND	ND	ND	ND
4-Methyl-2-pentanone (MIBK)	25	50	ND	ND	ND	ND	ND
Methyl-tert-butyl ether (MTBE)	2.0	10.0	ND	ND	ND	ND	ND
Methylene chloride (DCM)	25	50	ND	ND	ND	ND	ND
Naphthalene	5.0	10.0	ND	ND	ND	ND	ND
n-Propylbenzene	5.0	10.0	ND	ND	ND	ND	ND
Styrene	5.0	10.0	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethane	5.0	10.0	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	5.0	10.0	ND	ND	ND	ND	ND
Tetrachloroethene	2.0	10.0	ND	ND	ND	ND	ND
Toluene (Methyl benzene)	1.0	10.0	ND	ND	ND	ND	ND
1,2,3-Trichlorobenzene	5.0	10.0	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	5.0	10.0	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	5.0	10.0	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	5.0	10.0	ND	ND	ND	ND	ND
Trichloroethene	1.5	10.0	ND	ND	ND	ND	ND
Trichlorofluoromethane	5.0	10.0	ND	ND	ND	ND	ND

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ANALYTICAL RESULTS

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 0616162A1

Our Lab I.D.			Method Blank	82540.03	82540.06	82540.09	82540.13
Client Sample I.D.				B1-3	B2-3	B3-3	B8-1
Date Sampled				06/15/2016	06/15/2016	06/15/2016	06/15/2016
Date Prepared			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Preparation Method			5030	5030	5030	5030	5030
Date Analyzed			06/16/2016	06/16/2016	06/16/2016	06/16/2016	06/16/2016
Matrix			Soil	Soil	Soil	Soil	Soil
Units			ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Dilution Factor			1	1	1	1	1
Analytes	**MDL**	**PQL**	**Results**	**Results**	**Results**	**Results**	**Results**
1,2,3-Trichloropropane	5.0	10.0	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	5.0	10.0	ND	ND	ND	ND	ND
1,3,5-Trimethylbenzene	5.0	10.0	ND	ND	ND	ND	ND
Vinyl Acetate	25	50	ND	ND	ND	ND	ND
Vinyl chloride (Chloroethene)	5.0	10.0	ND	ND	ND	ND	ND
o-Xylene	1.0	10.0	ND	ND	1.09J	ND	ND
m,p-Xylenes	1.0	20.0	ND	ND	1.27J	ND	ND
Our Lab I.D.			Method Blank	82540.03	82540.06	82540.09	82540.13
Surrogates	**%Rec.Limit**		**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**	**% Rec.**
Bromofluorobenzene	75-125		95.7	96.8	93.2	96.2	108
Dibromofluoromethane	75-125		108	107	110	110	106
Toluene-d8	75-125		103	103	102	105	104

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Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

QC Batch No: 0616162C4; Dup or Spiked Sample: 82540.01; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/17/2016; Units: mg/Kg

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Antimony	0.00	50.0	43.5	87.0	50.0	43.5	87.0	<1	75-125	<15
Arsenic	3.61	50.0	46.0	84.8	50.0	46.2	85.2	<1	75-125	<15
Barium	187	50.0	211 M	48.0	50.0	212 M	50.0	4.08	75-125	<15
Beryllium	0.00	50.0	48.9	97.8	50.0	49.1	98.2	<1	75-125	<15
Cadmium	0.00	50.0	41.5	83.0	50.0	41.6	83.2	<1	75-125	<15
Chromium	27.3	50.0	70.3	86.0	50.0	70.5	86.4	<1	75-125	<15
Cobalt	7.49	50.0	49.0	83.0	50.0	49.2	83.4	<1	75-125	<15
Copper	21.3	50.0	65.6	88.6	50.0	65.8	89.0	<1	75-125	<15
Lead	18.1	50.0	92.1 M	148	50.0	92.1 M	148	<1	75-125	<15
Mercury (By EPA 7471)	0.125	0.500	0.735	122	0.500	0.695	114	6.8	75-125	<15
Molybdenum	0.00	50.0	44.5	89.0	50.0	44.7	89.4	<1	75-125	<15
Nickel	18.3	50.0	55.1 M	73.6	50.0	55.5 M	74.4	1.08	75-125	<15
Selenium	0.00	50.0	31.6 M	63.2	50.0	31.7 M	63.4	<1	75-125	<15
Silver	0.00	50.0	41.9	83.8	50.0	42.2	84.4	<1	75-125	<15
Thallium	0.00	50.0	35.8 M	71.6	50.0	35.9 M	71.8	<1	75-125	<15
Vanadium	38.1	50.0	81.0	85.8	50.0	81.4	86.6	<1	75-125	<15
Zinc	74.3	50.0	107 M	65.4	50.0	108 M	67.4	3.01	75-125	<15

QC Batch No: 0616162C4; Dup or Spiked Sample: 82540.01; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/17/2016; Units: mg/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
Antimony	50.0	50.4	101	50.0	49.5	99.0	2.00	75-125	<15	
Arsenic	50.0	50.1	100	50.0	49.8	99.6	<1	75-125	<15	
Barium	50.0	53.1	106	50.0	52.6	105	<1	75-125	<15	
Beryllium	50.0	59.2	118	50.0	59.2	118	<1	75-125	<15	
Cadmium	50.0	51.8	104	50.0	51.3	103	<1	75-125	<15	
Chromium	50.0	52.2	104	50.0	51.8	104	<1	75-125	<15	
Cobalt	50.0	52.9	106	50.0	52.2	104	1.90	75-125	<15	
Copper	50.0	55.0	110	50.0	54.4	109	<1	75-125	<15	
Lead	50.0	50.8	102	50.0	50.7	101	<1	75-125	<15	

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Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (6010B/7000CAM), Title 22 Metals (SW-846)

QC Batch No: 0616162C4; Dup or Spiked Sample: 82540.01; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/17/2016; Units: mg/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
Mercury (By EPA 7471)	0.500	0.492	98.4	0.500	0.490	97.9	<1	75-125	<15	
Molybdenum	50.0	52.8	106	50.0	52.8	106	<1	75-125	<15	
Nickel	50.0	52.9	106	50.0	52.4	105	<1	75-125	<15	
Selenium	50.0	50.5	101	50.0	50.1	100	<1	75-125	<15	
Silver	50.0	52.7	105	50.0	52.4	105	<1	75-125	<15	
Thallium	50.0	53.6	107	50.0	53.4	107	<1	75-125	<15	
Vanadium	50.0	54.0	108	50.0	53.5	107	<1	75-125	<15	
Zinc	50.0	53.6	107	50.0	53.0	106	<1	75-125	<15	

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Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (8260B), Volatile Organic Compounds by GC/MS (SW846)

QC Batch No: 0616162A1; Dup or Spiked Sample: 82540.09; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: ug/Kg

Analytes	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit	
Benzene	50.0	40.5	81.0	50.0	41.3	82.6	1.96	75-125	<20	
Chlorobenzene	50.0	40.6	81.2	50.0	39.5	79.0	2.75	75-125	<20	
1,1-Dichloroethene	50.0	50.2	100	50.0	49.8	99.6	<1	75-125	<20	
Methyl-tert-butyl ether (MTBE)	50.0	40.8	81.6	50.0	39.9	79.8	2.23	75-125	<20	
Toluene (Methyl benzene)	50.0	41.3	82.6	50.0	41.3	82.6	<1	75-125	<20	
Trichloroethene	50.0	48.0	96.0	50.0	47.2	94.4	1.68	75-125	<20	
Surrogates										
Bromofluorobenzene	50.0	46.4	92.7	50.0	45.6	91.2	1.62	75-125	<20	
Dibromofluoromethane	50.0	55.1	110	50.0	53.8	108	1.82	75-125	<20	
Toluene-d8	50.0	50.5	101	50.0	50.0	100	<1	75-125	<20	

QC Batch No: 0616162A1; Dup or Spiked Sample: 82540.09; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: ug/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
Benzene	50.0	48.9	97.8	50.0	48.4	97.0	<1	75-125	<20	
Chlorobenzene	50.0	51.2	102	50.0	50.9	102	<1	75-125	<20	
1,1-Dichloroethene	50.0	53.5	107	50.0	51.3	103	3.81	75-125	<20	
Methyl-tert-butyl ether (MTBE)	50.0	51.1	102	50.0	50.4	101	<1	75-125	<20	
Toluene (Methyl benzene)	50.0	49.9	99.8	50.0	49.6	99.0	<1	75-125	<20	
Trichloroethene	50.0	53.2	106	50.0	52.7	105	<1	75-125	<20	
LCS										
Chloroform (Trichloromethane)	50.0	52.6	105	50.0	52.1	104	<1	75-125	<20	
Ethylbenzene	50.0	50.7	101	50.0	51.0	102	<1	75-125	<20	
1,1,1-Trichloroethane	50.0	51.9	104	50.0	51.8	104	<1	75-125	<20	
o-Xylene	50.0	47.1	94.2	50.0	47.1	94.0	<1	75-125	<20	
m,p-Xylenes	100	98.8	98.8	100	99.0	99.0	<1	75-125	<20	
Surrogates										
Bromofluorobenzene	50.0	46.4	92.8	50.0	46.7	93.3	<1	75-125	<20	
Dibromofluoromethane	50.0	48.4	96.8	50.0	54.7	109	12.6	75-125	<20	
Toluene-d8	50.0	50.0	100	50.0	50.2	100	<1	75-125	<20	

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QUALITY CONTROL RESULTS

Ordered By

Advantage Environmental Consultants
145 Vallecitos De Oro
Suite 201
San Marcos, CA 92069-

Telephone: (760)744-3363
Attn: Dan Weis
Page: **13**

Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (M8015D), TPH as Diesel and Heavy Hydrocarbons Using GC/FID

QC Batch No: 061616PB1; Dup or Spiked Sample: 82518.03; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: mg/Kg

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
TPH as Diesel (C13-C22)	0.00	500	528	106	500	524	105	<1	75-125	<20
Surrogates										
Chlorobenzene	0.00	100	88.4	88.4	100	87.2	87.2	1.36	75-125	<20

QC Batch No: 061616PB1; Dup or Spiked Sample: 82518.03; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: mg/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
TPH as Diesel (C13-C22)	500	537	107	500	521	104	2.84	75-125	<20	
Surrogates										
Chlorobenzene	100	89.0	89.0	100	87.5	87.5	1.69	75-125	<20	

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Attn: Dan Weis
Page: **14**

Site

1st & Broadway
Los Angeles, CA

Project Name: LA TIMES

AETL Job Number	Submitted	Client
82540	06/15/2016	AEC

Method: (M8015G), TPH as Gasoline and Light Hydrocarbons Using GC/FID

QC Batch No: 061616OB1; Dup or Spiked Sample: 82548.01AGA; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: mg/Kg

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
TPH as Gasoline and Light HC. (C4-C12)	0.00	1.00	0.810	81.1	1.00	0.870	86.7	6.67	75-125	<20
Surrogates										
Bromofluorobenzene	0.00	0.0500	0.0489	97.8	0.0500	0.0475	95.0	2.86	75-125	<20

QC Batch No: 061616OB1; Dup or Spiked Sample: 82548.01AGA; LCS: Clean Sand; QC Prepared: 06/16/2016; QC Analyzed: 06/16/2016; Units: mg/Kg

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS DUP Concen	LCS DUP Recov	LCS DUP % REC	LCS RPD % REC	LCS/LCSD % Limit	LCS RPD % Limit	
TPH as Gasoline and Light HC. (C4-C12)	1.00	1.13	113	1.00	1.02	102	10.2	75-125	<20	
Surrogates										
Bromofluorobenzene	0.0500	0.0478	95.6	0.0500	0.0510	102	6.69	75-125	<20	

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Data Qualifiers and Descriptors

Data Qualifier:

#:	Recovery is not within acceptable control limits.
*:	In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
B:	Analyte was present in the Method Blank.
D:	Result is from a diluted analysis.
E:	Result is beyond calibration limits and is estimated.
H:	Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
J:	Analyte was detected . However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
M:	Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
MCL:	Maximum Contaminant Level
NS:	No Standard Available
S6:	Surrogate recovery is outside control limits due to matrix interference.
S8:	The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
X:	Results represent LCS and LCSD data.

Definition:

%Limi:	Percent acceptable limits.
%REC:	Percent recovery.
Con.L:	Acceptable Control Limits
Conce:	Added concentration to the sample.
LCS:	Laboratory Control Sample
MDL:	Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.

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Data Qualifiers and Descriptors

MS:	Matrix Spike
MS DU:	Matrix Spike Duplicate
ND:	Analyte was not detected in the sample at or above MDL.
PQL:	Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
Recov:	Recovered concentration in the sample.
RPD:	Relative Percent Difference

California Regional Water Quality Control Board/DTSC

Laboratory Report Form (Cover Page 1)

Laboratory Name:	Baseline Analytical Services
Address:	P.O. Box 2243 Huntington Beach, California 92647
Telephone:	(714) 273-2955
ELAP Certification Number:	2284 Expiration Date: January 31, 2018
Authorized Signature Name, Title (print)	Brian Kato, Laboratory Director
Signature, Date	Brian K. Kato, 6/20/2016
Client Name:	Advantage Environmental Consultants, LLC
Project Name:	130 S. Broadway
Project Address:	130 S. Brpadway, Los Angeles
Date(s) Sampled:	6/15/16
Date(s) Received:	6/15/16
Date(s) Reported:	6/15/16
Chain of Custody Received:	Yes
Comments:	Sample Matrix: Vapor

California Regional Water Quality Control Board/DTSC

Laboratory Report Form (Cover Page 2)

Organic Analyses	Number of Samples	Number of Samples Subcontracted
VOC's (EPA 8260B)	10 Samples	0
Methane (ASTM D1946)	10 Samples	0

(Includes samples, duplicates, & blanks)

Sample Condition: good

Inorganic Analyses	Number of Samples	Number of Samples Subcontracted

Sample Condition:

Microbiological Analyses	Number of Samples	Number of Samples Subcontracted

Sample Condition:

Other Types of Analyses	Number of Samples	Number of Samples Subcontracted

Sample Condition:

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS (Units: µg/L)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: µg/L

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
CLIENT SAMPLE I.D			**B1-5**	**B2-5**	**B3-5**	**B4-SS**	**B5-SS**	**B6-SS**
EXTRACTION GAS			Helium	Helium	Helium	Helium	Helium	Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
DILUTION FACTOR			1	1	1	1	1	1
ANALYTE	MDL	PQL						
Benzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Toluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Ethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Total Xylenes	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Methyl t-Butyl Ether (MTBE)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
t-Butanol (TBA)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
Di-Isopropyl Ether (DIPE)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Ethyl t-Butyl Ether (ETBE)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
t-Amyl Methyl Ether (TAME)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Ethanol	25	50	ND<25	ND<25	ND<25	ND<25	ND<25	ND<25
Acetone	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
2-Butanone (MEK)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
n-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
sec-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
tert-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Isopropyl Alchohol	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
Isopropylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
p-isopropyltoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
4-Methyl-9-pentanone (MIBK)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5
Naphthalene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
n-Propylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Styrene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2,4-Trimethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,3,5-Trimethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Bromobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Bromochloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Bromoform	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Bromomethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Carbon Tetrachloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
2-Chlorotoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
4-Chlorotoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Chlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Chloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Chloroform	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Chloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Dibromochloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2-Dibromo-10-Chloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2-Dibromoethane (EDB)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Dibromomethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

ANALYTICAL RESULTS FOR ORGANICS (Units: µg/L)

METHOD: EPA 8260B MATRIX: Vapor **REPORTING UNITS: µg/L**

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
CLIENT SAMPLE I.D			**B1-5**	**B2-5**	**B3-5**	**B4-SS**	**B5-SS**	**B6-SS**
EXTRACTION GAS			Helium	Helium	Helium	Helium	Helium	Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
DILUTION FACTOR			1	1	1	1	1	1
ANALYTE	MDL	PQL						
1,2-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,3-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,4-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Dichlorodifluoromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1-Dichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2-Dichloroethane (EDC)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
cis-1,2-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
trans-1,2-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,3-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
2,2-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
cis-1,3-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
trans-1,3-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Freon 113	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Hexachlorobutadiene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Methylene Chloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Tetrachloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1,1,2-Tetrachloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1,2,2-Tetrachloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2,3-Trichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2,4-Trichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1,1-Trichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,1,2-Trichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Trichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Trichlorofluoromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
1,2,3-Trichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
Vinyl Chloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050
IPA (tracer ANALYTE)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5	ND<2.5

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS (Units: µg/L)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: µg/L

	DATE ANALYZED		15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
	DATE EXTRACTED		15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
	CLIENT SAMPLE I.D		**B7-SS**	**B8-SS**	**B8-SS DUP**	**Equipment Blank**		**Method Blank**
	EXTRACTION GAS		Helium	Helium	Helium	Helium		Helium
	EXTRACTION METHOD		EPA 5030	EPA 5030	EPA 5030	EPA 5030		EPA 5030
	DILUTION FACTOR		1	1	1	1		1
ANALYTE	MDL	PQL						
Benzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Toluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Ethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Total Xylenes	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Methyl t-Butyl Ether (MTBE)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
t-Butanol (TBA)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5
Di-Isopropyl Ether (DIPE)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
Ethyl t-Butyl Ether (ETBE)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
t-Amyl Methyl Ether (TAME)	0.50	2.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
Ethanol	25	50	ND<25	ND<25	ND<25	ND<25		ND<25
Acetone	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5
2-Butanone (MEK)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5
n-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
sec-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
tert-Butylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Isopropyl Alchohol	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5
Isopropylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
p-isopropyltoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
4-Methyl-9-pentanone (MIBK)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5
Naphthalene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
n-Propylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Styrene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2,4-Trimethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,3,5-Trimethylbenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Bromobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Bromochloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Bromoform	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Bromomethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Carbon Tetrachloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
2-Chlorotoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
4-Chlorotoluene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Chlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Chloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Chloroform	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Chloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Dibromochloromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2-Dibromo-10-Chloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2-Dibromoethane (EDB)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Dibromomethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

ANALYTICAL RESULTS FOR ORGANICS (Units: µg/L)

METHOD: EPA 8260B MATRIX: Vapor **REPORTING UNITS: µg/L**

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
CLIENT SAMPLE I.D			**B7-SS**	**B8-SS**	**B8-SS DUP**	**Equipment Blank**		**Method Blank**
EXTRACTION GAS			Helium	Helium	Helium	Helium		Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030		EPA 5030
DILUTION FACTOR			1	1	1	1		1
ANALYTE	MDL	PQL						
1,2-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,3-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,4-Dichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Dichlorodifluoromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1-Dichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2-Dichloroethane (EDC)	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
cis-1,2-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
trans-1,2-Dichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,3-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
2,2-Dichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
cis-1,3-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
trans-1,3-Dichloropropene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Freon 113	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Hexachlorobutadiene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Methylene Chloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Tetrachloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1,1,2-Tetrachloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1,2,2-Tetrachloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2,3-Trichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2,4-Trichlorobenzene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1,1-Trichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,1,2-Trichloroethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Trichloroethene	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Trichlorofluoromethane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
1,2,3-Trichloropropane	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
Vinyl Chloride	0.050	0.10	ND<0.050	ND<0.050	ND<0.050	ND<0.050		ND<0.050
IPA (tracer ANALYTE)	2.5	10	ND<2.5	ND<2.5	ND<2.5	ND<2.5		ND<2.5

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway

ANALYTICAL RESULTS FOR METHANE

METHOD: ASTM D1946 MATRIX: Vapor REPORTING UNITS: % (v/v)

CLIENT SAMPLE I.D			B1-5	B2-5	B3-5	B4-SS	B5-SS
DILUTION FACTOR			1	1	1	1	1
REPORTING UNITS			% (v/v)	% (v/v)	% (v/v)	% (v/v)	% (v/v)
ANALYTE	MDL	PQL					
Methane	0.10	0.50	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10

ANALYTICAL RESULTS FOR METHANE

METHOD: ASTM D1946 MATRIX: Vapor REPORTING UNITS: % (v/v)

CLIENT SAMPLE I.D			B6-SS	B7-SS	B8-SS	B8-SS DUP	Method Blank
DILUTION FACTOR			1	1	1	1	1
REPORTING UNITS			% (v/v)	% (v/v)	% (v/v)	% (v/v)	% (v/v)
ANALYTE	MDL	PQL					
Methane	0.10	0.50	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10

ND: Not detected at the indicated Method Detection Limit (MDL)
J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

QA/QC Report - Vapor Samples

II. Lab Control Sample (LCS)/Lab Control Sample Duplicate (LCSD)

Date Performed: 6/15/16
Batch #: GCVOC1-15JUN2016 Analytical Method: 8260B
Instrument ID: GCVOC1 Units: ug/L

Analyte	Sample Result	Spike Conc.	LCS	%LCS	Spike Conc.	LCSD	%LCSD	RPD	LCS/LCSD Limit	RPD Limit
1,1-Dichloroethene	ND	10	9.6	96	10	9.1	91	5	65-130	0-15
Benzene	ND	10	9.0	90	10	9.8	98	9	65-130	0-15
Trichloroethene	ND	10	9.2	92	10	9.4	94	2	65-130	0-15
Toluene	ND	10	9.4	94	10	9.3	93	1	65-130	0-15
Chlorobenzene	ND	10	9.5	95	10	9.1	91	4	65-130	0-15

II. Lab Control Sample (LCS)/Lab Control Sample Duplicate (LCSD)

Date Performed: 6/15/16
Batch #: GCTCD-15JUN2016 Analytical Method: ASTM D1946
Instrument ID: GCTCD1 Units: % (v/v)

Analyte	Sample Result	Spike Conc.	LCS	%LCS	Spike Conc.	LCSD	%LCSD	RPD	LCS/LCSD Limit	RPD Limit
Methane	ND	10	10.2	102	10	9.9	99	3	65-130	0-15

ATTACHMENT:

(1) Results in Units of Parts Per Million by Volume (PPMv)

(2) Chain-of-Custody (C-O-C)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS Units: (PPMv)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: PPMv

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
CLIENT SAMPLE I.D			**B1-5**	**B2-5**	**B3-5**	**B4-SS**	**B5-SS**	**B6-SS**
EXTRACTION GAS			Helium	Helium	Helium	Helium	Helium	Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
DILUTION FACTOR			1	1	1	1	1	1
ANALYTE	MDL	PQL						
Benzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Toluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Ethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Total Xylenes	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Methyl t-Butyl Ether (MTBE)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
t-Butanol (TBA)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Di-Isopropyl Ether (DIPE)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Ethyl t-Butyl Ether (ETBE)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
t-Amyl Methyl Ether (TAME)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10	ND<0.10
Ethanol	5.0	10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0
Acetone	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
2-Butanone (MEK)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
n-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
sec-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
tert-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Isopropyl Alchohol	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Isopropylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
p-isopropyltoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
4-Methyl-9-pentanone (MIBK)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50
Naphthalene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
n-Propylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Styrene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2,4-Trimethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,3,5-Trimethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Bromobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Bromochloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Bromoform	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Bromomethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Carbon Tetrachloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
2-Chlorotoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
4-Chlorotoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Chlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Chloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Chloroform	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Chloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Dibromochloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2-Dibromo-10-Chloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2-Dibromoethane (EDB)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Dibromomethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS Units: (PPMv)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: PPMv

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16
CLIENT SAMPLE I.D			**B1-5**	**B2-5**	**B3-5**	**B4-SS**	**B5-SS**	**B6-SS**
EXTRACTION GAS			Helium	Helium	Helium	Helium	Helium	Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
DILUTION FACTOR			1	1	1	1	1	1
ANALYTE	MDL	PQL						
1,2-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,3-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,4-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Dichlorodifluoromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1-Dichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2-Dichloroethane (EDC)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
cis-1,2-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
trans-1,2-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,3-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
2,2-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
cis-1,3-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
trans-1,3-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Freon 113	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Hexachlorobutadiene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Methylene Chloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Tetrachloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1,1,2-Tetrachloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1,2,2-Tetrachloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2,3-Trichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2,4-Trichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1,1-Trichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,1,2-Trichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Trichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Trichlorofluoromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
1,2,3-Trichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
Vinyl Chloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010	ND<0.010
IPA (tracer ANALYTE)	0.5	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS Units: (PPMv)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: PPMv

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
CLIENT SAMPLE I.D			**B7-SS**	**B8-SS**	**B8-SS DUP**	**Equipment Blank**		**Method Blank**
EXTRACTION GAS			Helium	Helium	Helium	Helium		Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030		EPA 5030
DILUTION FACTOR			1	1	1	1		1
ANALYTE	MDL	PQL						
Benzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Toluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Ethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Total Xylenes	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Methyl t-Butyl Ether (MTBE)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
t-Butanol (TBA)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
Di-Isopropyl Ether (DIPE)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10		ND<0.10
Ethyl t-Butyl Ether (ETBE)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10		ND<0.10
t-Amyl Methyl Ether (TAME)	0.10	0.20	ND<0.10	ND<0.10	ND<0.10	ND<0.10		ND<0.10
Ethanol	5.0	10	ND<5.0	ND<5.0	ND<5.0	ND<5.0		ND<5.0
Acetone	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
2-Butanone (MEK)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
n-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
sec-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
tert-Butylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Isopropyl Alchohol	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
Isopropylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
p-isopropyltoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
4-Methyl-9-pentanone (MIBK)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50
Naphthalene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
n-Propylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Styrene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2,4-Trimethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,3,5-Trimethylbenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Bromobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Bromochloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Bromoform	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Bromomethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Carbon Tetrachloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
2-Chlorotoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
4-Chlorotoluene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Chlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Chloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Chloroform	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Chloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Dibromochloromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2-Dibromo-10-Chloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2-Dibromoethane (EDB)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Dibromomethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Project Name: 130 S. Broadway (MS Excel Duplicate of RWQCB LabForm10A; Ver12/96)

ANALYTICAL RESULTS FOR ORGANICS Units: (PPMv)

METHOD: EPA 8260B MATRIX: Vapor REPORTING UNITS: PPMv

DATE ANALYZED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
DATE EXTRACTED			15-Jun-16	15-Jun-16	15-Jun-16	15-Jun-16		15-Jun-16
CLIENT SAMPLE I.D			**B7-SS**	**B8-SS**	**B8-SS DUP**	**Equipment Blank**		**Method Blank**
EXTRACTION GAS			Helium	Helium	Helium	Helium		Helium
EXTRACTION METHOD			EPA 5030	EPA 5030	EPA 5030	EPA 5030		EPA 5030
DILUTION FACTOR			1	1	1	1		1
ANALYTE	MDL	PQL						
1,2-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,3-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,4-Dichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Dichlorodifluoromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1-Dichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2-Dichloroethane (EDC)	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
cis-1,2-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
trans-1,2-Dichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,3-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
2,2-Dichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
cis-1,3-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
trans-1,3-Dichloropropene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Freon 113	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Hexachlorobutadiene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Methylene Chloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Tetrachloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1,1,2-Tetrachloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1,2,2-Tetrachloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2,3-Trichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2,4-Trichlorobenzene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1,1-Trichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,1,2-Trichloroethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Trichloroethene	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Trichlorofluoromethane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
1,2,3-Trichloropropane	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
Vinyl Chloride	0.010	0.020	ND<0.010	ND<0.010	ND<0.010	ND<0.010		ND<0.010
IPA (tracer ANALYTE)	0.50	1.0	ND<0.50	ND<0.50	ND<0.50	ND<0.50		ND<0.50

ND: Not detected at the indicated Method Detection Limit (MDL)

J: Value is below Practical Quantification Limit and above the Method Detection Limit (MDL)

Advantage Environmental Consultant	Project Name: 130 S. Broadway
145 Vallecitos De Oro, Suite 201	Project Address: 130 S. Broadway
San Marcos, CA 92069	Los Angeles. California
Phone: 760.275.9229	Project Number: ---
Contact: Dan Weis	

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Laboratory Project #: **16207**

Sample ID		Date	Time	Lab ID	Soil (S), Water (W), Vapor (V)	Analysis			Number of Containers	Comments
							VOC's (8260B)	Methane (ASTM-D1946)		
Equipment Blank		15-Jul-16		1	V		X	X	1	
B1-5	5' bgs	15-Jul-16		2	V		X	X	1	
B2-5	5' bgs	15-Jul-16		3	V		X	X	1	
B3-5	5' bgs	15-Jul-16		4	V		X	X	1	
B4-SS	sub-slab	15-Jul-16		5	V		X	X	1	
B5-SS	sub-slab	15-Jul-16		6	V		X	X	1	
B6-SS	sub-slab	15-Jul-16		7	V		X	X	1	
B7-SS	sub-slab	15-Jul-16		8	V		X	X	1	
B8-SS	sub-slab	15-Jul-16		9	V		X	X	1	
B8-SS DUP	sub-slab	15-Jul-16		10	V		X	X	1	

Turnaround Time: immediate attention

Sample Condition: Chilled? Y / N Sealed? Y / N Comments:

Sampled & Analyzed by:

signature: x Brian K. Kato

of Baseline Analytical Services

Special Instructions/Comments:

DAN WEIS ON-SITE FOR AEC.

Leak Detection Compound: IPA

BASELINE ON-SITE ANALYSIS™

P. O. Box 2243
Huntington Beach, California 92647

Phone: (714) 273-2955

12.8 Qualifications of the Environmental Professionals

Advantage Environmental Consultants, LLC

ENVIRONMENTAL DUE DILIGENCE AND REMEDIATION SPECIALISTS

TODD JACQUAY
Project Engineer

EDUCATION

B.S.E. Geological Engineering, Purdue University, West Lafayette, IN (2000)

PROFESSIONAL REGISTRATIONS, LICENSES, AND CERTIFICATIONS

- EIT, Engineer-In-Training
- OSHA 40-hour Hazardous Waste Operations Worker and Supervisor Certifications and annual Refreshers

PROFESSIONAL SUMMARY

Mr. Jacquay has over ten years of experience in the field of environmental consulting. He has conducted numerous Phase I and Phase II Environmental Site Assessments throughout the State of California. His project management experience includes on-site environmental investigation, data evaluation, workplan development, health risk modeling, and technical report writing. His field experience includes environmental site characterization, construction management, subcontractor oversight, soil and groundwater sampling, UST removals, remedial excavation, waste characterization, operation and maintenance of remedial systems, and stormwater pollution prevention and monitoring.

PROFESSIONAL EXPERIENCE

School Projects - Mr. Jacquay has conducted Preliminary Endangerment Assessments (PEA) for school districts in southern and central California. The PEAs were completed according to guidance requirements established by the California Department of Toxic Substance Control (DTSC). The PEAs addressed environmental impacts associated with historical use of organochlorine pesticides, lead, termiticides, arsenic, petroleum hydrocarbons, volatile organic compounds, and polychlorinated biphenyls (PCBs). Following data collection and interpretation, Mr. Jacquay prepared human health risk models and conducted remedial excavations, as needed, under oversight of DTSC.

Energy/Utility Companies – Performed construction monitoring during pipeline realignments and repairs for utility companies in Orange and Los Angeles Counties. Responsibilities included implementation of Site Safety Plan, segregation and stockpiling of fuel impacted soil, and monitoring ambient air to protect worker's health from elevated levels of volatiles.

Residential Developments - Completed Phase I and Phase II Environmental Site Assessments for single and multi-family residential developments throughout the State of California. The historic uses of the proposed developments included former or current agricultural properties, ranches, and manufacturing/industrial facilities.

Urban Redevelopment Projects – Performed site assessments, subsurface investigations, and implemented remedial action programs at urban redevelopment sites in downtown San Diego. Downtown redevelopment projects included railroad yards, former gasoline service stations and automotive repair facilities. Suspected and known contaminants included burn ash, lead, polychlorinated biphenyls, volatile organic compounds, semi-volatile compounds, and petroleum hydrocarbons. Mr. Jacquay has performed such assessments on behalf of private developers and

redevelopment agencies. Many of the projects have been subject to regulatory oversight by local or State level regulatory agencies, including voluntary cleanup programs.

Retail/Commercial Projects - Conducted numerous Phase I and Phase II Environmental Site Assessments for new and existing small to large-scale retail/commercial properties throughout California. Many retail/commercial centers included gasoline service stations and heavy equipment maintenance centers with documented leaking underground storage tank cases. In particular, completed several Phase I ESAs and subsequent Phase II ESAs for adjacent parcels slated for retail development in the City of Scotts Valley, CA. Review of historic aerials and documents provided by the City of Scotts Valley revealed the historic use of the site as an airport with areas of fill material from an unknown source. Several Phase II subsurface evaluations were conducted to assess the project site for lead and petroleum hydrocarbons contamination.

Remedial Excavation and Monitoring - Conducted monitoring and segregation of soil during remedial excavation of petroleum hydrocarbon contaminated soil from sites throughout Southern California. Collected confirmation soil samples from the sidewalls and bottom of each remedial excavation according to guidelines established by the acting regulatory agency. Profiled the soil for regulated disposal and coordinated transportation of contaminated soil for removal from site.

Groundwater Assessments - Performed groundwater assessments through the installation and sampling of a series of groundwater monitoring wells at sites throughout California. In addition several human health risk assessments were completed for future occupants of the project sites based on the concentrations found in the groundwater.

Dry Cleaning Facilities - Performed soil, groundwater, and soil vapor investigations throughout Southern California at locations with known subsurface impacts from dry cleaning solvents such as PCE, TCE, and Vinyl Chloride. In addition conducted pilot testing to determine the radius of influence for each chemical of concern. Installation of soil vapor extraction systems and preparation of human health risk assessments were completed for future occupants of the project sites based on contamination results. Performed groundwater sampling, operations and maintenance of soil vapor extraction units, completed quarterly reporting, and coordinated with applicable regulatory agencies throughout the terms of the projects.

Property Condition Assessments and Seismic Evaluations – Under the direct oversight of a professional engineer, Mr. Jacquay assisted with inspecting the condition of structural features of site buildings, building systems and other on-site improvements. In addition, Mr. Jacquay has performed calculations of seismic stability for site buildings in terms of the Probable Maximum Loss (PML). The PML is expressed in terms of a percentage of the total replacement cost of the building.

SPECIFIC PROJECT EXPERIENCE

Spring Valley Insulation, San Diego County, California - A 2,000-gallon single-wall steel UST formerly used to store unleaded gasoline was removed from the property under oversight of the County of San Diego County DEH. DEH directives required that groundwater in the vicinity of the former UST be evaluated for the potential presence of contamination. Following field reconnaissance to evaluate the feasibility of proposed fieldwork and boring locations, completed and received approval of a work plan for further assessment as required by DEH. Work carried out as specified in the work plan included the installation of four groundwater monitoring wells, the collection of soil and groundwater samples, and an estimation of the vertical and horizontal extent of petroleum hydrocarbon impacted soil at the property. Based on the findings of the investigation, the information presented in the report, and additional groundwater assessment conducted at the property, the DEH issued a no further action letter for the property.

Proposed Medical Building Site, SEC Culver Blvd. and Ince Blvd., Culver City, California – Project manager and lead for the completion of a Phase I ESA at the proposed redevelopment property located at the southeast corner of Culver Boulevard and Ince Boulevard in Culver City, Los

Angeles County, California. Redevelopment plans for the property included a medical-related commercial structure with a subterranean parking garage. Past uses of the property (including but not limited to automobile repair and possible dry-cleaning operations) as revealed during historical research completed during the Phase I ESA were considered to be suspect and a recognized environmental condition in connection with the property and a subsurface assessment at the property (consisting of soil and soil vapor sampling) was recommended. Mr. Jacquay continued project management duties on this project in conducting a Phase II ESA at the property which included the drilling of eight soil borings using a truck-mounted, direct-push sampling rig. The sampling probes were advanced by hydraulically driving an approximately two-inch diameter stainless steel rod equipped with a soil sampling tool. Soil borings were drilled to depths of 10 to 15 feet with soil amples collected at varying depths between one and fifteen feet. Four of the soil borings were converted to dual nested soil vapor probes installed at 5 and 15 feet bgs in each borehole. Select soil samples were analyzed onsite using a mobile laboratory for petroleum hydrocarbons and associated constituents. In addition, several near surface soil samples obtained from the soil borings were analyzed for Title 22 Metals and/or total lead. Soil samples collected but not analyzed were archived at the analytical laboratories. Soil vapor samples were analyzed for VOCs. A remediation cost estimate pertaining to lead-impacted soil removal to be completed at the property was also prepared and is being used by the developer in finalizing construction budgets.

North County Transit District (NCTD) Bus Maintenance Facility, Escondido, California – Project manager and lead field representative for the completion of turn-key limited excavation and soil sampling activities at a NCTD bus maintenance facility due to the discovery of petroleum hydrocarbon-impacted soil during a hydraulic hoist removal from a vehicle service bay. Prior to the commencement of field activities, Mr. Jacquay pre-profiled the impacted soil with a Class III recycling facility using analytical data obtained prior to excavation activities (stockpile testing associated with the initial hoist removal). A subcontracted excavation contractor, working under the direct supervision of Mr. Jacquay, completed the field activities (i.e. excavation with a designated area around the former hoist, stockpiling and loading on to trucks). Contaminated soil was excavated from the former hoist area using a backhoe and bobcat skid-steer and placed onto trucks for off-Site disposal under appropriate manifests issued by the receiving facility. Following the completion of the excavation activities, Mr. Jacquay collected soil samples from the base and sidewalls of the hoist excavation to verify removal and/or extent of the contamination left in-place. Soil samples were also collected from the stockpile of excavated soil for use by the recycling facility to finalize treatment options. A total of 39.88 tons of petroleum-hydrocarbon impacted soil were transported under proper manifesting protocol to the recycling facility. The results of the soil sampling and analysis indicated that petroleum hydrocarbon-impacted soil remained in place in the vicinity of the former hoist. However, due to several constraints, including limits of the concrete opening, depth of the excavation in relation to reach of the excavation equipment and the proximity of the excavation bottom to groundwater, additional excavation was not conducted.

Emergency Land Outfall Replacement, Oceanside, California - Soil/Water/Air Sampling and Analysis

13200 South Avalon Boulevard (31,000 Square Foot Former Industrial Laundry Facility) – Los Angeles, California - Phase I and II Environmental Site Assessment

City of San Diego, California Fleet Services Division Gasoline Fueling Stations (Multiple Locations) – Water Pollution Control Plan and Weather Triggered Action Plan Preparation

State of California Department of Transportation (CalTrans) Kearny Mesa Operations Center, San Diego, California – Underground Storage Tank Removal Oversight

Former Nassco Shipyard Gasoline Station, San Diego, California - Regulatory Permitting, Soil Sampling During Removal of Underground Storage Tanks and Regulatory Reporting

Advantage Environmental Consultants, LLC

ENVIRONMENTAL DUE DILIGENCE AND REMEDIATION SPECIALISTS

DANIEL A. WEIS, R.E.H.S.
Branch Manager – Western Regional Office

EDUCATION

- Bachelor of Arts - University of Delaware, Newark, DE (1995)
- Master of Science – Public Health, San Diego State University, San Diego, CA (1998)

PROFESSIONAL REGISTRATIONS, LICENSES, AND CERTIFICATIONS

- Registered Environmental Health Specialist #8172 in the State of California
- OSHA 40-hour Hazardous Waste Operations Worker and Supervisor Certifications and Annual Refreshers

PROFESSIONAL SUMMARY

Mr. Weis is the branch manager of AEC's western regional office based in the City of San Marcos, San Diego County, California. He has 14 years of experience in the environmental sciences and consulting fields and is supported by Professional Geologists, Engineers and other technical team members of AEC staff. His responsibilities at AEC include client development and management, project management, technical oversight and quality control for assessment and remediation services, project staffing, and office financial management. Mr. Weis also completes technical services (including field activities) required of select projects completed by AEC. He has a proven ability to manage multiple personnel and technical projects, negotiate with regulatory agencies and maintain strong and trusting client relationships. Such clientele include but are not limited to local government entities, redevelopment agencies, affordable housing developers, Federal government entities, environmental and land use attorneys, architectural and engineering firms, commercial lending institutions, conservancies, commercial/industrial real estate owners/managers, insurance companies, wireless telecommunication carriers and real estate developers. He is also very experienced in the completion of assessment, construction and remediation quality assurance during the completion of urban redevelopment/brownfields projects, many of which have been located in downtown San Diego, Los Angeles and other urban communities throughout the State of California. Mr. Weis has a deep understanding of environmental due diligence guidelines including:

- American Society for Testing and Materials (ASTM) E1527-13, Standard Practice for Environmental Site Assessments (ESAs)
- ASTM E2247-08, Standard Practice for ESA: Phase I ESA Process for Forestland or Rural Properties
- ASTM E1903-97 (Re-approved 2002), Standard Practices for Environmental Site Assessments: Phase II ESA Process
- ASTM E2600-10, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions
- 40 Code of Federal Regulations (CFR) Part 312 Standards for Conducting All Appropriate Inquiry (AAI)
- 33 CFR Part 137 Oil Spill Liability Standards for Conducting AAI
- United States Department of Housing and Urban Development Guide to Multifamily Accelerated Processing
- Other financial institution specific guidelines including The United States Small Business Administration, Fannie Mae and Freddie Mac

PROFESSIONAL EXPERIENCE

Mr. Weis has completed over 1,000 due diligence related environmental assessments (i.e. Phase I ESAs, Transaction Screen Analyses, etc.) and has managed over 200 subsurface environmental investigations of soil gas, soil and/or groundwater. Such investigations have also included human health and ecological risk assessments, evaluations of indoor air conditions based on interpretations of subsurface conditions, underground storage tank (UST) evaluation/closure and hazardous waste characterization/management. Subsurface activities performed include the completion of soil borings using various drilling technologies, soil and groundwater sampling, installation and sampling of groundwater monitoring wells, free product evaluations, exploratory trenching and real-time delineation using mobile analytical laboratories and other soil screening technology. Assets evaluated include industrial, commercial, residential, agricultural and vacant land sites throughout the State of California and numerous additional states of the Nation, with many of the assessments completed under the regulatory oversight of local environmental regulatory agencies, the California Regional Water Quality Control Boards (RWQCBs) and the California Environmental Protection Agency Department of Toxic Substances Control (DTSC). Mr. Weis has also conducted and/or managed hundreds of public/environmental health related assessments including electromagnetic field surveys, radionuclide surveys, indoor air quality investigations, radon surveys, drinking water assessments, asbestos containing materials (ACM) and lead-based paint (LBP) surveys and mold/microbial evaluations.

Mr. Weis has managed over 50 remediation related projects primarily related to source removal of subsurface contaminants including but not limited to petroleum hydrocarbons, chlorinated solvents, heavy metals, organochlorine pesticides and other agricultural related chemicals, dioxins and furans and polychlorinated biphenyls (PCBs). Cost effective solutions and various remedial action options are provided prior to remedial action implementation. He is very proficient in developing remediation cost estimates and evaluating multiple remedial strategies on specific projects and conducting budget tracking to ensure the accuracy of such estimates during remedial implementation. Mr. Weis also assists clients with the preparation of contractor bid specifications, contractor bid and change order reviews for such projects, contractor agreements and project status reports/updates and has conducted presentations to client personnel, regulatory agencies and/or the public pertaining to such remediation related projects. He has also assisted numerous clients in cost recovery efforts from private parties and State/Federal funding programs for environmental assessment and remediation work.

SPECIFIC PROJECT EXPERIENCE

48 Property State Lands Exchange Project, Various Locations Throughout San Bernardino and Inyo Counties, California - Project director for the completion of a Phase I ESA in accordance with ASTM Practice E 1527-05, 40 CFR Part 312 Standards for Conducting AAI, and other Federal Agency specific guidelines at forty eight State of California School Lands properties ranging in size from 40 acres to 666.54 acres, located in San Bernardino and Inyo Counties, California and either partially or entirely within Death Valley National Park or the Mojave National Preserve. Due to the remoteness of the properties, the site reconnaissance was conducted via helicopter flyover with intermittent landings as needed to evaluate conditions on the properties. Prior to the site reconnaissance, Geographical Information Systems (GIS) technology was utilized to determine the coordinates of each property (corners and center) and such data was subsequently provided to the aviation company in a format compatible with the helicopter's navigation system. Additional components of the ESA (i.e. interviews, regulatory research and historical research) were completed in strict accordance with the applicable guidelines. The assessment revealed no evidence of recognized environmental conditions (RECs) in connection with the properties and additional assessment was not recommended. The assessment also included an evaluation of several non-scope ASTM considerations including ACM, LBP, radon potential and lead in drinking water. None of the non-scope ASTM evaluation items were found to be a potential concern with respect to the subject properties.

Industrial Facility, West Bradley Avenue, El Cajon, California – Technical lead on pre-business acquisition due diligence (i.e. Phase I/II ESAs) at a facility that conducts the manufacturing of forged metal products for the medical field and aerospace/defense industry and that was historically used for related industrial purposes. Investigation revealed releases of chlorinated solvents to the vadose zone and groundwater underlying the facility, as well as off-site sources of chlorinated solvents to the property in groundwater. Two phases of due diligence related subsurface investigation consisted of 25 direct-push soil

borings and the collection of soil, groundwater, and soil gas samples. The analytical laboratory data was evaluated, deliverables were prepared and preliminary evaluations of risk conducted using County of San Diego Department of Environmental Health and DTSC Johnson and Ettinger vapor intrusion risk models. The case was subsequently referred to the DTSC due to permit by rule conditions and Mr. Weis oversaw and participated in the preparation a current conditions report, Facility Investigation (FI) Work plan and Community Profile for the property under a Corrective Action Consent Agreement between the interested parties and the DTSC. The FI Work Plan described the investigation objectives, pertinent background information related to the facility, current conditions, and a description of each identified Solid Waste Management Unit and Area of Concern identified at the facility. The document also included a Quality Assurance Project Plan (QAPP), data management plan and information pertaining to the proposed reporting structure. Mr. Weis also served as the project lead/coordinator for the implementation of the FI Work Plan which included the installation of sub-slab and at-depth soil gas probes and multiple groundwater monitoring wells, and the drilling of several direct-push soil borings. On-going regulatory negotiation is being conducted in efforts to reach a quantifiable approach to future monitoring of subsurface conditions at the property.

Santa Monica Beach Public Restroom Facilities Replacement Project, Santa Monica, California - Project director and lead on the completion of a Phase I ESA in accordance with ASTM Practice E 1527-05 of eight public restroom facilities on the Santa Monica State Beach in the City of Santa Monica, Los Angeles County, California. ACM, LBP and PCB surveys were also completed in conjunction with the ESA. All components of the ESA were completed in strict accordance with the applicable guidelines. The assessment revealed no evidence of RECs in connection with the properties and additional assessment was not recommended. Recommendations were provided regarding abatement of ACM and LBP identified at the facilities.

Seventh and Market Street Property - 7th and 8th Avenues and Market Street, San Diego, California - Project lead and manager for remediation planning assistance associated with a proposed 55,000 square foot mixed-use redevelopment project including a multiple level subterranean parking garage) in downtown San Diego. Subsurface characterization utilized in conjunction with prior site data included the drilling of ten soil borings using a hollow-stem auger drill rig, excavation of ten exploratory test pits using a backhoe and sampling/analysis of soil samples for various contaminants of concern. The additional data obtained was used for evaluating the feasibility of alternative remedial strategies, revising remedial cost estimates for multiple redevelopment scenarios and preparation of a mitigation plan and community health and safety plan for the project. Eligible costs for the site characterization related work were recovered from the State Water Resources Control Board (SWRCB) Orphan Site Cleanup Account (OSCA) program on behalf of the client. Although redevelopment plans for the project changed due to various factors, funding remained secured for the project and remediation work consisting of a removal action of lead and petroleum hydrocarbon impact soil was conducted. Over 15,000 tons of contaminated soil was removed from the property during the remediation effort. Mr. Weis served as the project lead and manager for the remediation phase of work which included the excavation and segregation of lead and petroleum hydrocarbon contaminated soils within an approximately 30,000 square foot remediation area, backfilling the excavation with non-contaminated soil generated from the proposed excavation as well as soil to be imported to the property and reconstruction of the property to City of San Diego surface parking lot standards. The remediation activities required the displacement of approximately 27,000 cubic yards of soil. Pre-remediation work completed by Mr. Weis included revising the mitigation plan to account for changes to the project plan, assistance with the preparation of technical bid specifications pertaining to the proposed site remediation, pre-bid meeting representation and responding to questions/inquiries from prospective bidders regarding the technical specifications, drawings and other items related to the proposed remediation effort and associated construction activity. Over 99% of $1,500,000 in SWRCB OSCA grant funds for the cleanup was recovered on behalf of the client.

Proposed Charter School Athletic Field Complex, Temple Avenue and Hoover Street, Los Angeles, California - Project lead and manager for the completion of a Phase I and II ESA during a property acquisition due diligence period at this approximately one-acre property located in the northern portion of the downtown area of the City of Los Angeles. The Phase I ESA was completed under ASTM-2005/AAI protocol and supplemental DTSC guidelines. Prior uses of the property included metal plating activity and a gasoline service station. Other deliverables provided and approved by the DTSC included a Preliminary

Environmental Assessment (PEA) Work Plan, QAPP and a Site Specific Health and Safety Plan. Additional subsurface investigation was subsequently completed to close data gaps pertaining to contaminant distribution and remediation costs prior to a removal action completed at the property. Such investigation included the drilling of over 70 soil borings and sample collection/analysis of soil, soil gas and groundwater samples. Remediation (excavation) at the property was completed by on a turn-key basis and consisted of the excavation and disposal of approximately 2,500 cubic yards of metals contaminated soil and removal of a UST under Los Angeles Fire Department oversight. Other duties completed during the course of the project included regulatory negotiation and litigation support. Community outreach associated with the project included a public hearing with the Los Angeles Department of Building and Safety pertaining to the site permit grading and haul route for trucking of contaminated soil and mass mailing of fieldwork notification activities to all properties situated within a 300 foot radius of the property.

Strata - 9th and 10th Avenues and Market Street, San Diego, California – Project manager for the completion of California SWRCB OSCA Program application assistance pertaining to a portion (former gasoline station) of this downtown San Diego redevelopment site, which included a four-level subterranean parking garage. Initial tasks included a review of prior environmental assessments, written response to SWRCB inquiries pertaining to historical site uses and principal contamination sources and preparation of select sections of OSCA Pre-Assessment and Cleanup Grants. Portions of the Grants included a summary of background information pertaining to the property, detailed scopes of work pertaining to prior eligible assessment response work and proposed cleanup response actions and specific budget details. Cost recovery efforts from the OSCA program were successful. Mr. Weis also served as the project lead for general remediation planning assistance which included the preparation of multiple variations of remediation cost estimates for the project and attendance of meetings with the development team. The remediation cost estimate variations were broken down by physical address (parcel) and three contaminant types (lead, chlorinated solvents and petroleum hydrocarbons) and differing combinations of the referenced parameters. The cost estimation included interface with UST removal, excavation, shoring and dewatering contractors, landfill/recycling facilities, trucking companies, vapor barrier design and installation companies and analytical laboratories. Mr. Weis oversaw subsequent third-party oversight activities on behalf of the client as the property was sold to a third-party and included field oversight of remediation activities, budget tracking, invoice approval, compliance with the OSCA Grant conditions, attendance at meetings and other tasks.

Tijuana River Watershed Project, San Diego State University Graduate School of Public Health - In early stages of the project, implemented a stormwater sampling program within various areas of watershed including the use of auto sampling apparatus triggered by rainfall and flow of rivers and creeks of interest. Personally performed analytical laboratory analysis of water and sediment samples using University owned instruments for constituents of concern including heavy metals, nutrients, and bacteriological indicators and maintained chemistry and flow databases for the development of pollutographs, mass loading estimates and calibration of GIS models.

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- Gersberg, R.M., Brown, C., Zambrano, V., Worthington, K., and Weis, D. (2000) Quality of urban runoff in the Tijuana River watershed. In Westerhoff, P. (editors), SCERP Monograph Series (no.2) on Water Issues Along the United States and Mexico Border. : Southwest Center for Environmental Research and Policy, 31-45.
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- Gersberg, R.M., Pitt, J.L., Weis, D.A., and D.D. Yorkey. Characterizing In-Stream Metal Loading in the Tijuana River Watershed. (2002). National TMDL Science and Policy Conference, Specialty Conference Proceeding on CD Rom, November 13-16, Phoenix, Arizona

AFFILIATIONS

National Brownfields Association
San Diego Housing Federation

APPENDIX H
Hydrology Report

ESA

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ONNI TIMES SQUARE PROJECT
(201 W. FIRST STREET, LOS ANGELES CA 90012)

HYDROLOGY & WATER RESOURCES TECHNICAL REPORT
JULY 26, 2018

PREPARED BY:

KPFF Consulting Engineers

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1. INTRODUCTION

1.1. PROJECT LOCATION AND EXISTING ON-SITE USES:

The Project Site is located on an approximately 3.6-acre (five parcels totaling approximately 160,578 square feet [sf]) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway Street in the Center City/Historic Core District of Downtown Los Angeles. This district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets, includes Los Angeles City Hall, Los Angeles County courts and law library, federal offices and courts, LAPD Headquarters, CalTrans Regional Offices, Grand Park, and other civic facilities. The Project Site is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building, resulting in a total of approximately 559,863 sf. See attached Project Location Map.

1.2. PROJECT DESCRIPTION

The Times Mirror Square Project (Proposed Project) would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 307,288 sf of commercial office uses, 18,817 sf of commercial restaurant uses and a 50,000 sf grocery store. Of the 307,288 sf of commercial office use, 93,432 sf will be new development. The remaining 213,856 sf of office space is existing and will remain after the rehabilitation of the Times, Plant, and Mirror Buildings. The three buildings, which have a combined total floor area of approximately 376,105 sf, are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the Site and construct two mixed-use towers (North and South Towers).

The Project's North Tower and South Tower mixed use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. Total residential floor area would be 1,071,692 sf. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 sf. The towers would include approximately 34,572 f of retail uses, which would be located at ground level and oriented to W. 1st Street, S. Broadway, and W. 2nd Street, while also fronting the Paseo. The Paseo would be constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. The resulting floor-area ratio (FAR) would be approximately 9.42:1. Approximately 72,902 sf of common open space, including the approximately 15,708 sf Paseo, would be provided as part of the North and South Towers

component. With the addition of approximately 56,350 sf of private balconies, combined private and common open space would be approximately 129,252 sf.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023.

1.3. SCOPE OF WORK

This report provides a description of the existing site conditions and analyzes the Project's potential impacts to surface water hydrology, surface water quality, groundwater level, and groundwater quality.

2. REGULATORY FRAMEWORK

2.1. SURFACE WATER HYDROLOGY

County of Los Angeles Hydrology Manual

Per the City of Los Angeles (City) Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County (County) Department of Public Works Hydrology Manual as its basis of design for storm drainage facilities. The Hydrology Manual requires that a storm drain conveyance system be designed for a 25-year storm event and that the combined capacity of a storm drain and street flow system accommodate flow from a 50-year storm event. Areas with sump conditions are required to have a storm drain conveyance system capable of conveying flow from a 50-year storm event.[1] The County also limits the allowable discharge into existing storm drain facilities based on the municipal separate storm sewer systems (MS4) Permit, which is enforced on all new developments that discharge directly into the County's storm drain system. Any proposed drainage improvements of County owned storm drain facilities such as catch basins and storm drain lines require review and approval from the County Flood Control District department.

Los Angeles Municipal Code

Any proposed drainage improvements within the street right of way or any other property owned by or under the control of the City requires the approval of a B-permit (Section 62.105, Los Angeles Municipal Code (LAMC)). Under the B-permit process, storm drain installation plans are subject to review and approval by the City of Los Angeles Department of Public Works, Bureau of Engineering. Additionally, any connections to the City's storm drain system from a private property to a City catch basin or a underground storm drain

[1] Los Angeles County Department of Public Works Hydrology Manual, January 2006, http://ladpw.org/wrd/publication/index.cfm, accessed February 14, 2017.

pipe requires a storm drain connection permit from the City of Los Angeles Department of Public Works, Bureau of Engineering.

2.2. SURFACE WATER QUALITY

Clean Water Act

The Clean Water Act was first introduced in 1948 as the Water Pollution Control Act. The Clean Water Act authorizes Federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. The primary goals of the Clean Water Act are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. As such, the Clean Water Act forms the basic national framework for the management of water quality and the control of pollutant discharges. The Clean Water Act also sets forth a number of objectives in order to achieve the above-mentioned goals. These objectives include regulating pollutant and toxic pollutant discharges; providing for water quality that protects and fosters the propagation of fish, shellfish and wildlife; developing waste treatment management plans; and developing and implementing programs for the control of non-point sources of pollution.[2]

Since its introduction, major amendments to the Clean Water Act have been enacted (e.g., 1961, 1966, 1970, 1972, 1977, and 1987). Amendments enacted in 1970 created the U.S. Environmental Protection Agency (USEPA), while amendments enacted in 1972 deemed the discharge of pollutants into waters of the United States from any point source unlawful unless authorized by a USEPA National Pollutant Discharge Elimination System (NPDES) permit. Amendments enacted in 1977 mandated development of a "Best Management Practices" Program at the state level and provided the Water Pollution Control Act with the common name of "Clean Water Act," which is universally used today. Amendments enacted in 1987 required the USEPA to create specific requirements for discharges.

In response to the 1987 amendments to the Clean Water Act and as part of Phase I of its NPDES permit program, the USEPA began requiring NPDES permits for: (1) municipal separate storm sewer systems (MS4) generally serving, or located in, incorporated cities with 100,000 or more people (referred to as municipal permits); (2) 11 specific categories of industrial activity (including landfills); and (3) construction activity that disturbs five acres or more of land. Phase II of the USEPA's NPDES permit program, which went into effect in early 2003, extended the requirements for NPDES permits to: (1) numerous small municipal separate storm sewer systems,[3] (2) construction sites of one to five acres, and

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[2] Non-point sources of pollution are carried through the environment via elements such as wind, rain, or stormwater and are generated by diffuse land use activities (such as runoff from streets and sidewalks or agricultural activities) rather than from an identifiable or discrete facility.

[3] A small municipal separate storm sewer system (MS4) is any MS4 not already covered by the Phase I program as a medium or large MS4. The Phase II Rule automatically covers on a nationwide basis all small MS4s

(3) industrial facilities owned or operated by small municipal separate storm sewer systems. The NPDES permit program is typically administered by individual authorized states.

In 2008, the USEPA published draft Effluent Limitation Guidelines (ELGs) for the construction and development industry. On December 1, 2009 the EPA finalized its 2008 Effluent Guidelines Program Plan.

In California, the NPDES stormwater permitting program is administered by the State Water Resources Control Board (SWRCB). The SWRCB was created by the Legislature in 1967. The joint authority of water distribution and water quality protection allows the Board to provide protection for the State's waters, through its nine Regional Water Quality Control Boards (RWQCBs). The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs develop "basin plans" for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality.[4]

Federal Anti-Degradation Policy

The Federal Anti-degradation Policy (40 Code of Federal Regulations 131.12) requires states to develop statewide anti-degradation policies and identify methods for implementing them. Pursuant to the Code of Federal Regulations (CFR), state anti-degradation policies and implementation methods shall, at a minimum, protect and maintain (1) existing in-stream water uses; (2) existing water quality, where the quality of the waters exceeds levels necessary to support existing beneficial uses, unless the state finds that allowing lower water quality is necessary to accommodate economic and social development in the area; and (3) water quality in waters considered an outstanding national resource.

California Porter-Cologne Act

The Porter-Cologne Water Quality Control Act established the legal and regulatory framework for California's water quality control. The California Water Code authorizes the SWRCB to implement the provisions of the CWA, including the authority to regulate waste disposal and require cleanup of discharges of hazardous materials and other pollutants.

located in "urbanized areas" as defined by the Bureau of the Census (unless waived by the NPDES permitting authority), and on a case-by-case basis those small MS4s located outside of urbanized areas that the NPDES permitting authority designates.

[4] USEPA. U.S. Environmental Protection Agency - Clean Water Act. July 2011. <http://www.epa.gov/lawsregs/laws/cwa.html>., accessed February 14, 2017.

As discussed above, under the California Water Code (CWC), the State of California is divided into nine RWQCBs, governing the implementation and enforcement of the CWC and CWA. The Project Site is located within Region 4, also known as the Los Angeles Region. Each RWQCB is required to formulate and adopt a Basin Plan for its region. This Plan must adhere to the policies set forth in the CWC and established by the SWRCB. The RWQCB is also given authority to include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

California Anti-Degradation Policy

The California Anti-degradation Policy, otherwise known as the *Statement of Policy with Respect to Maintaining High Quality Water in California* was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Anti-degradation Policy, the California Anti-degradation Policy applies to all waters of the State, not just surface waters. The policy states that whenever the existing quality of a water body is better than the quality established in individual Basin Plans, such high quality shall be maintained and discharges to that water body shall not unreasonably affect present or anticipated beneficial use of such water resource.

California Toxic Rule

In 2000, the EPA promulgated the California Toxic Rule, which establishes water quality criteria for certain toxic substances to be applied to waters in the State. The EPA promulgated this rule based on the EPA's determination that the numeric criteria are necessary in the State to protect human health and the environment. The California Toxic Rule establishes acute (i.e., short-term) and chronic (i.e., long-term) standards for bodies of water such as inland surface waters and enclosed bays and estuaries that are designated by the Los Angeles RWQCB (LARWQCB) as having beneficial uses protective of aquatic life or human health.

Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code, the LARWQCB has adopted a plan entitled "Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan). Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality

policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.[5]

The Basin Plan is a resource for the LARWQCB and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

NPDES Permit Program

The NPDES permit program was first established under authority of the CWA to control the discharge of pollutants from any point source into the waters of the United States. As indicated above, in California, the NPDES stormwater permitting program is administered by the SWRCB through its nine RWQCBs.

The General Permit

SWRCB Order No. 2012-0006-DWQ known as "The General Permit" was adopted on July 17, 2012. This NPDES permit establishes a risk-based approach to stormwater control requirements for construction projects by identifying three project risk levels. The main objectives of the General Permit are to:

1. Reduce erosion;
2. Minimize or eliminate sediment in stormwater discharges;
3. Prevent materials used at a construction site from contacting stormwater;
4. Implement a sampling and analysis program;
5. Eliminate unauthorized non-stormwater discharges from construction sites;
6. Implement appropriate measures to reduce potential impacts on waterways both during and after construction of projects; and
7. Establish maintenance commitments on post-construction pollution control measures.

California mandates all construction activities disturbing more than one acre of land to develop and implement Stormwater Pollution Prevention Plans (SWPPP). The SWPPP documents the selection and implementation of Best Management Practices (BMPs) for a

[5] Los Angeles Regional Water Quality Control Board. LARWQCB Basin Plan. <http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/> accessed February 14, 2017.

specific construction project, charging owners with stormwater quality management responsibilities. A construction site subject to the General Permit must prepare and implement a SWPPP that meets the requirements of the General Permit.[6, 7]

Los Angeles County Municipal Storm Water System (MS4) Permit

As described above, USEPA regulations require that MS4 permittees implement a program to monitor and control pollutants being discharged to the municipal system from both industrial and commercial projects that contribute a substantial pollutant load to the MS4.

On November 8, 2012, the LARWQCB adopted Order No. R4-2012-0175 under the CWA and the Porter-Cologne Act. This Order is the NPDES permit or MS4 permit for municipal stormwater and urban runoff discharges within Los Angeles County. The requirements of this Order (the "Permit") cover 84 cities and most of the unincorporated areas of Los Angeles County. Under the Permit, the Los Angeles County Flood Control District (LACFCD) is designated as the Principal Permittee. The Permittees are the 84 Los Angeles County cities (including the City of Los Angeles) and Los Angeles County. Collectively, these are the "Co-Permittees". The Principal Permittee helps to facilitate activities necessary to comply with the requirements outlined in the Permit but is not responsible for ensuring compliance of any of the Permittees.

Stormwater Quality Management Program (SQMP)

In compliance with the Permit, the Co-Permittees are required to implement a stormwater quality management program (SQMP) with the goal of accomplishing the requirements of the Permit and reducing the amount of pollutants in stormwater runoff. The SWMP requires the County of Los Angeles and the 84 incorporated cities to:

- Implement a public information and participation program to conduct outreach on storm water pollution;
- Control discharges at commercial/industrial facilities through tracking, inspecting, and ensuring compliance at facilities that are critical sources of pollutants;
- Implement a development planning program for specified development projects;
- Implement a program to control construction runoff from construction activity at all construction sites within the relevant jurisdictions;

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[6] State Water Resources Control Board. State Water Resources Control Board. July 2012, http://www.swrcb.ca.gov/water_issues/programs/npdes/.

[7] USEPA. U.S. Environmental Protection Agency - NPDES. July 2012, https://www.epa.gov/npdes.

- Implement a public agency activities program to minimize storm water pollution impacts from public agency activities; and

- Implement a program to document, track, and report illicit connections and discharges to the storm drain system.

The Permit contains the following provisions for implementation of the SQMP by the Co-Permittees:

1. General Requirements:

    - Each permittee is required to implement the SQMP in order to comply with applicable stormwater program requirements.

    - The SQMP shall be implemented and each permittee shall implement additional controls so that discharge of pollutants is reduced.

2. Best Management Practice Implementation:

    - Permittees are required to implement the most effective combination of BMPs for stormwater/urban runoff pollution control. This should result in the reduction of storm water runoff.

3. Revision of the SQMP:

    - Permittees are required to revise the SQMP in order to comply with requirements of the RWQCB while complying with regional watershed requirements and/or waste load allocations for implementation of Total Maximum Daily Loads (TMDLs) for impaired waterbodies.

4. Designation and Responsibilities of the Principal Permittee:

    The Los Angeles County Flood Control District is designated as the Principal Permittee who is responsible for:

    - Coordinating activities that comply with requirements outlined in the NPDES Permit;

    - Coordinating activities among Permittees;

    - Providing personnel and fiscal resources for necessary updates to the SQMP;

    - Providing technical support for committees required to implement the SQMP; and

- Implementing the Countywide Monitoring Program required under this Order and assessing the results of the monitoring program.

5. Responsibilities of Co-Permittees:

   Each Co-Permittee is required to comply with the requirements of the SQMP as applicable to the discharges within its geographical boundaries. These requirements include:

   - Coordinating among internal departments to facilitate the implementation of the SQMP requirements in an efficient way;

   - Participating in coordination with other internal agencies as necessary to successfully implement the requirements of the SQMP; and

   - Preparing an annual Budget Summary of expenditures for the storm water management program by providing an estimated breakdown of expenditures for different areas of concern, including budget projections for the following year.

6. Watershed Management Committees (WMCs):

   - Each WMC shall be comprised of a voting representative from each Permittee in the Watershed Management Area (WMA).

   - Each WMC is required to facilitate exchange of information between co-permittees, establish goals and deadlines for WMAs, prioritize pollution control measures, develop and update adequate information, and recommend appropriate revisions to the SQMP.

7. Legal Authority:

   - Co-Permittees are granted the legal authority to prohibit non-storm water discharges to the storm drain system including discharge to the MS4 from various development types.

City of Los Angeles Water Quality Compliance Master Plan for Urban Runoff

On March 2, 2007, City Council Motion 07-0663 was introduced by the City of Los Angeles City Council to develop a water quality master plan with strategic directions for planning, budgeting and funding to reduce pollution from urban runoff in the City of Los Angeles. The Water Quality Compliance Master Plan for Urban Runoff was developed by the Bureau of Sanitation, Watershed Protection Division in collaboration with stakeholders to address the requirements of this Council Motion. The primary goal of the Water Quality Compliance Master Plan for Urban Runoff is to help meet water quality regulations. Implementation of the Water Quality Compliance Master Plan for Urban Runoff is

intended over the next 20 to 30 years to result in cleaner neighborhoods, rivers, lakes and bays, augmented local water supply, reduced flood risk, more open space, and beaches that are safe for swimming. The Water Quality Compliance Master Plan for Urban Runoff also supports the Mayor and Council's efforts to make Los Angeles the greenest major city in the nation.

- The Water Quality Compliance Master Plan for Urban Runoff identifies and describes the various watersheds in the City, summarizes the water quality conditions of the City's waters, identifies known sources of pollutants, describes the governing regulations for water quality, describes the BMPs that are being implemented by the City, discusses existing TMDL Implementation Plans and Watershed Management Plans. Additionally, the Water Quality Compliance Master Plan for Urban Runoff provides an implementation strategy that includes the following three initiatives to achieve water quality goals:

- Water Quality Management Initiative, which describes how Water Quality Management Plans for each of the City's watershed and TMDL-specific Implementation Plans will be developed to ensure compliance with water quality regulations.

- The Citywide Collaboration Initiative, which recognizes that urban runoff management and urban (re)development are closely linked, requiring collaborations of many City agencies. This initiative requires the development of City policies, guidelines, and ordinances for green and sustainable approaches for urban runoff management.

- The Outreach Initiative, which promotes public education and community engagement with a focus on preventing urban runoff pollution.

- The Water Quality Compliance Master Plan for Urban Runoff includes a financial plan that provides a review of current sources of revenue, estimates costs for water quality compliance, and identifies new potential sources of revenue.

City of Los Angeles Stormwater Program

The City of Los Angeles supports the policies of the General Permit and the Los Angeles County NPDES permit through the *Development Best Management Practices Handbook. Part A Construction Activities,* 3rd Edition, and associated ordinances were adopted in September 2004. *Part B Planning Activities*, 4th Edition was adopted in June 2011. The Handbook provides guidance for developers in complying with the requirements of the Development Planning Program regulations of the City's Stormwater Program. Compliance with the requirements of this manual is required by City of Los Angeles Ordinance No. 173,494. The handbook and ordinances also have specific minimum BMP requirements for all construction activities and require dischargers whose construction projects disturb one acre or more of soil to prepare a SWPPP and file a Notice of Intent

(NOI) with the SWRCB. The NOI informs the SWRCB of a particular project and results in the issuance of a Waste Discharger Identification (WDID) number, which is needed to demonstrate compliance with the General Permit.

The City of Los Angeles implements the requirement to incorporate stormwater BMPs through the City's plan review and approval process. During the review process, project plans are reviewed for compliance with the City's General Plan, zoning ordinances, and other applicable local ordinances and codes, including storm water requirements. Plans and specifications are reviewed to ensure that the appropriate BMPs are incorporated to address storm water pollution prevention goals. The Standard Urban Stormwater Mitigation Plan (SUSMP) provisions that are applicable to new residential and commercial developments include, but are not limited to, the following:[8]

- Peak Storm Water Runoff Discharge Rate: Post-development peak stormwater runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion;

- Provide storm drain system Stenciling and Signage (only applicable if a catch basin is built on-site);

- Properly design outdoor material storage areas to provide secondary containment to prevent spills;

- Properly design trash storage areas to prevent off-site transport of trash;

- Provide proof of ongoing BMP Maintenance of any structural BMPs installed;

Design Standards for Structural or Treatment control BMPs:

- Conserve natural and landscaped areas;

- Provide planter boxes and/or landscaped areas in yard/courtyard spaces;

- Properly design trash storage areas to provide screens or walls to prevent off-site transport of trash;

- Provide proof on ongoing BMP maintenance of any structural BMPs installed;

Design Standards for Structural or Treatment Control BMPs:

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[8] City of Los Angeles Stormwater Program website, http://www.lastormwater.org/green-la/standard-urban-stormwater-mitigation-plan/; accessed February 14, 2017.

- Post-construction treatment control BMPs are required to incorporate, at minimum, either a volumetric or flow based treatment control design or both, to mitigate (infiltrate, filter or treat) storm water runoff.

In addition, project applicants subject to the SUSMP requirements must select source control and, in most cases, treatment control BMPs from the list approved by the RWQCB. The BMPs must control peak flow discharge to provide stream channel and over bank flood protection, based on flow design criteria selected by the local agency. Further, the source and treatment control BMPs must be sufficiently designed and constructed to collectively treat, infiltrate, or filter stormwater runoff from one of the following:

- The 85th percentile 24-hour runoff event determined as the maximized capture stormwater volume for the area, from the formula recommended in *Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998)*;

- The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook—Industrial/ Commercial, (1993)*;

- The volume of runoff produced from a 0.75-inch storm event, prior to its discharge to a stormwater conveyance system; or

- The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75-inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

Los Angeles Municipal Code

Section 64.70 of the LAMC sets forth the City's Stormwater and Urban Runoff Pollution Control Ordinance. The ordinance prohibits the discharge of the following into any storm drain system:

- Any liquids, solids, or gases which by reason of their nature or quantity are flammable, reactive, explosive, corrosive, or radioactive, or by interaction with other materials could result in fire, explosion or injury.

- Any solid or viscous materials, which could cause obstruction to the flow or operation of the storm drain system.

- Any pollutant that injures or constitutes a hazard to human, animal, plant, or fish life, or creates a public nuisance.

- Any noxious or malodorous liquid, gas, or solid in sufficient quantity, either singly or by interaction with other materials, which creates a public nuisance, hazard to life, or inhibits authorized entry of any person into the storm drain system.

- Any medical, infectious, toxic or hazardous material or waste.

Additionally, unless otherwise permitted by a NPDES permit, the ordinance prohibits industrial and commercial developments from discharging untreated wastewater or untreated runoff into the storm drain system. Furthermore, the ordinance prohibits trash or any other abandoned objects/materials from being deposited such that they could be carried into the storm drains. Lastly, the ordinance not only makes it a crime to discharge pollutants into the storm drain system and imposes fines on violators, but also gives City public officers the authority to issue citations or arrest business owners or residents who deliberately and knowingly dump or discharge hazardous chemicals or debris into the storm drain system.

Earthwork activities, including grading, are governed by the Los Angeles Building Code, which is contained in LAMC, Chapter IX, Article 1. Specifically, Section 91.7013 includes regulations pertaining to erosion control and drainage devices, and Section 91.7014 includes general construction requirements, as well as requirements regarding flood and mudflow protection.

Low Impact Development (LID)

In October 2011, the City of Los Angeles passed an ordinance (Ordinance No. 181899) amending LAMC Chapter VI, Article 4.4, Sections 64.70.01 and 64.72 to expand the applicability of the existing SUSMP requirements by imposing rainwater Low Impact Development (LID) strategies on projects that require building permits. The LID ordinance became effective on May 12, 2012.

LID is a stormwater management strategy with goals to mitigate the impacts of increased runoff and stormwater pollution as close to its source as possible. LID promotes the use of natural infiltration systems, evapotranspiration, and the reuse of stormwater. The goal of these LID practices is to remove nutrients, bacteria, and metals from stormwater while also reducing the quantity and intensity of stormwater flows. Through the use of various infiltration strategies, LID is aimed at minimizing impervious surface area. Where infiltration is not feasible, the use of bioretention, rain gardens, green roofs, and rain barrels that will store, evaporate, detain, and/or treat runoff may be used. [9]

The intent of the City of Los Angeles LID standards is to:

[9] City of Los Angeles. "Development Best Management Practices Handbook." June, 2011

- Require the use of LID practices in future developments and redevelopments to encourage the beneficial use of rainwater and urban runoff;
- Reduce stormwater/urban runoff while improving water quality;
- Promote rainwater harvesting;
- Reduce offsite runoff and provide increased groundwater recharge;
- Reduce erosion and hydrologic impacts downstream; and
- Enhance the recreational and aesthetic values in our communities.

The City of Los Angeles Bureau of Sanitation, Watershed Protection Division will adopt the LID standards as issued by the LARWQCB and the City of Los Angeles Department of Public Works. The LID Ordinance will conform to the regulations outlined in the NPDES Permit and SUSMP.

2.3. GROUNDWATER

Board Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

As required by the California Water Code, the LARWQCB has adopted the Basin Plan. Specifically, the Basin Plan designates beneficial uses for surface and ground waters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy, and describes implementation programs to protect all waters in the Los Angeles Region. In addition, the Basin Plan incorporates (by reference) all applicable State and Regional Board plans and policies and other pertinent water quality policies and regulations. Those of other agencies are referenced in appropriate sections throughout the Basin Plan.

The Basin Plan is a resource for the Regional Board and others who use water and/or discharge wastewater in the Los Angeles Region. Other agencies and organizations involved in environmental permitting and resource management activities also use the Basin Plan. Finally, the Basin Plan provides valuable information to the public about local water quality issues.

Safe Drinking Water Act (SDWA)

The Federal Safe Drinking Act, established in 1974, sets drinking water standards throughout the country and is administered by the USEPA. The drinking water standards established in the SDWA, as set forth in the Code of Federal Regulations (CFR), are referred to as the National Primary Drinking Water Regulations (Primary Standards, Title 40, CFR Part 141) and the National Secondary Drinking Water Regulations (Second Standards, 40 CFR Part 143). California passed its own Safe Drinking Water Act in 1986 that authorizes the State’s Department of Health Services (DHS) to protect the public from

contaminants in drinking water by establishing maximum contaminants levels (MCLs), as set forth in the CCR, Title 22, Division 4, Chapter 15, that are at least as stringent as those developed by the USEPA, as required by the federal Safe Drinking Water Act.

California Water Plan

The California Water Plan (the Plan) provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs.

The goal for the California Water Plan Update is to meet Water Code requirements, receive broad support among those participating in California's water planning, and be a useful document for the public, water planners throughout the state, legislators and other decision-makers.

3. ENVIRONMENTAL SETTING

3.1. SURFACE WATER HYDROLOGY

3.1.1. REGIONAL

The Project Site is located within the Los Angeles River Watershed Reach 2 (from Carson to Figueroa Street) in the Los Angeles Central Basin.

The Watershed encompasses a land area of approximately 834 square miles. The eastern portion spans from the Santa Monica Mountains to Simi Hills and in the west from the Santa Susana Mountains to the San Gabriel Mountains.

The watershed is shaped by the path of the Los Angeles River, which flows from its headwaters in the mountains eastward toward the northern corner of Griffith Park. There the channel turns southward through Glendale Narrows before it flows across the coastal plan and into San Pedro near Long Beach.

The Los Angeles River has evolved from an uncontrolled, meandering river providing a valuable source of water for early inhabitants to a major flood protection waterway.

The City of Los Angeles River Watershed Section is tasked with finding ways to restore or revitalize the channels within the watershed and thereby provide significant opportunities for recreation and aesthetic improvement for the Los Angeles metropolitan area while protecting the Los Angeles Basin from major flooding. Refer to Figure 1 for Los Angeles River Watershed Map.

3.1.2. LOCAL

There is an existing 21-inch underground storm drain pipe located along 1st Street that flows towards the southeast. Two catch basins located at the intersection of 1st Street and S. Spring Street connects to this underground storm drain line. In addition, there is a 14-inch underground storm drain pipe located along 2nd Street that flows also toward to the southeast. There is one catch basin located at the intersection of 2nd Street and S Broadway and two catch basins located at the intersection of 2nd Street and S. Spring street that connect to this underground storm drain. All of these pipes and catch basins system are owned and maintained by the City of Los Angeles.

Stormwater runoff from the Project Site will discharge toward the offsite catch basins and underground storm drain pipes that convey stormwater through various underground pipe networks into the Los Angeles River. The Los Angeles River flows generally southward, ultimately discharging into the Pacific Ocean at the San Pedro Bay, near Long Beach. The Los Angeles River was designed to discharge up to approximately 183,000 cubic feet of stormwater per second from a 50-year frequency storm event.[10]

3.1.3. ON SITE

The subject site consists of one city block in downtown Los Angeles bounded by S. Broadway, S. Spring Street, W. 1st Street, and W. 2nd Street. The eastern portion of the site is currently occupied by the historic Los Angeles Times North building, the Los Angeles Times South building, and the Plant building. The western portion of the site is occupied by a multi-story office building (Chandler building) and parking structure. Based on the historic drawings, the existing structures are underlain by up to three subterranean levels. The total site area is approximately 160,578 square feet.

Based on the existing site orientation and location of the main storm drain pipes, it has been assumed that the eastern portion of the site discharging to Spring Street and the western portion to Broadway. It appears that there is not any storm drainage infrastructure on the existing site.

See attached Figure 2 for existing on-site drainage pattern and Figure 4 for hydrology calculations.

Table 1 below shows existing volumetric flow rate generated by the 50-year storm event.

Table 1- Existing Drainage Stormwater Runoff Calculations		
Drainage Area	Area (Acres)	Q50 (cfs) (volumetric flow rate measured in cubic feet per second)
Sub-area A (West portion)	1.8	5.8582
Sub-area B (East portion)	1.8	5.8266

[10] http://www.ladpw.org/wmd/watershed/bc/; accessed Feburary 14, 2017

3.2. SURFACE WATER QUALITY

3.2.1. REGIONAL

As stated above, the Project Site lies within the Los Angeles River Watershed. Constituents of concern listed for Los Angeles River under California's Clean Water Act Section 303(d) List include cadmium (sediment), Trash, coliform bacteria, copper (dissolved), lead, Escherichia (E.Coli), selenium, sediment toxicity, Shellfish Harvesting Advisory, silver, toxicity, trash, viruses (Enteric), and zinc. No TMDL data have been recorded by EPA for this waterbody[11].

3.2.2. LOCAL

In general, urban stormwater runoff occurs following precipitation events, with the volume of runoff flowing into the drainage system depending on the intensity and duration of the rain event. Contaminants that may be found in stormwater from developed areas include sediments, trash, bacteria, metals, nutrients, organics and pesticides. The source of contaminants includes surface areas where precipitation falls, as well as the air through which it falls. Contaminants on surfaces such as roads, maintenance areas, parking lots, and buildings, which are usually contained in dry weather conditions, may be carried by rainfall runoff into drainage systems. The City of Los Angeles typically installs catch basins with screens to capture debris before entering the storm drain system. In addition, the City conducts routine street cleaning operations, as well as periodic cleaning and maintenance of catch basins, to reduce stormwater pollution within the City.

3.2.3. ON SITE

LA Times Building and other buildings on the block were roughly built in 1930's. Based on the year those buildings were built, it is assumed, the Project Site currently does not implement Best Management Practices (BMPs). As it has been explained earlier in this report, it has been assumed that the eastern portion of the site is discharging to the Spring Street and the western portion to Broadway.

It appears that the runoff water does not get treated on site before get discharged to main storm drain facility. Please see Figure 2 for existing drainage exhibit.

[11] https://iaspub.epa.gov/waters10/attains_waterbody.control?p_au_id=CAR4051501019990202085021&p_cycle=2012; accessed Feburary 14, 2017.

3.3. GROUNDWATER HYDROLOGY

3.3.1. REGIONAL

Groundwater within Los Angeles County is stored in ground water basins underlying five major geographic areas. The Los Angeles River traverses over two of these geographic areas; San Fernando Valley and Coastal Plain. These areas contain three ground water Basins which underlay the river for its entire length; San Fernando Main Basin, Central Basin, and West Coast Basin. The largest basin is the San Fernando Main Basin.

Groundwater use for domestic water supply is a major beneficial use of groundwater basins in Los Angeles County. The City of Los Angeles overlies the Los Angeles Coastal Plain Groundwater Basin (Basin). The Basin is comprised of the Hollywood, Santa Monica, Central, and West Coast Groundwater Subbasins. Groundwater flow in the Basin is generally south-southwesterly and may be restricted by natural geological features. Replenishment of groundwater basins occurs mainly by percolation of precipitation throughout the region via permeable surfaces, spreading grounds, and groundwater migration from adjacent basins, as well as injection wells designed to pump freshwater along specific seawater barriers to prevent the intrusion of salt water. Refer to Figure 5 for the groundwater basin exhibit.

3.3.2. LOCAL

The Project Site specifically overlies northeastern portion of the Central Subbasin. The Central Subbasin is bounded on the north by the Santa Monica Mountains and the Hollywood fault, on the east by the Elysian Hills, on the west by the Inglewood fault zone, and on the south by the La Brea high, formed by an anticline that brings impermeable rocks close to the surface.[12]

Groundwater in the Subbasin is replenished by percolation of precipitation and stream flow from the Santa Monica Mountains to the north. Over time, urbanization has decreased the amount of pervious surfaces limiting natural recharge through direct percolation. The natural safe yield of the Subbasin is estimated to be approximately 3,000 acre-feet per year (AFY).

3.3.3. ON-SITE

The entire existing site is approximately 100% impervious. Stormwater runoff will leave the site and drains through the curb drain in the street. Therefore the existing site does not have any impact to ground water. Refer to Figure 2 for the existing on-site drainage pattern.

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[12] http://www.water.ca.gov/groundwater/bulletin118/basindescriptions/4-11.04.pdf

Based on, Geotechnical investigation prepared for the project site, review of the Seismic Hazard Zone Report for the Los Angeles 7.5 Minute Quadrangle, Los Angeles County, California (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is reported to be approximately 25 feet beneath the ground surface.

Groundwater information presented in geotechnical report is generated from data collected in the early 1900's to the late 1990's. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever reach the historic high levels.

Considering the reported historic high groundwater level (CDMG, 1998), the seepage encountered above the bedrock contact in the majority of borings drilled on adjacent sites, and the depth of the proposed excavations, it is anticipated that seepage will be encountered during construction of the proposed subterranean levels. Geotechnical engineer believes that the groundwater seepage encountered in borings on the adjacent sites does not represent the static groundwater table, but represents discontinuous perched zones within the saturated granular soils overlying the relatively impermeable siltstone.

It is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils or bedrock which are heavily irrigated or after seasonal rainfall.

In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the region. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project[13].

[13] GEOCON WEST INC. Preliminary geotechnical evaluation Project No. A9521-06-01, Nov 29 2016

3.4. GROUNDWATER QUALITY

3.4.1. REGIONAL

As stated above, the City of Los Angeles overlies the Los Angeles Coastal Plain Groundwater Basin, which falls under the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). According to LARWQCB's Basin Plan, objectives applying to all ground waters of the region include bacteria, chemical constituents and radioactivity, mineral quality, nitrogen (nitrate, nitrite), and taste and odor.[14]

3.4.2. LOCAL

As stated above, the Project Site specifically overlies the Central Subbasin. Based upon LARWQCB's Basin Plan, constituents of concern listed for the Central Subbasin include boron, chloride, sulfate, and Total Dissolved Solids (TDS)

3.4.3. ON-SITE

The existing Project Site is fully improved with the existing buildings and mostly paved hardscape surfaces, and therefore does not substantially contribute to groundwater recharge. Therefore, the existing Project Site does not contribute to groundwater pollution or otherwise adversely impact groundwater quality.

Other types of risk such as underground storage tanks have a greater potential to impact groundwater.It appears no underground storage tanks are currently operated by the Project. Per the Phase I and II Environmental Site Assessment performed by Advantage Environmental Consultants on August 28, 2017 for the LA Times Property, it appears that there are three underground storage tanks in the vicinity of the site that have been abandoned (two 6,000-gallon diesel underground storage tanks and one 3,000 gallon gasoline underground storage tank.

4. SIGNIFICANCE THRESHOLDS

4.1. SURFACE WATER HYDROLOGY

Appendix G of the State of California's CEQA Guidelines provides a set of sample questions that address impacts with regard to surface water hydrology. These questions are as follows:

Would the project:

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[14] Los Angeles Regional Water Quality Control Board, Basin Plan, March 2013, http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/electronics_documents/Final%20Chapter%203%20Text.pdf accessed February 14, 2017.

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in flooding on- or off-site;

- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff

- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as result of the failure of levee or dam;

In the context of these questions from Appendix G of the CEQA Guidelines, the City of Los Angeles CEQA Thresholds Guide (*L.A. CEQA Thresholds Guide*) states that a project would normally have a significant impact on surface water hydrology if it would:

- Cause flooding during the projected 50-year developed storm event, which would have the potential to harm people or damage property or sensitive biological resources;

- Substantially reduce or increase the amount of surface water in a water body; or

- Result in a permanent, adverse change to the movement of surface water sufficient to produce a substantial change in the current or direction of water flow.

4.2. SURFACE WATER QUALITY

Appendix G of the CEQA Guidelines provides a set of sample questions that address impacts with regard to surface water quality. These questions are as follows:

Would the project:

- Violate any water quality standard or waste discharge requirements; or
- Otherwise substantially degrade water quality.

In the context of the above questions from Appendix G, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on surface water quality if it would result in discharges that would create pollution, contamination or nuisance, as defined in Section 13050 of the California Water Code (CWC) or that cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or Water Quality Control Plan for the receiving water body.

The CWC includes the following definitions:

- "Pollution" means an alteration of the quality of the waters of the state to a degree which unreasonably affects either of the following: 1) the waters for beneficial uses or 2) facilities which serve these beneficial uses. "Pollution" may include "Contamination".
- "Contamination" means an impairment of the quality of the waters of the state by waste to a degree, which creates a hazard to the public health through poisoning or though the spread of disease. "Contamination" includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.
- "Nuisance" means anything which meets all of the following requirements: 1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; 2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and 3) occurs during, or as a result of, the treatment or disposal of wastes.[15]

4.3. GROUNDWATER HYDROLOGY

Appendix G of the CEQA Guidelines provides a sample question that addresses impacts with regard to groundwater. This question is as follows:

Would the project:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or lowering of the local groundwater table;

In the context of the above question from Appendix G, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on groundwater if it would:

- Change potable water levels sufficiently to:
    - Reduce the ability of a water utility to use the groundwater basin for public water supplies, conjunctive use purposes, storage of imported

[15] City of Los Angeles.LA. CEQA Thresholds Guide. 2006 http://www.environmentla.org/programs/Thresholds/Complete%20Threshold%20Guide%202006.pdf

water, summer/winter peaking, or to respond to emergencies and drought;

- Reduce yields of adjacent wells or well fields (public or private); or
- Adversely change the rate or direction of flow of groundwater; or

- Result in demonstrable and sustained reduction of groundwater recharge capacity.

4.4. GROUNDWATER QUALITY

With respect to groundwater quality, and in the context of the above question from Appendix G pertaining to groundwater, the *L.A. CEQA Thresholds Guide* states that a project would normally have a significant impact on groundwater quality if it would:

- Affect the rate or change the direction of movement of existing contaminants;
- Expand the area affected by contaminants;
- Result in an increased level of groundwater contamination (including that from direct percolation, injection or salt water intrusion); or
- Cause regulatory water quality standards at an existing production well to be violated, as defined in the California Code of Regulations (CCR), Title 22, Division 4, and Chapter 15 and in the Safe Drinking Water Act.

5. METHODOLOGY

5.1. SURFACE WATER HYDROLOGY

The Project Site is located within the City of Los Angeles, and drainage collection, treatment and conveyance are regulated by the City. Per the City's Special Order No. 007-1299, December 3, 1999, the City has adopted the Los Angeles County Department of Public Works (LACDPW) Hydrology Manual as its basis of design for storm drainage facilities. The LACDPW Hydrology Manual requires projects to have drainage facilities that meet the Urban Flood level of protection. The Urban Flood is runoff from a 25-year frequency design storm falling on a saturated watershed. A 25-year frequency design storm has a probability of 1/25 of being equaled or exceeded in any year. The *L.A. CEQA Thresholds Guide*, however, establishes the 50-year frequency design storm event as the threshold to analyze potential impacts on surface water hydrology as a result of development. To provide a more conservative analysis, this report analyzes the larger storm event threshold, i.e., the 50-year frequency design storm event.

The Modified Rational Method was used to calculate storm water runoff. The "peak" (maximum value) runoff for a drainage area is calculated using the formula, **Q = CIA**

Where,

Q = Volumetric flow rate (cfs)
C = Runoff coefficient (dimensionless)
I = Rainfall Intensity at a given point in time (in/hr)
A = Basin area (acres)

The Modified Rational Method assumes that a steady, uniform rainfall rate will produce maximum runoff when all parts of the basin area are contributing to outflow. This occurs when the storm event lasts longer than the time of concentration. The time of concentration (Tc) is the time it takes for rain in the most hydrologically remote part of the basin area to reach the outlet.

The method assumes that the runoff coefficient (C) remains constant during a storm. The runoff coefficient is a function of both the soil characteristics and the percentage of impervious surfaces in the drainage area.

LACDPW has developed a time of concentration calculator, Hydrocalc, to automate time of concentration calculations as well as the peak runoff rates and volumes using the Modified Rational Method design criteria as outlined in the Hydrology Manual. The data input requirements include: sub-area size, soil type, land use, flow path length, flow path slope and rainfall isohyet. The Hydrocalc Calculator was used to calculate the storm water peak runoff flow rate for the Project conditions by evaluating an individual sub-area independent of all adjacent subareas. See Figure 4 for the Hydrocalc Calculator results and Figure 7 for the Isohyet Map.

5.2. SURFACE WATER QUALITY

5.2.1. CONSTRUCTION

Construction BMPs will be designed and maintained as part of the implementation of the SWPPP in compliance with the General Permit. The SWPPP shall begin when construction commences, before any site clearing and grubbing or demolition activity. During construction, the SWPPP will be referred to regularly and amended as changes occur throughout the construction process. The Notice of Intent (NOI), Amendments to the SWPPP, Annual Reports, Rain Event Action Plans (REAPs), and Non-Compliance Reporting will be posted to the State's SMARTS website in compliance with the requirements of the General Permit.

5.2.2. OPERATION

The Project will meet the requirements of the City's LID standards.[16] Under section 3.1.3. of the LID Manual, post-construction stormwater runoff from a new development must be

[16] The Development Best Management Practices Handbook, Part B Planning Activities, 5th edition was adopted by the City of Los Angeles, Board of Public Works on July 1, 2011 to reflect Low Impact Development (LID) requirements that took effect May 12, 2012.

infiltrated, evapotranspirated, captured and used, and/or treated through high efficiency BMPs onsite for at least the volume of water produced by the greater of the 85th percentile storm or the 0.75 inch storm event. The LID Manual prioritized the selection of BMPs used to comply with stormwater mitigation requirement. The order of priority is:

1. Infiltration Systems
2. Stormwater Capture and Use
3. High Efficient Biofiltration/Bioretention Systems
4. Combination of Any of the Above

Feasibility screening delineated in the LID manual is applied to determine which BMP will best suit the Project. Specifically, LID guidelines require that infiltration systems maintain at least 10 feet of clearance to the groundwater, property line, and any building structure. Per the Project Geotechnical Report, groundwater seepage was encountered above the sedimentary bedrock of the Fernando Formation at depths ranging between 20 and 23 feet beneath the existing ground surface.

The historic high groundwater level is approximately 25 feet below the ground surface. Hence, taking the historic high groundwater level and the Project's planned depth of approximately 90 feet below the ground surface, infiltration is not considered feasible. In addition, in the Geotechnical investigation prepared for the project site[17], , infiltration is not considered feasible due to the proximity of the existing and proposed structures to the groundwater.

Therefore, stormwater capture and use will likely be required. Approximately 12,240 square feet of landscaping would be required to justify the feasibility of a stormwater Capture and Use system per LID guidelines. The storage volume of 82,301 gallon is required for capturing the runoff water from the roof and surface drains, for feeding landscaped areas. However, if capture and use is later determined to not be feasible, the Project would then be required to implement High Efficiency Biofiltration/Bioretention Systems. In that case, 10,275 square feet of Biofiltration Planter would be required on the structure. See Figure 6 for LID calculations.

According to the City's LID Handbook, all cisterns shall be sized to capture the runoff generated from the greater of the 85th percentile storm and the 0.75-inch storm event at a minimum:

Vdesign (gallons) = (85th percentile or 0.75 inch * 7.48 gallons/cubic foot) * Catchment Area (sq. ft.)

Where:

[17] GEOCON WEST INC. Preliminary geotechnical evaluation Project No. A9521-06-01, Nov 29 2016

Catchment Area = (Impervious Area x 0.9) + [(Pervious Area + Undeveloped Area) x 0.1]

For catchment areas given in acres, multiply the above equation by 43,560 sq. ft./acre.

5.3. GROUNDWATER

The significance of this Project as it relates to the level of the underlying groundwater table of the Central Subbasin Groundwater Basin included a review of the following considerations:

Analysis and Description of the Project's Existing Condition

- Identification of the Central Subbasin as the underlying groundwater basin, and description of the level, quality, direction of flow, and existing uses for the water;
- Description of the location, existing uses, production capacity, quality, and other pertinent data for spreading grounds and potable water wells in the vicinity (usually within a one-mile radius), and;
- Area and degree of permeability of soils on the Project Site, and;

Analysis of the Proposed Project Impact on Groundwater Level

- Description of the rate, duration, location and quantity of extraction, dewatering, spreading, injection, or other activities;
- The projected reduction in groundwater resources and any existing wells in the vicinity (usually within a one-mile radius); and
- The projected change in local or regional groundwater flow patterns.

In addition, this report discusses the impact of both existing and proposed activities at the Project Site on the groundwater quality of the underlying Central Subbasin.

Short-term groundwater quality impacts could potentially occur during construction of the Project as a result of soil or shallow groundwater being exposed to construction materials, wastes, and spilled materials. These potential impacts are qualitatively assessed.

6. PROJECT IMPACT ANALYSIS

6.1. CONSTRUCTION

6.1.1. SURFACE WATER HYDROLOGY

The subject site consists of one city block in downtown Los Angeles bounded by S. Broadway, S. Spring Street, W. 1st Street, and W. 2nd Street. The eastern portion of the site is currently occupied by the historic Times building, the Mirror building, and the Plant building. The western portion of the site is occupied by a multi-story office building (Executive Building) and parking structure. Based on the historic drawings, the existing structures are underlain by up to three subterranean levels.

Construction activities for the Project include demolition of Executive Building and parking structure, site clearing and excavating down approximately 90 feet below the 1st Street sidewalk elevation to construct 9 subterranean parking levels.

It is anticipated that approximately 364, 000 cubic yards of soil would need to be exported as a result of the Project. These activities will temporarily expose the underlying soils and may make the Project Site temporarily more permeable. Also, exposed and stockpiled soils could be subject to wind and conveyance into nearby storm drains during storm events. In addition, on-site watering activities to reduce airborne dust could contribute to pollutant loading in runoff.

However, as the construction site would be greater than one acre, the Project would be required to obtain coverage under the NPDES General Construction stormwater permit. In accordance with the requirements of this permit, the Project would implement a SWPPP that specifies BMPs and erosion control measures to be used during construction to manage runoff flows and prevent pollution. BMPs would be designed to reduce runoff and pollutant levels in runoff during construction. The NPDES and SWPPP measures are designed to (and would in fact) contain and treat, as necessary, stormwater or construction watering on the Project site so runoff does not impact off-site drainage facilities or receiving waters. Construction activities are temporary and flow directions and runoff volumes during construction will be controlled.

In addition, the Project will comply with all applicable City grading permit regulations, plans, and inspections to reduce sedimentation and erosion. Thus, through compliance with NPDES General Construction Permit requirements, implementation of BMPs, and compliance with applicable City grading regulations, the Project would not substantially alter the Project Site drainage patterns in a manner that would result in substantial erosion or siltation. The Project would not result in a permanent adverse change to the movement of surface water. Therefore, construction-related impacts to surface water hydrology would be less than significant.

6.1.2. SURFACE WATER QUALITY

Construction activities such as earth moving, maintenance of construction equipment, handling of construction materials, and dewatering, can contribute to pollutant loading in stormwater runoff.

However, as previously discussed, construction contractors disturbing greater than on acre of soil would be required to obtain coverage under the NPDES General Construction

Permit (order No. 2012-0006-DWQ). In accordance with the requirements of the permit, the Project Applicants would prepare and implement a site-specific SWPPP adhering to the California Stormwater Quality Association (CASQA) BMP Handbook. The SWPPP would specify BMPs to be used during construction. BMPs would include but not be limited to: erosion control, sediment control, non-stormwater management, and materials management BMPs. Refer to Exhibit 1 for typical SWPPP BMPs to be implemented during construction of the Project.

The Project is expected to require dewatering during construction. Dewatering operations are practices that discharge non-stormwater, such as groundwater, that must be removed from a work location to proceed with construction into the drainage system. Discharges from dewatering operations can contain high levels of fine sediments, which if not properly treated, could lead to exceedance of the NPDES requirements. During construction, temporary pumps and filtration would be utilized in compliance with the NPDES permit. The temporary system would comply with all relevant NPDES requirements related to construction and discharges from dewatering operations.

With implementation of the Erosion Control Plan, site-specific BMPs would reduce or eliminate the discharge of potential pollutants from stormwater runoff. In addition, the Project Applicant would be required to comply with City grading permit regulations and inspections to reduce sedimentation and erosion. Construction of the Project would not result in discharge that would cause: (1) pollution which would alter the quality of the water of the State (i.e., Los Angeles River) to a degree which unreasonably affects beneficial uses of the waters; (2) contamination of the quality of the water of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable number of persons; and occurs during or as a result of the treatment or disposal of wastes. Furthermore, construction of the Project would not result in discharges that would cause regulatory standards to be violated in the Los Angeles River Watershed. Therefore, temporary construction-related impacts on surface water quality would be less than significant.

6.1.3. GROUNDWATER HYDROLOGY

As stated above, construction activities for the Project would include excavating down approximately 90 feet for subterranean parking, building up the structure, and hardscape and landscape around the structure. As described in the Geotechnical Investigation[18] prepared for the Project Site, groundwater was observed at 23 to 25 feet below ground surface. During construction, temporary dewatering would occur if required. The temporary system would comply with all relevant NPDES requirements related to construction and discharges from dewatering operations. Similar to the Construction General Permit, in order to be authorized to discharge under this Permit, the developer must submit a NOI to discharge groundwater generated from dewatering operations during

[18] GEOCON WEST INC. Preliminary geotechnical evaluation Project No. A9521-06-01, Nov 29 2016

construction. Due to the operation of dewatering systems being temporary, local groundwater hydrology in the immediate vicinity of the Site is minimally affected. The purpose of dewatering operations is for the protection of both existing and proposed building structures. Due to the limited and temporary nature of temporary dewatering operations, regional impacts to groundwater flow and level are not considered to be significant. Therefore, as Project development would not adversely impact the rate or direction of flow of groundwater and no water supply wells would be affected, the Project would not result in a significant impact on groundwater hydrology during construction.

6.1.4. GROUNDWATER QUALITY

As discussed above, the Project would include excavations to a maximum depth of approximately90feet below ground surface. The Project would also result in a net export of existing soil material. Although not anticipated at the Project Site, any contaminated soils found would be captured within that volume of excavated material, removed from the Project Site, and remediated at an approved disposal facility in accordance with regulatory requirements.

During on-site grading and building construction, hazardous materials, such as fuels, paints, solvents, and concrete additives, could be used and would therefore require proper management and, in some cases, disposal. The management of any resultant hazardous wastes could increase the opportunity for hazardous materials releases into groundwater. Compliance with all applicable federal, state, and local requirements concerning the handling, storage and disposal of hazardous waste, would reduce the potential for the construction of the Project to release contaminants into groundwater that could affect existing contaminants, expand the area or increase the level of groundwater contamination, or cause a violation of regulatory water quality standards at an existing production well. Due to compliance with measures as listed above and the implementation of BMPs, though there are groundwater production wells or public water supply wells within one mile of the Project Site, construction activities would not be anticipated to affect existing wells. Therefore, the Project would not result in any substantial increase in groundwater contamination through hazardous materials releases and impacts on groundwater quality would be less than significant.

6.2. OPERATION

6.2.1. SURFACE WATER HYDROLOGY

The project site is expected to decrease the overall percentage of impervious area from the current condition of the project site. The project will develop a building and paved area creating a post-project condition of approximately 92% impervious surface area. Due to LID requirement, project is required to provide at least equivalent of 8% of the site, landscape or biofiltration planter for treating the runoff water.

Accordingly, there is no incremental increase in the imperviousness of the project site. Therefore, peak flow rates would not increase and the runoff volumes into the existing storm drain system would decrease.

Table 2 below shows the existing and proposed peak flow rates stormwater runoff calculations for the 50-year frequency design storm event. A comparison of the pre and post peak flow rates indicates no increase in stormwater runoff. Rather, a slight decrease in the flow rate is anticipated in the post-project condition. Consequently, the Project would not cause flooding during the 50-year developed storm event, would not create runoff which would exceed the capacity of existing or planned drainage systems, would not require construction of new stormwater drainage facilities or expansion of existing facilities, would not substantially reduce or increase the amount of surface water in a water body, or result in a permanent adverse change to the movement of surface water. As such, operation of the Project would result in a less than significant impact on surface water hydrology.

Table 2 – Existing and Proposed Stormwater Runoff Calculations

Drainage Area	Project Site Area (Acres)[(b)]	Pre-Project Q_{50} (cfs)[(a)]	Post-Project Q_{50} (cfs)[(a)]	Incremental Increase from Existing to Proposed Condition
Sub-area A (West portion)	1.8	5.8582	5.8392	-0.32%
Sub-area B (East portion)	1.8	5.8266	5.8076	-0.32%

(a) peak volumetric flow rate measured in cubic feet per second
(b) It is assumed the proposed 8% landscape or planter area has been divided equally between Sub-area A & B.

The LID requirements for the Project Site would outline the stormwater treatment post-construction BMPs required to control pollutants associated with storm events up to the 85th percentile storm event. The Project BMPs will mitigate the stormwater runoff quality and quantity.

Lastly, no water bodies are located on or within the immediate vicinity of the Project Site, and as such, the Project would not substantially reduce or increase the amount of surface water in a local water body. The Project would result in a slight (0.64 cfs) decrease in the peak flow rate of stormwater runoff discharging to the Los Angeles River (the local receiving water). However, this decrease would be negligible when compared to the approximately 183,000 cfs capacity of the Los Angeles River, and would not substantially affect the surface water levels of the River.

The Project would not cause flooding during the 50-year developed storm event, would not create runoff which would exceed the capacity of existing or planned drainage systems, would not require construction of new stormwater drainage facilities or expansion of existing facilities, would not substantially reduce or increase the amount of surface water in a water body, or result in a permanent adverse change to the movement of surface water. Therefore, potential operational impacts to site surface water hydrology would be less than significant.

The Project Site is not located within a 100-year flood plain or within an area that could be impacted by a seiche, tsunami or mudflow. Dam safety regulations are the primary means of reducing damage or injury due to inundation occurring from dam failure. The California Division of Safety of Dams regulates the siting, design, construction, and periodic review of all dams in the State. In addition, the Los Angeles Department of Water and Power (LADWP) operate the dam and mitigate the potential for overflow and seiche hazard through control of water levels and dam wall height. These measures include seismic retrofits and other related dam improvements completed under the requirements of the 1972 State Dam Safety Act. The City's Local Hazard Mitigation Plan,[19] which was adopted in July 2011, provides a list of existing programs, proposed activities and specific projects that may assist the City of Los Angeles in reducing risk and preventing loss of life and property damage from natural and human-caused hazards, including dam failure. The Hazard Mitigation Plan evaluation of dam failure vulnerability classifies dam failure as a moderate risk rating. Therefore, considering the above information and risk reduction projects, the risk of flooding from inundation by a seiche or dam failure is considered low and impacts are less than significant.

6.2.2. SURFACE WATER QUALITY

The Project Site will not increase concentrations of the items listed as constituents of concern for the Los Angeles River Watershed.

Under section 3.1.3. of the LID Manual, post-construction stormwater runoff from new projects must be infiltrated, evapotranspirated, captured and used, and/or treated through high efficiency BMPs onsite for the volume of water produced by the 85th percentile storm event. As indicated in section 5.2.2. of this report, stormwater capture and use will likely be required. A storage tank/s with a volume of 82,301 gallons is required for capturing the runoff water from the roof and surface drains, for feeding approximately 12,240 square feet landscape areas. If high efficiency biofiltration/bioretention is selected instead, roof/surface drains,cisterns, and 10,275 sf of on-site biofiltration planter area, would be provided. The stormwater will be pumped to the landscape planters from storage tank, for irrigation. Any excess rainfall volume will be conveyed to the adjacent streets by means of curb drain outlets.

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[19] City of Los Angeles Emergency Management Department, *Local Hazard Mitigation Plan,* July 1, 2011.

The Project will implement either Capture and Use System, or Biofiltration Planters for managing stormwater runoff in accordance with current LID requirements.

Operation of the Project would not result in discharges that would cause: (1) pollution which would alter the quality of the waters of the State (i.e., Los Angeles River) to a degree which unreasonably affects beneficial uses of the waters; (2) contamination of the quality of the waters of the State by waste to a degree which creates a hazard to the public health through poisoning or through the spread of diseases; or (3) nuisance that would be injurious to health; affect an entire community or neighborhood, or any considerable number of persons; and occurs during or as a result of the treatment or disposal of wastes.

As is typical of most urban developments, stormwater runoff from the Project Site has the potential to introduce pollutants into the stormwater system. Anticipated and potential pollutants generated by the Project include sediment, nutrients, pesticides, metals, pathogens, and oil and grease. The pollutants listed above would be mitigated through the implementation of approved LID BMPs.

Furthermore, operation of the Project would not result in discharges that would cause regulatory standards to be violated. A portion of the Project Site will be allocated to stormwater mitigation, in compliance with LID BMP requirements, to control and treat stormwater runoff to mitigate the 85th percentile storm event. The installed BMP systems will be designed with an internal bypass overflow system to prevent upstream flooding during major storm events. Implementation of LID BMPs will mitigate operational impacts on surface water quality.

6.2.3. GROUNDWATER HYDROLOGY

Regarding groundwater recharge, the entire Project Site is virtually impervious in the existing condition, and there is minimal groundwater recharge potential. The Project will develop hardscape and structures that cover approximately 100% of the Project Site with impervious surfaces and is not anticipated to have any impact on the groundwater recharge potential. As stated above, any stormwater that bypasses the BMP systems would discharge to an approved discharge point in the public right-of-way and not result in infiltration of a large amount of rainfall that would affect groundwater hydrology, including the direction of groundwater flow. Therefore, the Project's potential impact on groundwater recharge is less than significant.

As discussed above, the Project would include excavations to a maximum depth of approximately 90 feet below ground surface. The Project would also result in a net export of existing soil material. Although not anticipated at the Project Site, any contaminated soils found would be captured within that volume of excavated material, removed from the Project Site, and remediated at an approved disposal facility in accordance with regulatory requirements.

As described in the Geotechnical Investigation Report prepared by Geocon West, Inc for the Project Site, the historic groundwater level in the vicinity of the Project site was on the

order of 20 to 25 feet below grade. Based on the subterranean nature of the proposed structure and the conditions encountered during site exploration of the adjacent properties, it is expected that groundwater would be encountered. That would require either the subterranean portion of the structure to be designed for full hydrostatic pressure and buoyancy or a permanent dewatering system be implemented to relieve and mitigate the water pressure. Permanent dewatering operations utilized are to be in compliance with all relevant NPDES requirements related to dewatering operations. In addition, any dewatered groundwater shall be reinjected into the ground. Therefore, operation of the project would result in a less than significant impact on groundwater hydrology, including groundwater levels.

During on-site grading and building construction, hazardous materials, such as fuels, paints, solvents, and concrete additives, could be used and would therefore require proper management and, in some cases, disposal. The management of any resultant hazardous wastes could increase the opportunity for hazardous materials releases into groundwater. Compliance with all applicable federal, state, and local requirements concerning the handling, storage and disposal of hazardous waste, would reduce the potential for the construction of the Project to release contaminants into groundwater that could affect existing contaminants, expand the area or increase the level of groundwater contamination, or cause a violation of regulatory water quality standards at an existing production well. Due to compliance with measures as listed above and the implementation of BMPs, though there are groundwater production wells or public water supply wells within one mile of the Project Site, construction activities would not be anticipated to affect existing wells. Therefore, the Project would not result in any substantial increase in groundwater contamination through hazardous materials releases and impacts on groundwater quality would be less than significant.

6.2.4. GROUNDWATER QUALITY

The Project does not include the installation of water wells, or any extraction or recharge system that is in the vicinity of the coast, an area of known groundwater contamination or seawater intrusion, a municipal supply well or spreading ground facility.

Operational activities which could affect groundwater quality include hazardous material spills and leaking underground storage tanks. No underground storage tanks are currently operated or will be operated by the Project. The Project would not expand any potential areas of contamination, increasing the level of contamination, or cause regulatory water quality standard violations, as defined in the California Code of Regulations, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act.

The Project is not anticipated to result in releases or spills of contaminants that could reach a groundwater recharge area or spreading ground or otherwise reach groundwater through percolation. The Project does not involve drilling to or through a clean or contaminated aquifer. Therefore, the Project's potential impact on groundwater recharge is less than significant.

6.3. CUMULATIVE IMPACT ANALYSIS

6.3.1. SURFACE WATER HYDROLOGY

The geographic context for the cumulative impact analysis on surface water hydrology is the Los Angeles River Watershed. In accordance with City requirements, the Project and related projects would be required to implement BMPs to manage stormwater runoff in accordance with LID guidelines. Furthermore, the City of Los Angeles Department of Public Works reviews projects on a case-by-case basis to ensure sufficient local and regional infrastructure is available to accommodate stormwater runoff. Therefore, potential cumulative impacts associated with the Project on surface water hydrology would be less than significant.

6.3.2. SURFACE WATER QUALITY

Future growth in the Los Angeles River Watershed would be subject to NPDES requirements relating to water quality for both construction and operation. The Project Site is located in a highly urbanized area and it is anticipated that future development projects would also be subject to LID requirements. The Project would comply with all applicable laws, rules and regulations, so cumulative impacts to surface water quality would be less than significant.

6.3.3. GROUNDWATER HYDROLOGY

The geographic context for the cumulative impact analysis on groundwater level is the Central Subbasin. No water supply wells, spreading grounds, or injection wells are located within a one-mile radius of the Project Site and the Project would not have an adverse impact on groundwater levels.

The Projects is located in a highly urbanized area so any potential reduction or increase in groundwater would be minimal in the context of the regional groundwater basin. Therefore, cumulative impacts to groundwater hydrology would be less than significant.

6.3.4. GROUNDWATER QUALITY

Future growth in the Central Subbasin would be subject to LARWQCB requirements relating to groundwater quality. The Project would not expand any potential areas of contamination, increasing the level of contamination, or cause regulatory water quality standard violations, as defined in the California Code of Regulations, Title 22, Division 4, Chapter 15 and the Safe Drinking Water Act. The Project would comply with all applicable laws, rules and regulations, so cumulative impacts to surface water quality would be less than significant.

7. LEVEL OF SIGNIFICANCE

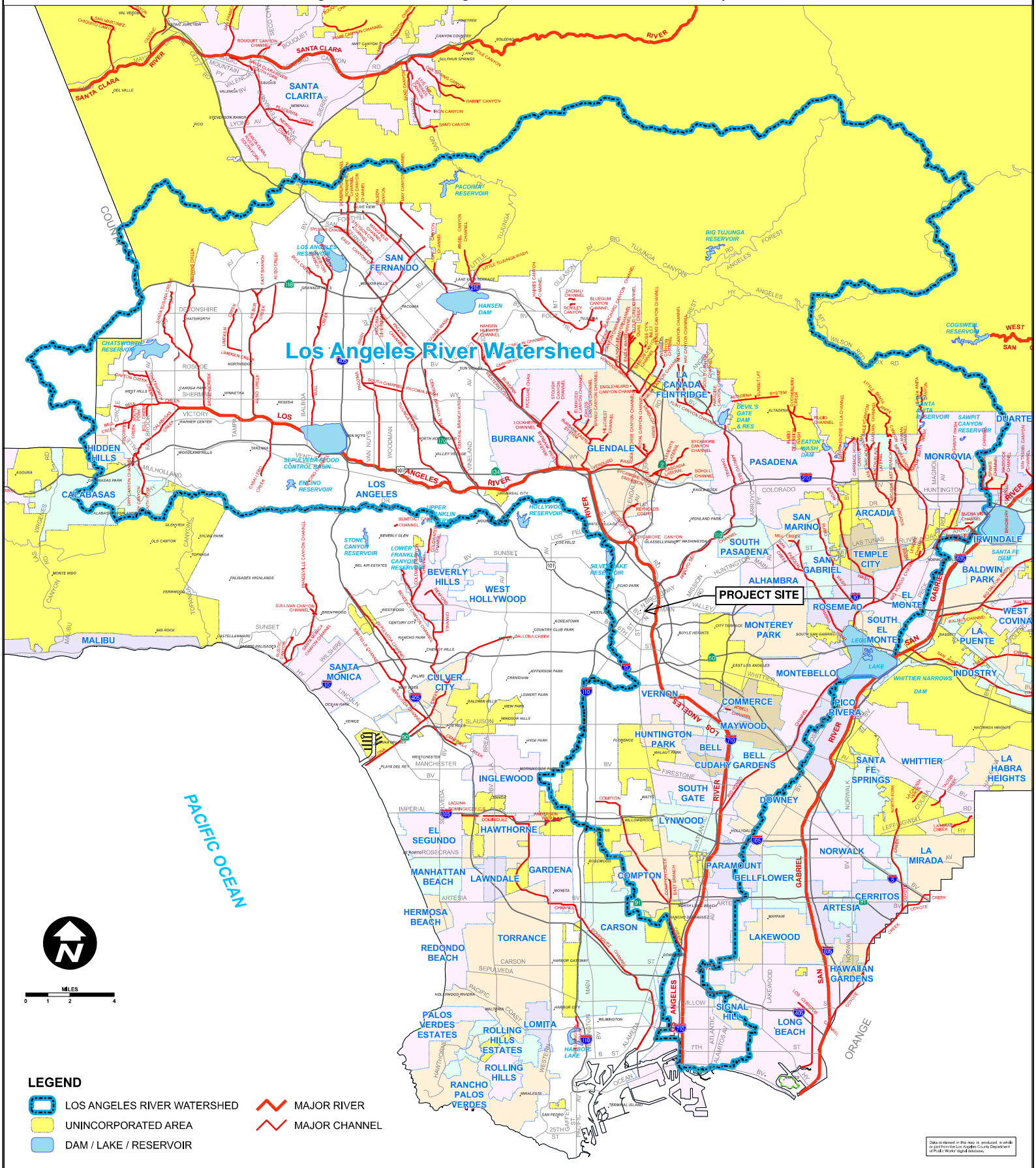
Based on the analysis contained in this report, no significant impacts have been identified for surface water hydrology, surface water quality, groundwater hydrology or groundwater quality for this Project.

APPENDIX

COUNTY OF LOS ANGELES

LOS ANGELES RIVER WATERSHED

Figure 1: Los Angeles River Watershed Map



Data contained in this map is produced, in whole or part from the Los Angeles County Department of Public Works' digital database.

Mapping & Property Management Division, Mapping & GIS Services Section

Figure 2-Existing Drainage Exhibit

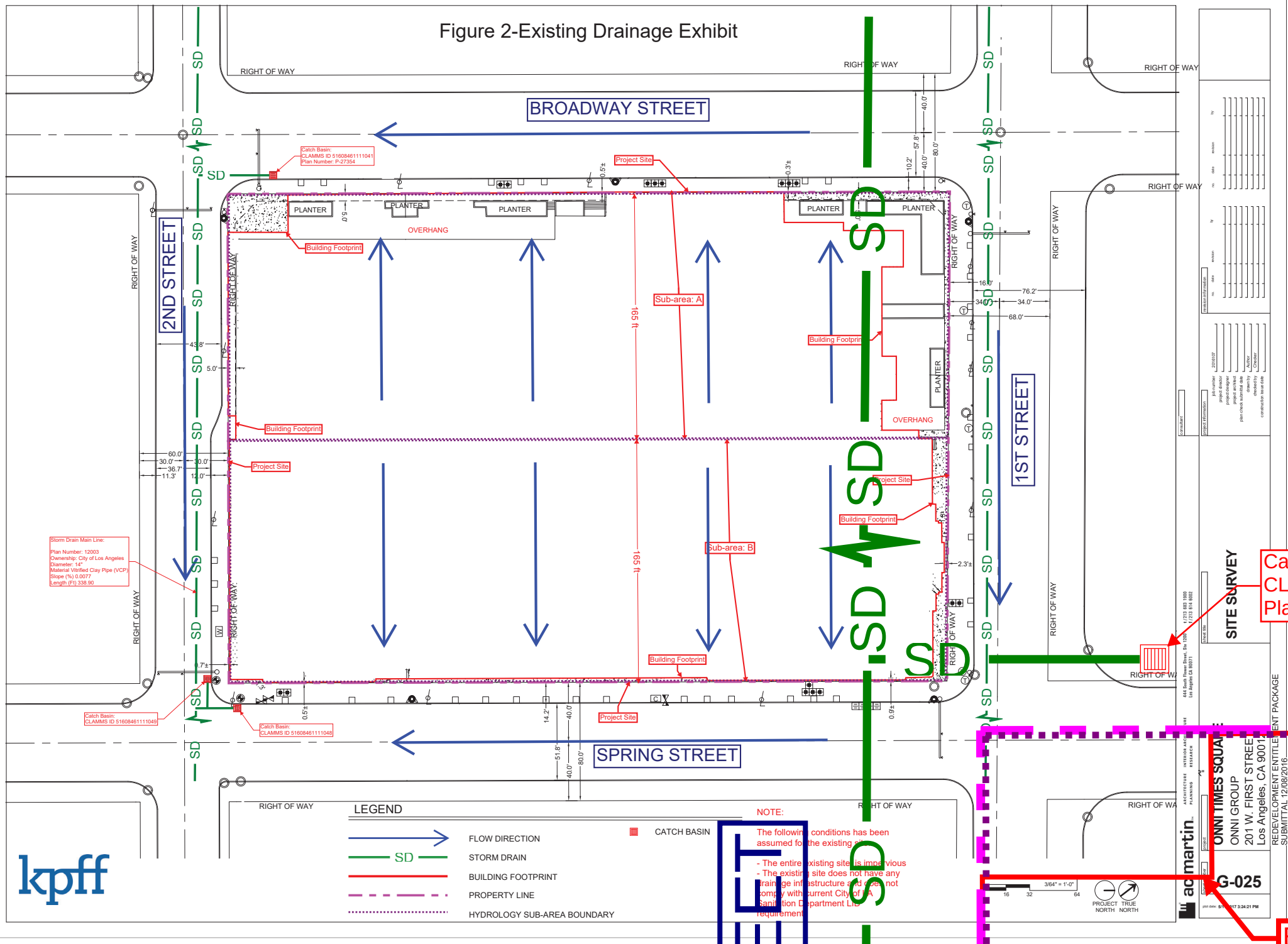


Figure 3-Proposed Drainage Exhibit

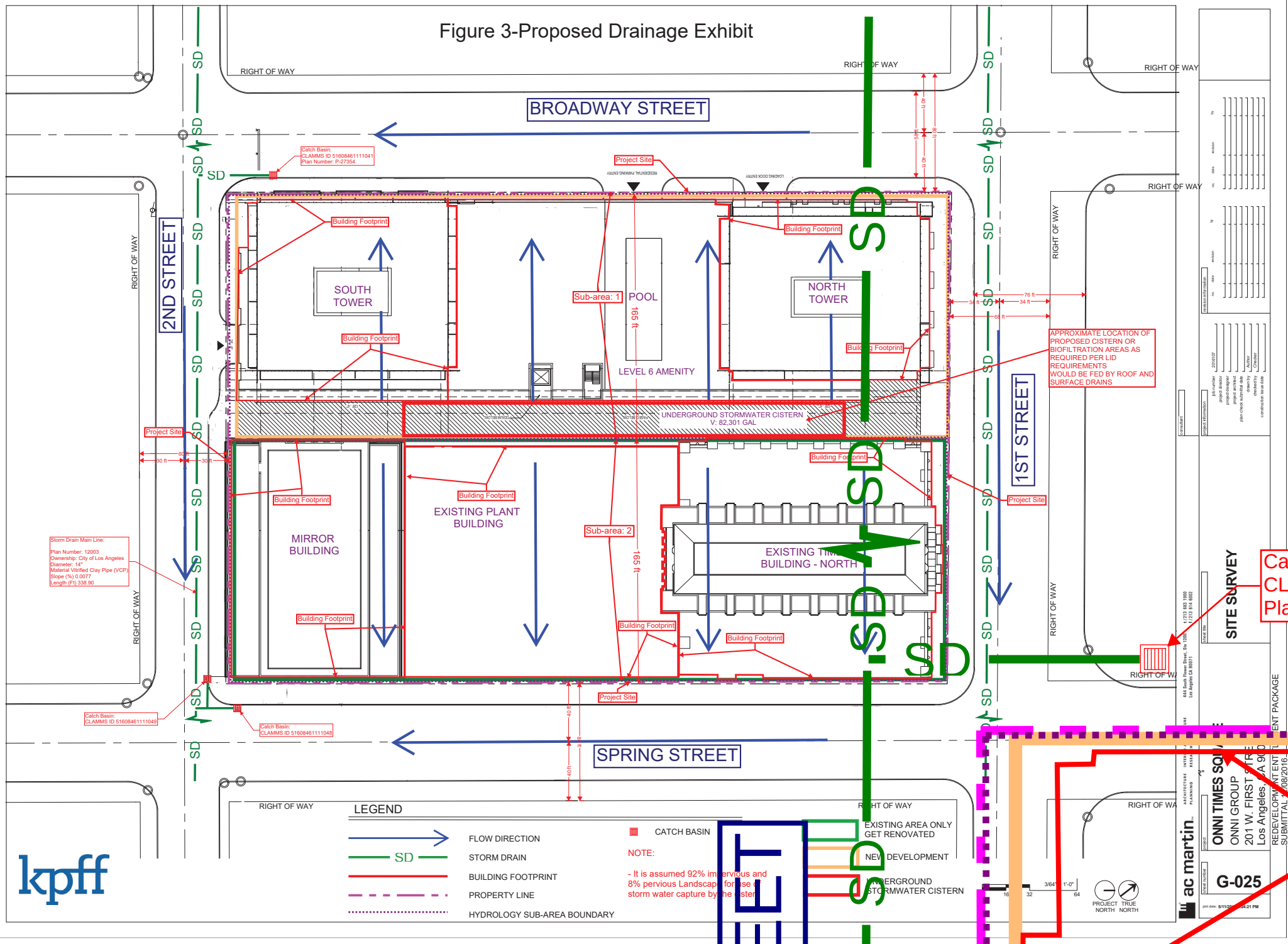


Figure 4- Hydro-Calc Hydrology Results for Existing and Proposed Site

Peak Flow Hydrologic Analysis

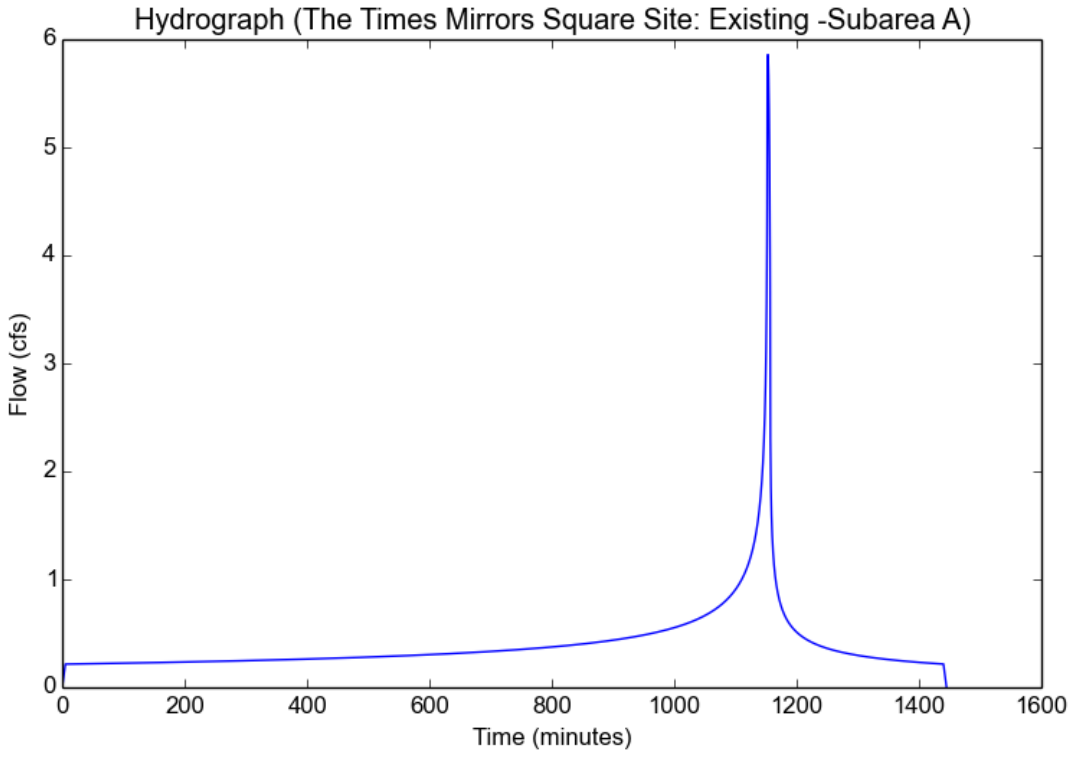
File location: P:/2017/1700084 Los Angeles Times/ENGR/EIR Support/Hydrology & Water Resources Report/Hydrology Data/Hydrocalc/2017-04-13 Exis
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	The Times Mirrors Square Site
Subarea ID	Existing -Subarea A
Area (ac)	1.85
Flow Path Length (ft)	165.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8996
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.8582
Burned Peak Flow Rate (cfs)	5.8582
24-Hr Clear Runoff Volume (ac-ft)	0.8057
24-Hr Clear Runoff Volume (cu-ft)	35095.211



Peak Flow Hydrologic Analysis

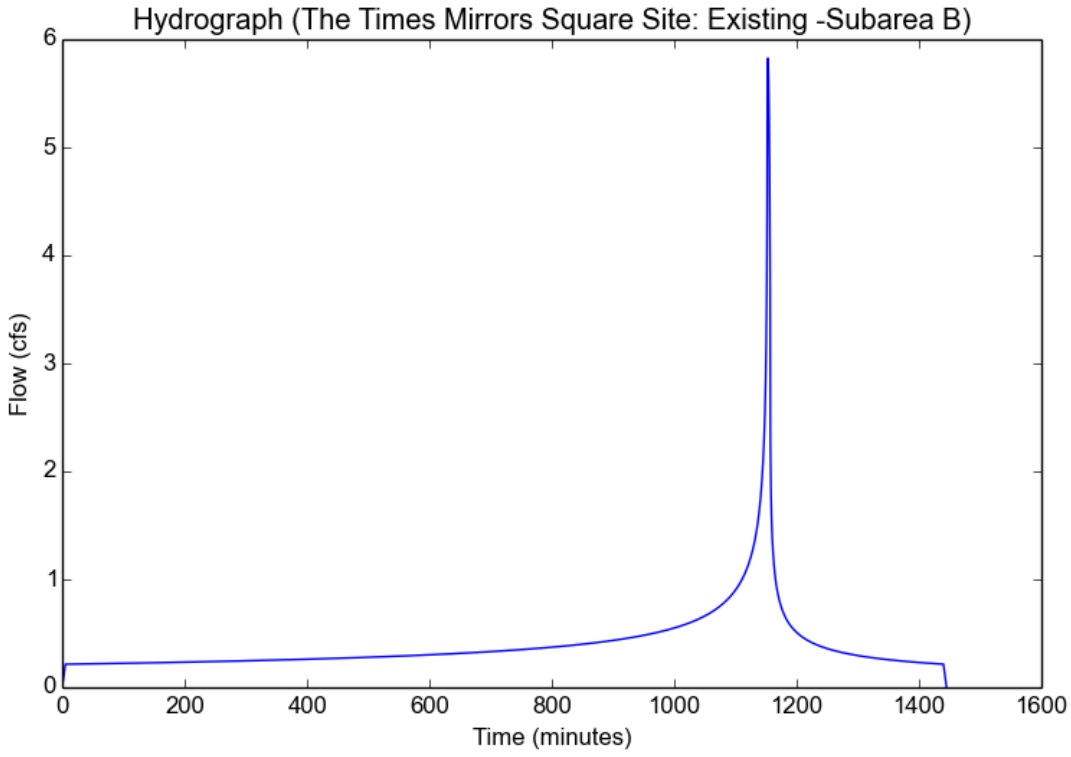
File location: P:/2017/1700084 Los Angeles Times/ENGR/EIR Support/Hydrology & Water Resources Report/Hydrology Data/Hydrocalc/2017-04-13 Exis
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	The Times Mirrors Square Site
Subarea ID	Existing -Subarea B
Area (ac)	1.84
Flow Path Length (ft)	165.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.99
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8996
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.8266
Burned Peak Flow Rate (cfs)	5.8266
24-Hr Clear Runoff Volume (ac-ft)	0.8013
24-Hr Clear Runoff Volume (cu-ft)	34905.5072



Peak Flow Hydrologic Analysis

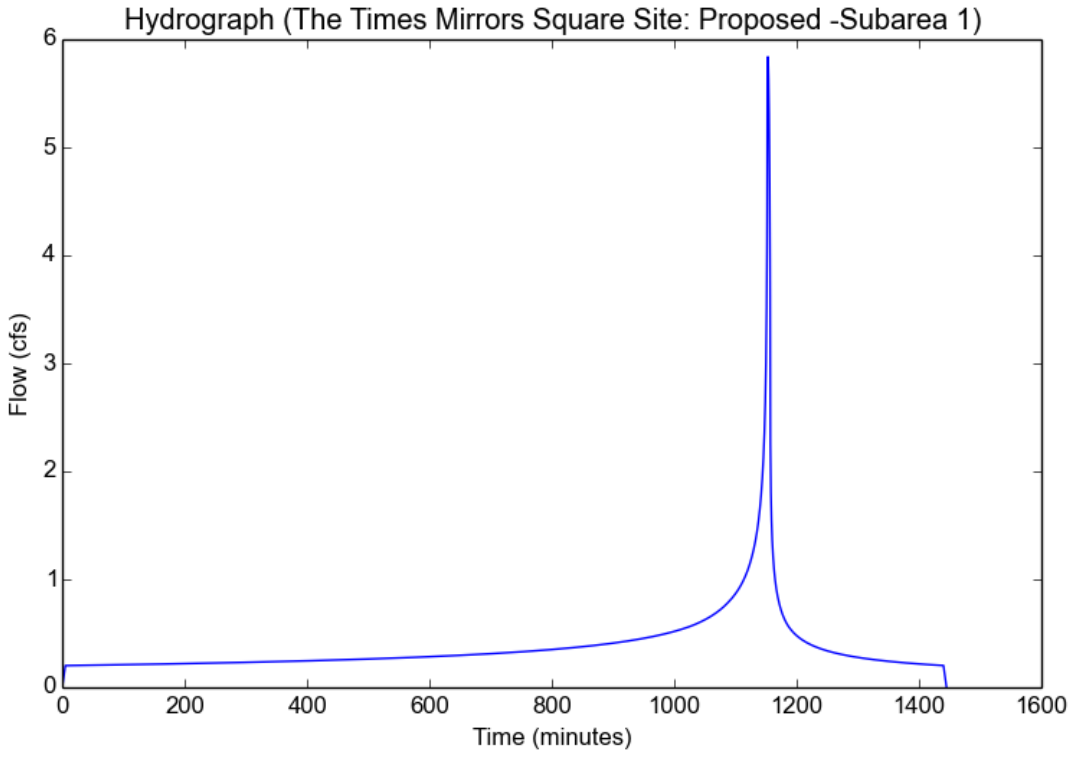
File location: P:/2017/1700084 Los Angeles Times/ENGR/EIR Support/Hydrology & Water Resources Report/Hydrology Data/Hydrocalc/2017-04-13 Prop
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	The Times Mirrors Square Site
Subarea ID	Proposed -Subarea 1
Area (ac)	1.85
Flow Path Length (ft)	165.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.92
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8967
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.8392
Burned Peak Flow Rate (cfs)	5.8392
24-Hr Clear Runoff Volume (ac-ft)	0.7624
24-Hr Clear Runoff Volume (cu-ft)	33209.4107



Peak Flow Hydrologic Analysis

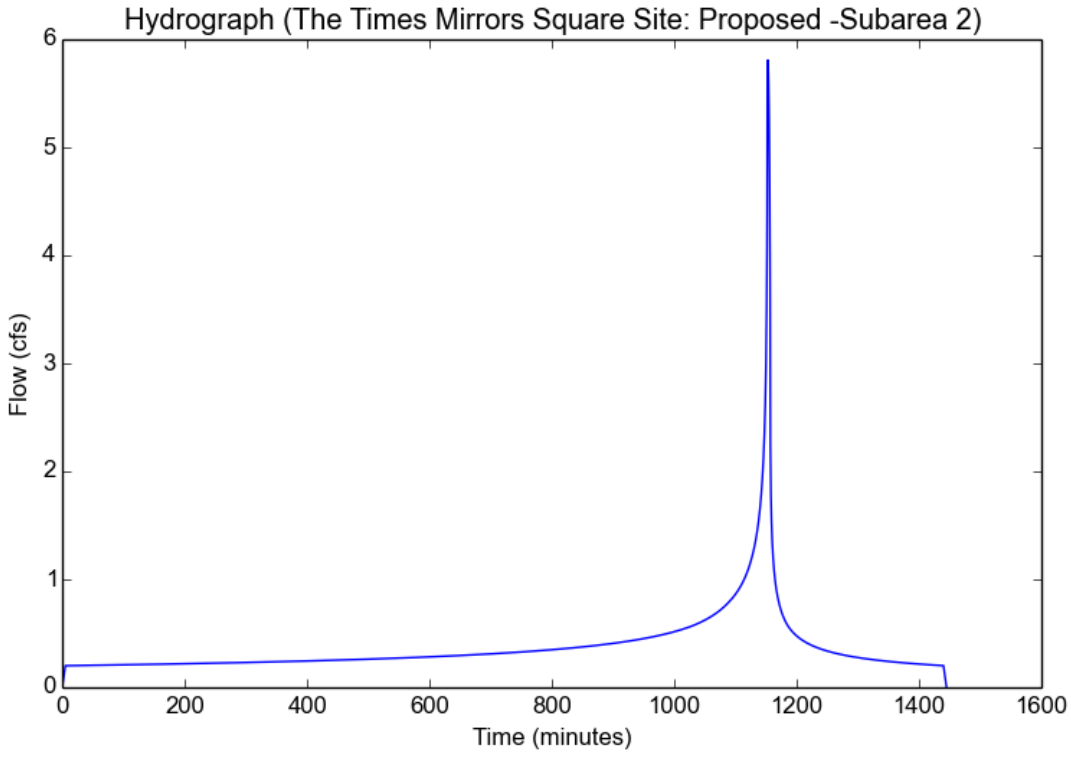
File location: P:/2017/1700084 Los Angeles Times/ENGR/EIR Support/Hydrology & Water Resources Report/Hydrology Data/Hydrocalc/2017-04-13 Prop
Version: HydroCalc 0.3.1-beta

Input Parameters

Project Name	The Times Mirrors Square Site
Subarea ID	Proposed -Subarea 2
Area (ac)	1.84
Flow Path Length (ft)	165.0
Flow Path Slope (vft/hft)	0.05
50-yr Rainfall Depth (in)	5.9
Percent Impervious	0.92
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	5.9
Peak Intensity (in/hr)	3.5201
Undeveloped Runoff Coefficient (Cu)	0.8582
Developed Runoff Coefficient (Cd)	0.8967
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.8076
Burned Peak Flow Rate (cfs)	5.8076
24-Hr Clear Runoff Volume (ac-ft)	0.7583
24-Hr Clear Runoff Volume (cu-ft)	33029.9004



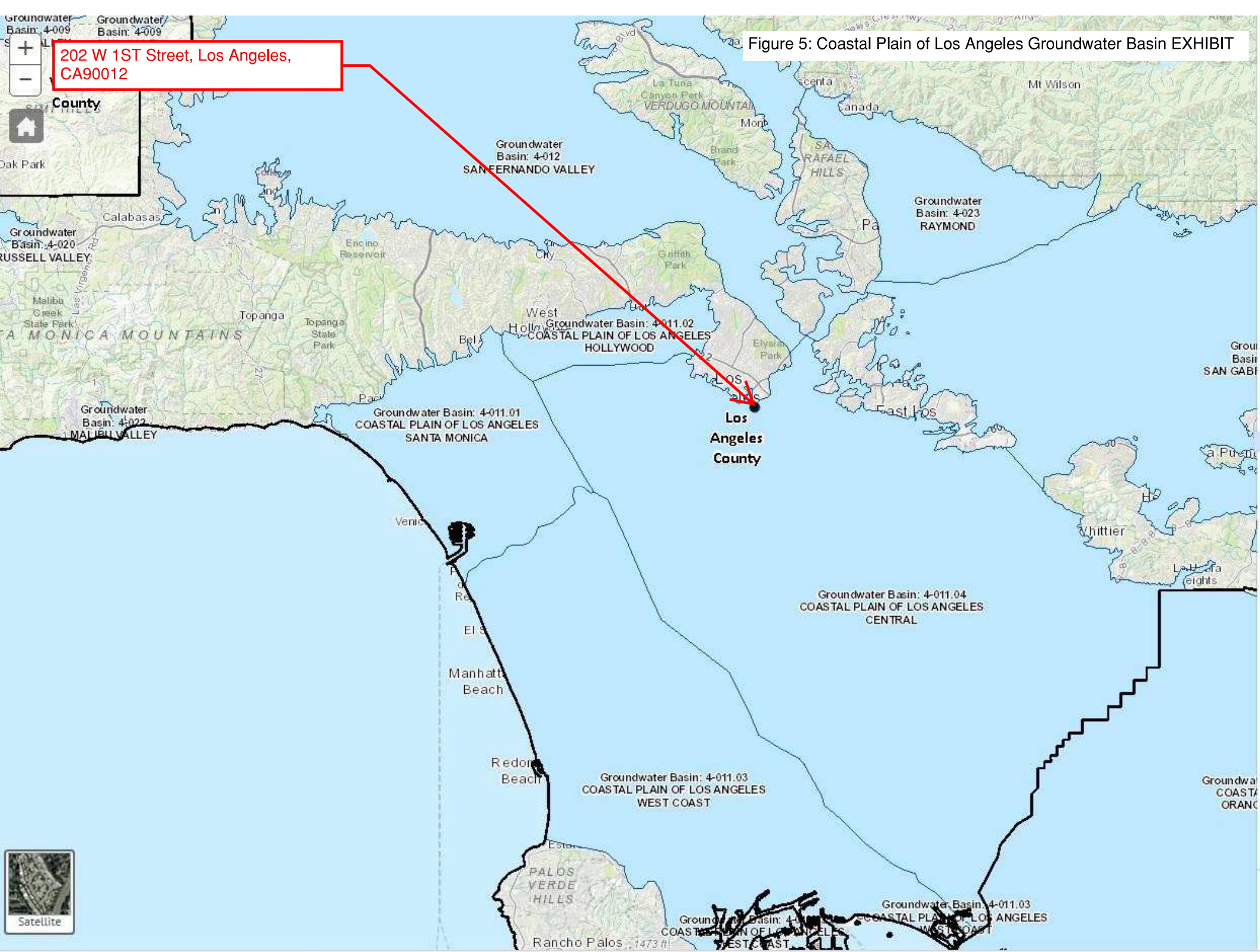


Figure 5: Coastal Plain of Los Angeles Groundwater Basin EXHIBIT

Figure 6- LID Calculation result for Capture & Use and Biofiltration

Capture & Use Sizing

Note:

Red values to be changed by user.
Black values are automatically calculated.

[1]	Total Area (SF)		160578
[2]	Impervious Area (SF)		148338
[3]	Pervious Area (SF)	**[1]-[2] =**	12240
[4]	Catchment Area (SF)	**([2]*0.9)+([3]*0.1) =**	134728
[5]	Design Rainfall Depth (in)	**Greater of 0.75", 85th percentile**	0.98
[6]	V_{design} (gal)	**[5]/12*7.48*[4] =**	**82301**
[7]	Planting Area (SF)		12240
[8]	Plant Factor*		0.5
[9]	$ETWU_{(7\text{-month})}$	**21.7*0.62*[8]*[7] =**	82338
[10]	Is $V_{design} \leq ETWU_{(7\text{-month})}$?		**YES**

*The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

Source: LID Handbook, City of LA (May 2012)-Calculation has been verfied with LID Manual (May 9 2016)

Planter Box Sizing

Note:	Red values to be changed by user.
	Black values are automatically calculated.

[1]	Total Area (SF)		160578
[2]	Impervious Area (SF)		150303
[3]	Pervious Area (SF)	**[1]-[2] =**	10275
[4]	Catchment Area (SF)	**([2]*0.9)+([3]*0.1) =**	136300
[5]	Design Rainfall Depth (in)	**Greater of 0.75", 85th percentile**	1.0
[6]	V_{design} (CF)	**1.5*[5]/12*[4] =**	16697
[7]	$K_{sat,media}$ (in/hr)		5.0
[8]	FS	**Use 6 if no geotech investigation**	2.0
[9]	$K_{sat,design}$ (in/hr)	**[7]/[8] =**	2.5
[10]	d_{p_max}, Max. Ponding Depth (ft)	**MIN(1, [9]*48/12) =**	1.0
[11]	d_p, Ponding Depth (ft)	**1' max.**	1.0
[12]	T_{fill} (hr)		3
[13]	**A_{min} (sq. ft)**	**[6]/([9]*[12]/12 + [11])**	**10275**

Source: LID Handbook, City of LA (May 2012)-Calculation has been verfied with LID Manual (May 9 2016)

Figure 7- 50-year 24-Hour Isohyet Map

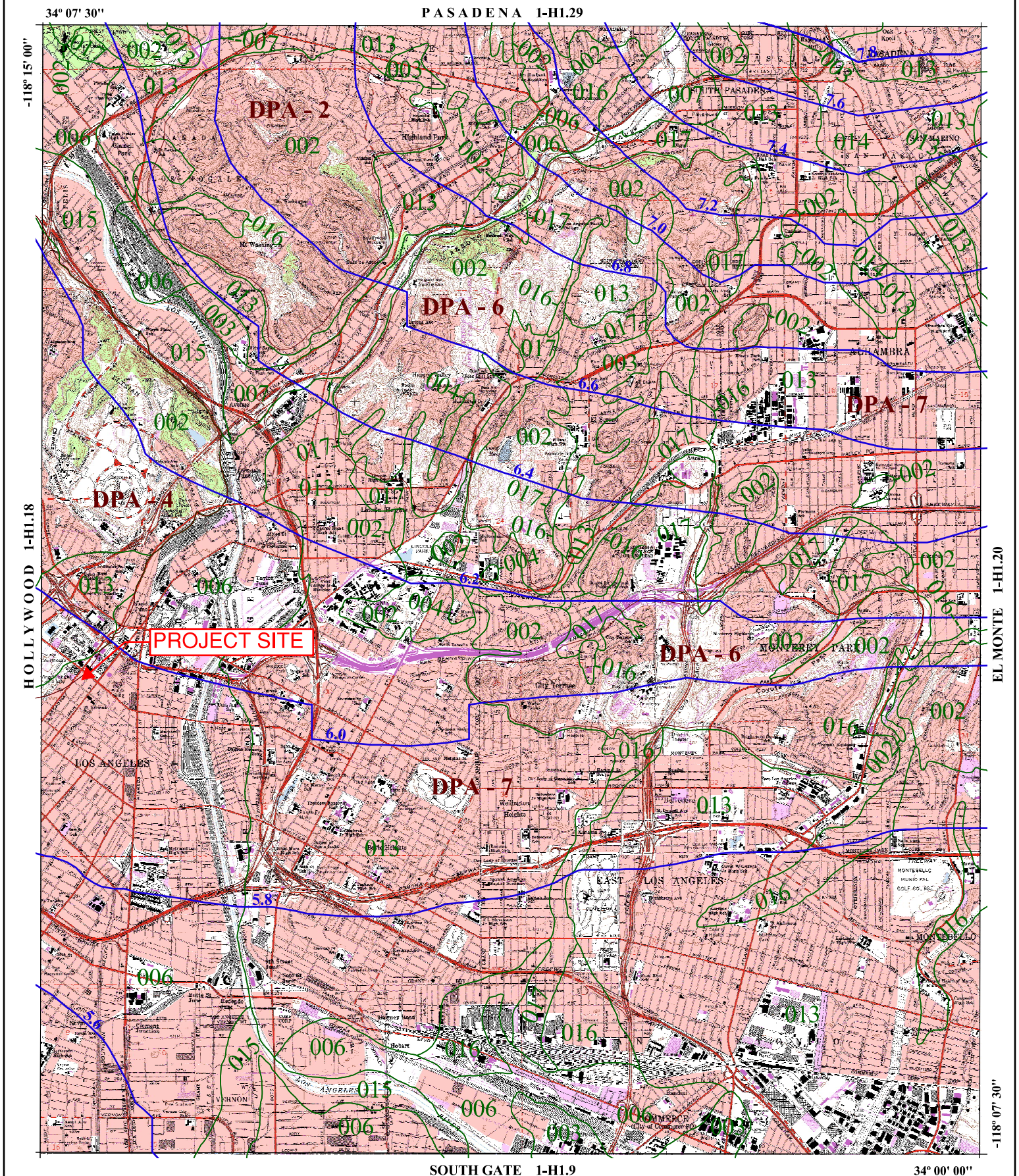
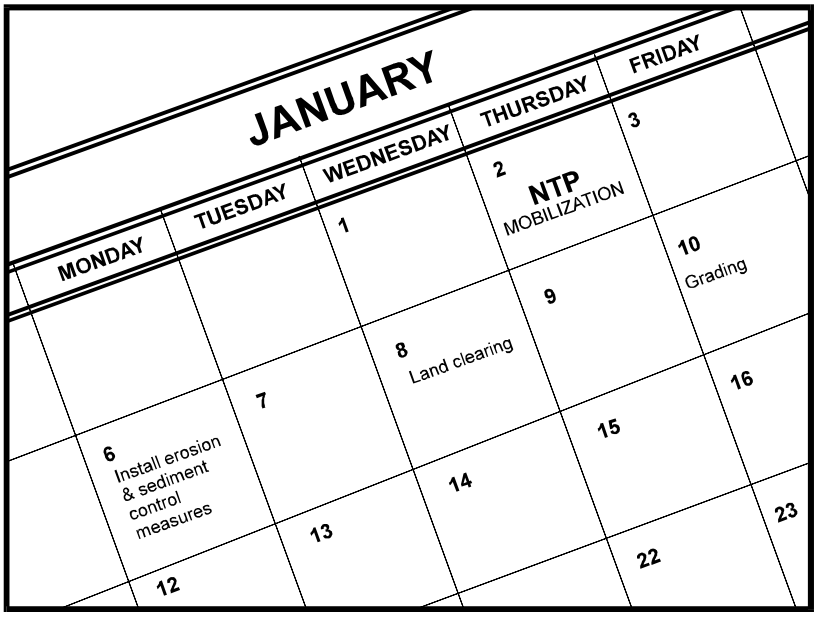


EXHIBIT 1: TYPICAL SWPPP BMPS

Scheduling

EC-1



Description and Purpose

Scheduling is the development of a written plan that includes sequencing of construction activities and the implementation of BMPs such as erosion control and sediment control while taking local climate (rainfall, wind, etc.) into consideration. The purpose is to reduce the amount and duration of soil exposed to erosion by wind, rain, runoff, and vehicle tracking, and to perform the construction activities and control practices in accordance with the planned schedule.

Suitable Applications

Proper sequencing of construction activities to reduce erosion potential should be incorporated into the schedule of every construction project especially during rainy season. Use of other, more costly yet less effective, erosion and sediment control BMPs may often be reduced through proper construction sequencing.

Limitations

- Environmental constraints such as nesting season prohibitions reduce the full capabilities of this BMP.

Implementation

- Avoid rainy periods. Schedule major grading operations during dry months when practical. Allow enough time before rainfall begins to stabilize the soil with vegetation or physical means or to install sediment trapping devices.
- Plan the project and develop a schedule showing each phase of construction. Clearly show how the rainy season relates

Categories

EC	Erosion Control	☑
SE	Sediment Control	☒
TC	Tracking Control	☒
WE	Wind Erosion Control	☒
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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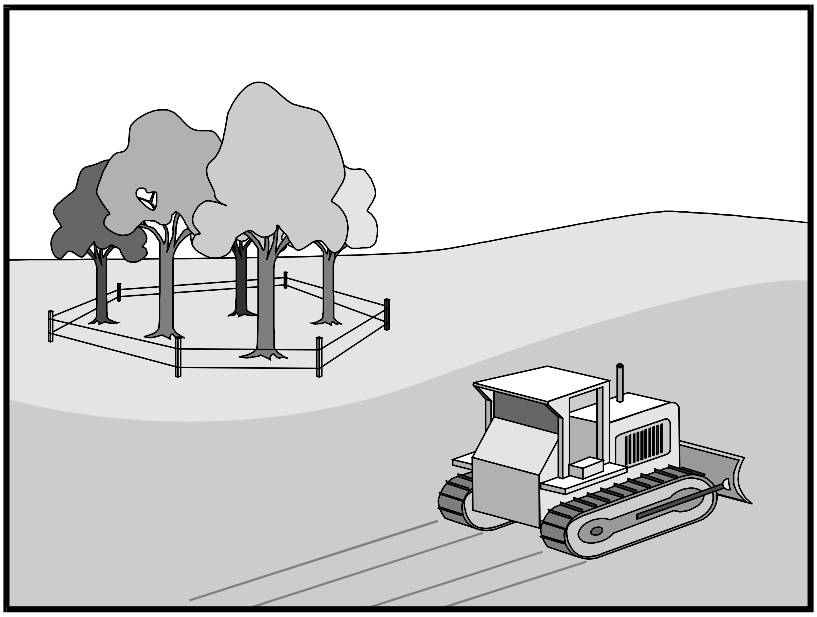
Preservation Of Existing Vegetation EC-2



Description and Purpose

Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, shrubs, and grasses that protect soil from erosion.

Suitable Applications

Preservation of existing vegetation is suitable for use on most projects. Large project sites often provide the greatest opportunity for use of this BMP. Suitable applications include the following:

- Areas within the site where no construction activity occurs, or occurs at a later date. This BMP is especially suitable to multi year projects where grading can be phased.
- Areas where natural vegetation exists and is designated for preservation. Such areas often include steep slopes, watercourse, and building sites in wooded areas.
- Areas where local, state, and federal government require preservation, such as vernal pools, wetlands, marshes, certain oak trees, etc. These areas are usually designated on the plans, or in the specifications, permits, or environmental documents.
- Where vegetation designated for ultimate removal can be temporarily preserved and be utilized for erosion control and sediment control.

Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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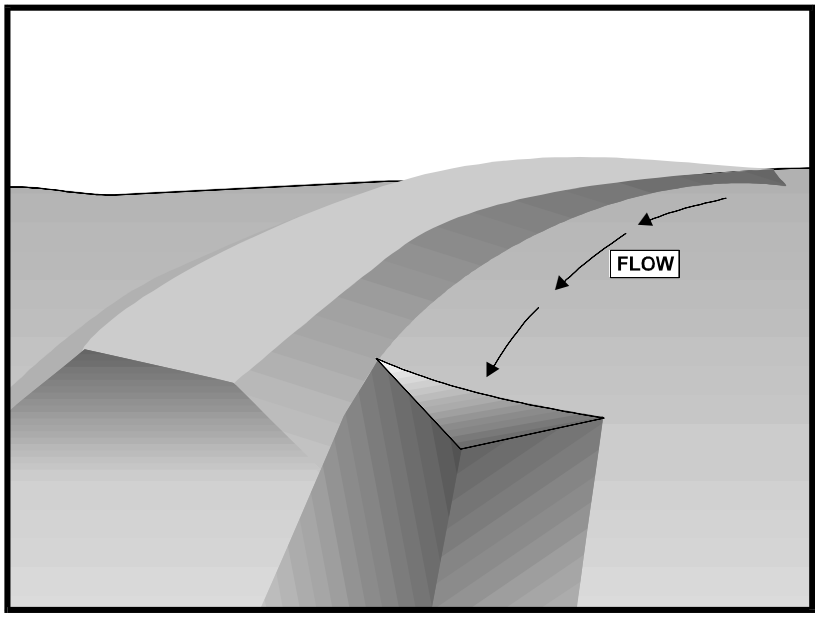
Earth Dikes and Drainage Swales EC-9



Description and Purpose

An earth dike is a temporary berm or ridge of compacted soil used to divert runoff or channel water to a desired location. A drainage swale is a shaped and sloped depression in the soil surface used to convey runoff to a desired location. Earth dikes and drainage swales are used to divert off site runoff around the construction site, divert runoff from stabilized areas and disturbed areas, and direct runoff into sediment basins or traps.

Suitable Applications

Earth dikes and drainage swales are suitable for use, individually or together, where runoff needs to be diverted from one area and conveyed to another.

- Earth dikes and drainage swales may be used:
  - To convey surface runoff down sloping land
  - To intercept and divert runoff to avoid sheet flow over sloped surfaces
  - To divert and direct runoff towards a stabilized watercourse, drainage pipe or channel
  - To intercept runoff from paved surfaces
  - Below steep grades where runoff begins to concentrate
  - Along roadways and facility improvements subject to flood drainage

Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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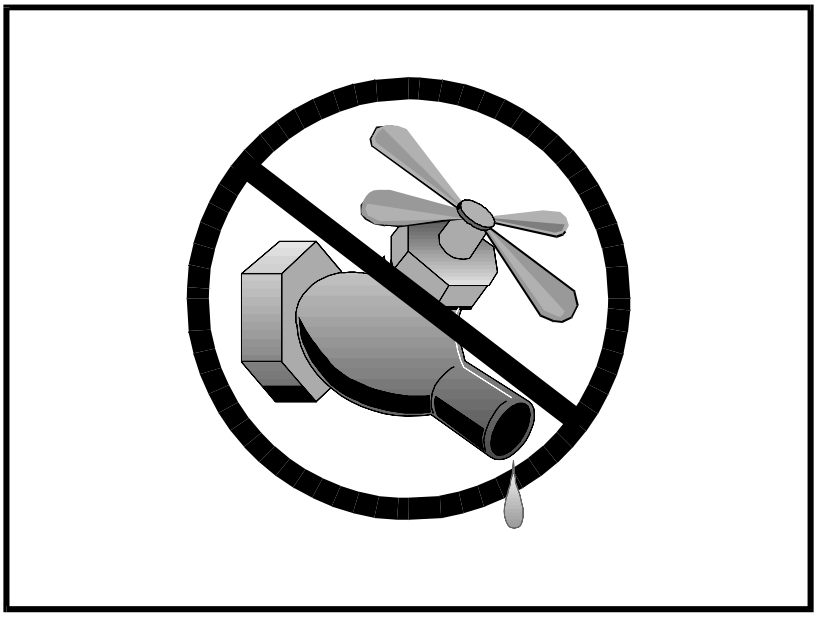
Water Conservation Practices NS-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Water conservation practices are activities that use water during the construction of a project in a manner that avoids causing erosion and the transport of pollutants offsite. These practices can reduce or eliminate non-stormwater discharges.

Suitable Applications

Water conservation practices are suitable for all construction sites where water is used, including piped water, metered water, trucked water, and water from a reservoir.

Limitations

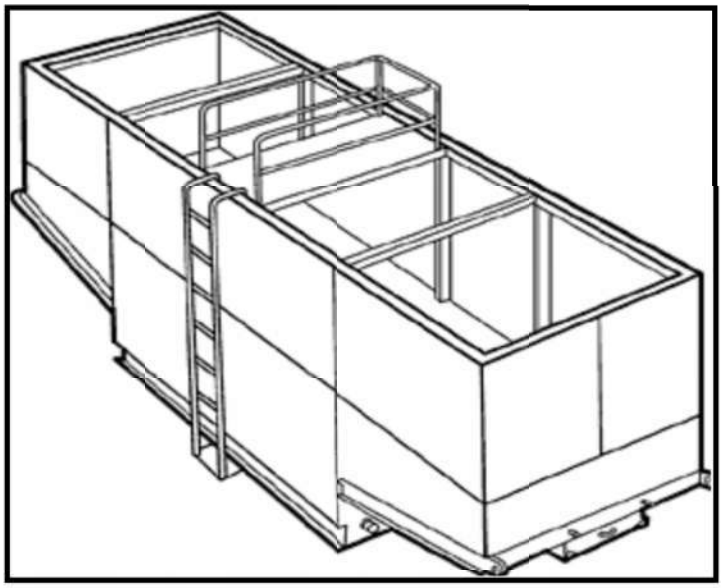
- None identified.

Implementation

- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Washing of vehicles and equipment on the construction site is discouraged.
- Avoid using water to clean construction areas. If water must be used for cleaning or surface preparation, surface should be swept and vacuumed first to remove dirt. This will minimize amount of water required.

CASQA
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Dewatering Operations NS-2



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

SE-5: Fiber Roll

SE-6: Gravel Bag Berm

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Description and Purpose

Dewatering operations are practices that manage the discharge of pollutants when non-stormwater and accumulated precipitation (stormwater) must be removed from a work location to proceed with construction work or to provide vector control.

The General Permit incorporates Numeric Action Levels (NAL) for turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Discharges from dewatering operations can contain high levels of fine sediment that, if not properly treated, could lead to exceedances of the General Permit requirements or Basin Plan standards.

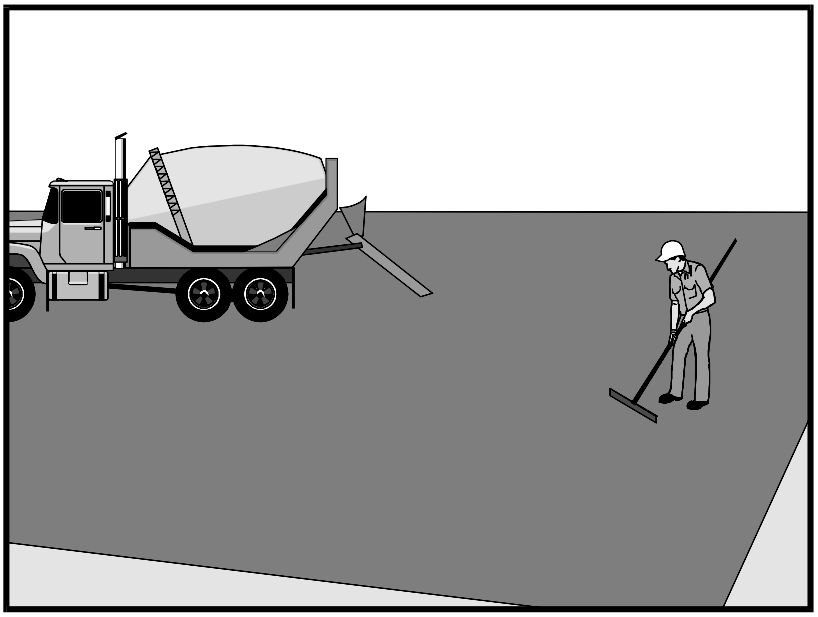
The dewatering operations described in this fact sheet are not Active Treatment Systems (ATS) and do not include the use of chemical coagulations, chemical flocculation or electrocoagulation.

Suitable Applications

These practices are implemented for discharges of non-stormwater from construction sites. Non-stormwaters include, but are not limited to, groundwater, water from cofferdams, water diversions, and waters used during construction activities that must be removed from a work area to facilitate construction.

Practices identified in this section are also appropriate for implementation when managing the removal of accumulated

Paving and Grinding Operations NS-3



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☒

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Prevent or reduce the discharge of pollutants from paving operations, using measures to prevent runon and runoff pollution, properly disposing of wastes, and training employees and subcontractors.

The General Permit incorporates Numeric Action Levels (NAL) for pH and turbidity (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials associated with paving and grinding operations, including mortar, concrete, and cement and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

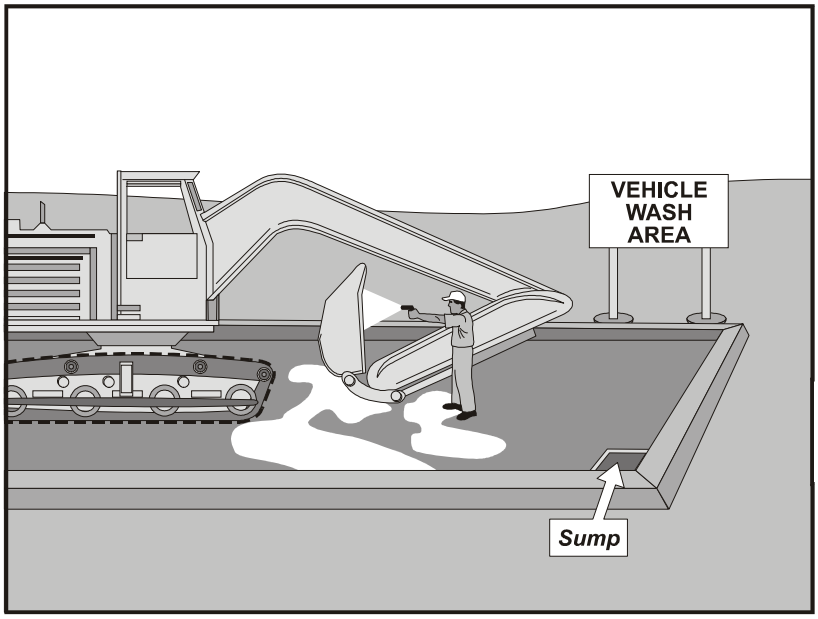
These procedures are implemented where paving, surfacing, resurfacing, or sawcutting, may pollute stormwater runoff or discharge to the storm drain system or watercourses.

Limitations

- Paving opportunities may be limited during wet weather.

  Discharges of freshly paved surfaces may raise pH to environmentally harmful levels and trigger permit violations.

Vehicle and Equipment Cleaning NS-8



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Vehicle and equipment cleaning procedures and practices eliminate or reduce the discharge of pollutants to stormwater from vehicle and equipment cleaning operations. Procedures and practices include but are not limited to: using offsite facilities; washing in designated, contained areas only; eliminating discharges to the storm drain by infiltrating the wash water; and training employees and subcontractors in proper cleaning procedures.

Suitable Applications

These procedures are suitable on all construction sites where vehicle and equipment cleaning is performed.

Limitations

Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades. Sending vehicles/equipment offsite should be done in conjunction with TC-1, Stabilized Construction Entrance/Exit.

Implementation

Other options to washing equipment onsite include contracting with either an offsite or mobile commercial washing business. These businesses may be better equipped to handle and dispose of the wash waters properly. Performing this work offsite can also be economical by eliminating the need for a separate washing operation onsite.

If washing operations are to take place onsite, then:

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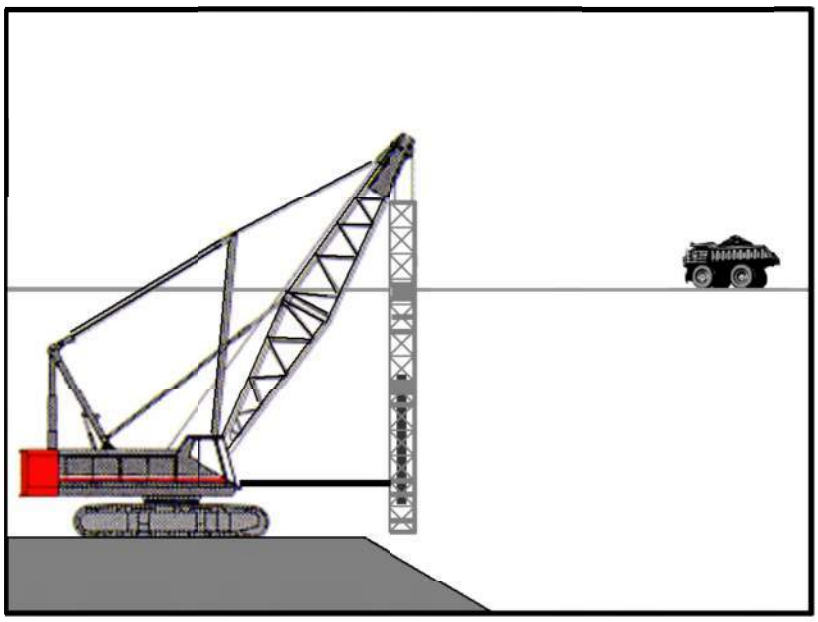
CALIFORNIA STORMWATER QUALITY ASSOCIATION

Pile Driving Operations NS-11



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

The construction and retrofit of bridges and retaining walls often include driving piles for foundation support and shoring operations. Driven piles are typically constructed of precast concrete, steel, or timber. Driven sheet piles are also used for shoring and cofferdam construction. Proper control and use of equipment, materials, and waste products from pile driving operations will reduce or eliminate the discharge of potential pollutants to the storm drain system, watercourses, and waters of the United States.

Suitable Applications

These procedures apply to all construction sites near or adjacent to a watercourse or groundwater where permanent and temporary pile driving (impact and vibratory) takes place, including operations using pile shells as well as construction of cast-in-steel-shell and cast-in-drilled-hole piles.

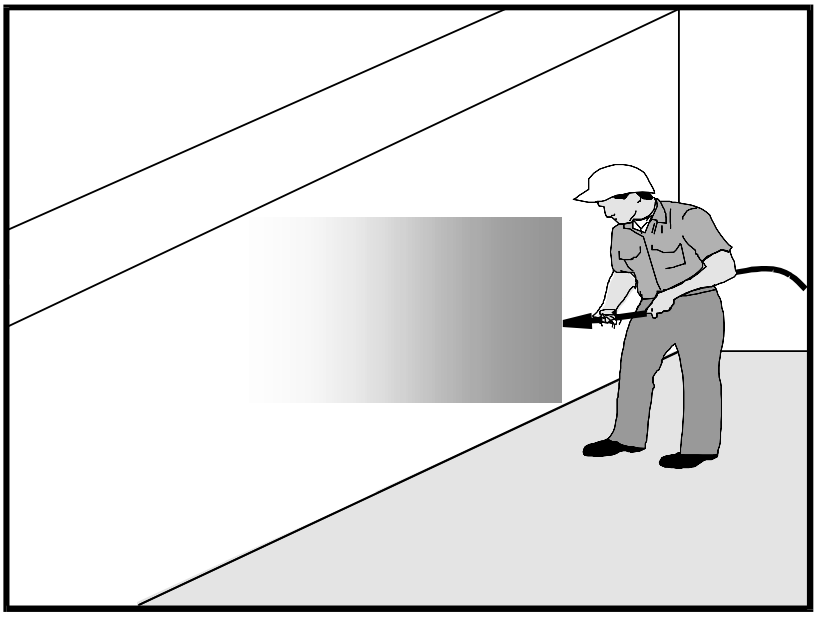
Limitations

None identified.

Implementation

- Use drip pans or absorbent pads during vehicle and equipment operation, maintenance, cleaning, fueling, and storage. Refer to NS-8, Vehicle and Equipment Cleaning, NS-9, Vehicle and Equipment Fueling, and NS-10, Vehicle and Equipment Maintenance.

Concrete Curing NS-12



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Concrete curing is used in the construction of structures such as bridges, retaining walls, pump houses, large slabs, and structured foundations. Concrete curing includes the use of both chemical and water methods.

Concrete and its associated curing materials have basic chemical properties that can raise the pH of water to levels outside of the permitted range. Discharges of stormwater and non-stormwater exposed to concrete during curing may have a high pH and may contain chemicals, metals, and fines. The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Proper procedures and care should be taken when managing concrete curing materials to prevent them from coming into contact with stormwater flows, which could result in a high pH discharge.

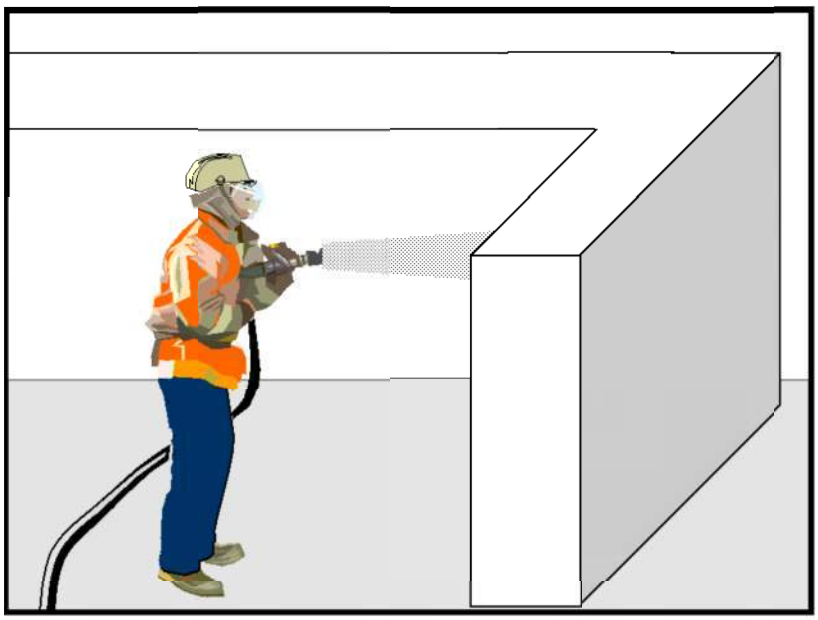
Suitable Applications

Suitable applications include all projects where Portland Cement Concrete (PCC) and concrete curing chemicals are placed where they can be exposed to rainfall, runoff from other areas, or where runoff from the PCC will leave the site.

Limitations

- Runoff contact with concrete waste can raise pH levels in the water to environmentally harmful levels and trigger permit violations.

Concrete Finishing NS-13



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☑
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	☑

Potential Alternatives

None

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Description and Purpose

Concrete finishing methods are used for bridge deck rehabilitation, paint removal, curing compound removal, and final surface finish appearances. Methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Stormwater and non-stormwater exposed to concrete finishing by-products may have a high pH and may contain chemicals, metals, and fines. Proper procedures and implementation of appropriate BMPs can minimize the impact that concrete-finishing methods may have on stormwater and non-stormwater discharges.

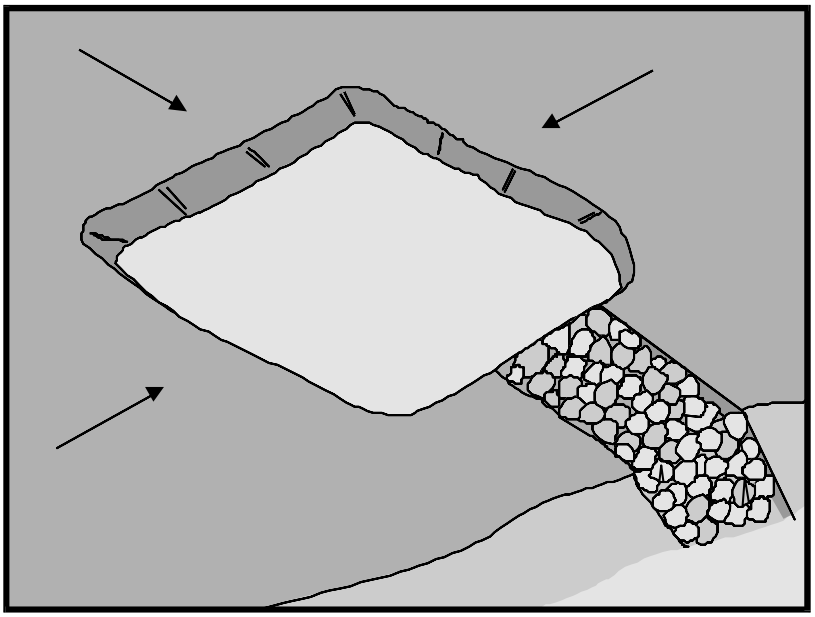
The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

Concrete and its associated curing materials have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows, which could lead to exceedances of the General Permit requirements.

Suitable Applications

These procedures apply to all construction locations where concrete finishing operations are performed.

Sediment Trap SE-3



Categories		
EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☑
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-2 Sediment Basin (for larger areas)

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Description and Purpose

A sediment trap is a containment area where sediment-laden runoff is temporarily detained under quiescent conditions, allowing sediment to settle out or before the runoff is discharged by gravity flow. Sediment traps are formed by excavating or constructing an earthen embankment across a waterway or low drainage area.

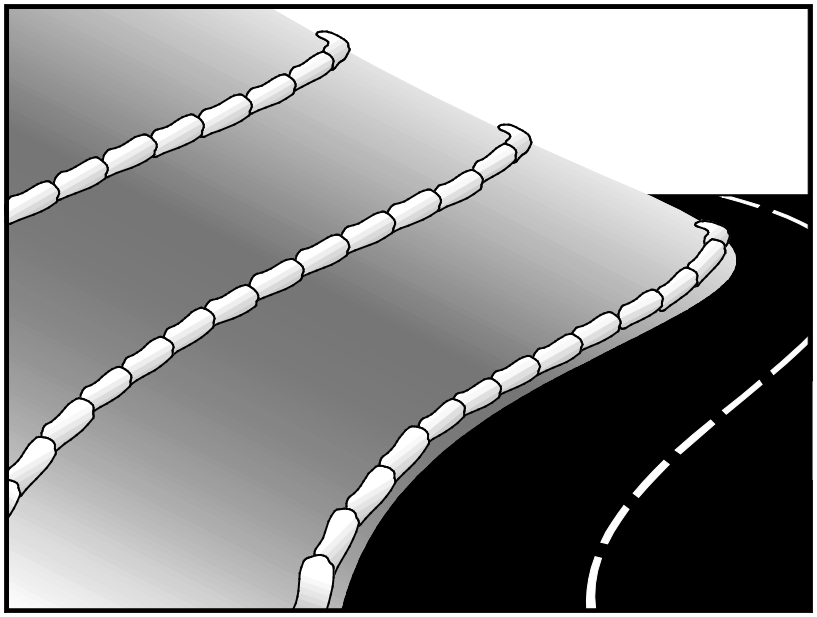
Trap design guidance provided in this fact sheet is not intended to guarantee compliance with numeric discharge limits (numeric action levels or numeric effluent limits for turbidity). Compliance with discharge limits requires a thoughtful approach to comprehensive BMP planning, implementation, and maintenance. Therefore, optimally designed and maintained sediment traps should be used in conjunction with a comprehensive system of BMPs.

Suitable Applications

Sediment traps should be considered for use:

- At the perimeter of the site at locations where sediment-laden runoff is discharged offsite.
- At multiple locations within the project site where sediment control is needed.
- Around or upslope from storm drain inlet protection measures.
- Sediment traps may be used on construction projects where the drainage area is less than 5 acres. Traps would be

Gravel Bag Berm SE-6



Description and Purpose

A gravel bag berm is a series of gravel-filled bags placed on a level contour to intercept sheet flows. Gravel bags pond sheet flow runoff, allowing sediment to settle out, and release runoff slowly as sheet flow, preventing erosion.

Suitable Applications

Gravel bag berms may be suitable:

- As a linear sediment control measure:
  - Below the toe of slopes and erodible slopes
  - As sediment traps at culvert/pipe outlets
  - Below other small cleared areas
  - Along the perimeter of a site
  - Down slope of exposed soil areas
  - Around temporary stockpiles and spoil areas
  - Parallel to a roadway to keep sediment off paved areas
  - Along streams and channels
- As a linear erosion control measure:
  - Along the face and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.

Categories

EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Roll

SE-8 Sandbag Barrier

SE-12 Temporary Silt Dike

SE-14 Biofilter Bags

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Street Sweeping and Vacuuming SE-7



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	☑
Metals	
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

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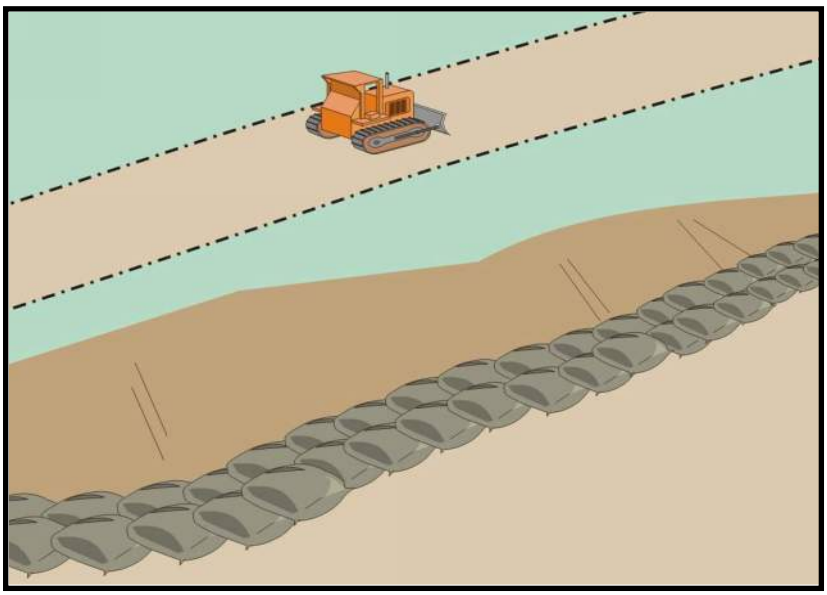
Sandbag Barrier SE-8



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

A sandbag barrier is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers placed on a level contour pond sheet flow runoff, allowing sediment to settle out.

Suitable Applications

Sandbag barriers may be a suitable control measure for the applications described below. It is important to consider that sand bags are less porous than gravel bags and ponding or flooding can occur behind the barrier. Also, sand is easily transported by runoff if bags are damaged or ruptured. The SWPPP Preparer should select the location of a sandbag barrier with respect to the potential for flooding, damage, and the ability to maintain the BMP.

- As a linear sediment control measure:
  - Below the toe of slopes and erodible slopes.
  - As sediment traps at culvert/pipe outlets.
  - Below other small cleared areas.
  - Along the perimeter of a site.
  - Down slope of exposed soil areas.
  - Around temporary stockpiles and spoil areas.
  - Parallel to a roadway to keep sediment off paved areas.
  - Along streams and channels.

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-12 Manufactured Linear Sediment Controls

SE-14 Biofilter Bags

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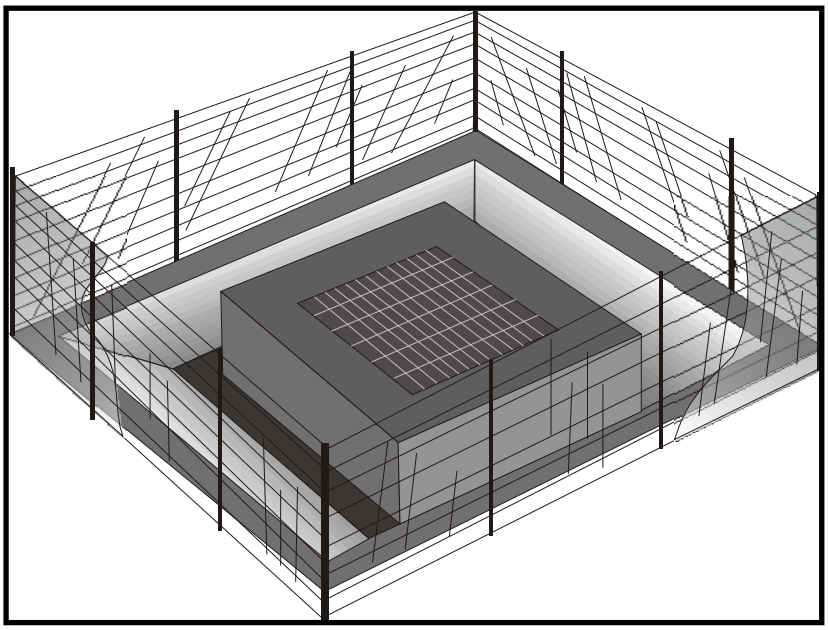
Storm Drain Inlet Protection SE-10



Description and Purpose

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

Suitable Applications

- Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Limitations

- Drainage area should not exceed 1 acre.
- In general straw bales should not be used as inlet protection.
- Requires an adequate area for water to pond without encroaching into portions of the roadway subject to traffic.
- Sediment removal may be inadequate to prevent sediment discharges in high flow conditions or if runoff is heavily sediment laden. If high flow conditions are expected, use

Categories

EC	Erosion Control	
SE	Sediment Control	☑
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	☒
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8 Sandbag Barrier

SE-14 Biofilter Bags

SE-13 Compost Socks and Berms

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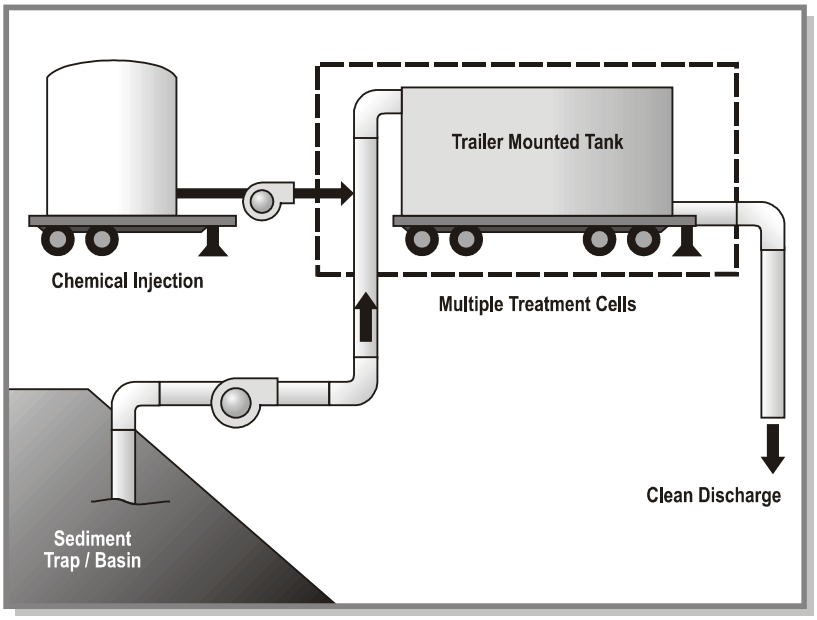
Active Treatment Systems SE-11



Categories

EC	Erosion Control	☑
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Active Treatment Systems (ATS) reduce turbidity of construction site runoff by introducing chemicals to stormwater through direct dosing or an electrical current to enhance flocculation, coagulation, and settling of the suspended sediment. Coagulants and flocculants are used to enhance settling and removal of suspended sediments and generally include inorganic salts and polymers (USACE, 2001). The increased flocculation aids in sedimentation and ability to remove fine suspended sediments, thus reducing stormwater runoff turbidity and improving water quality.

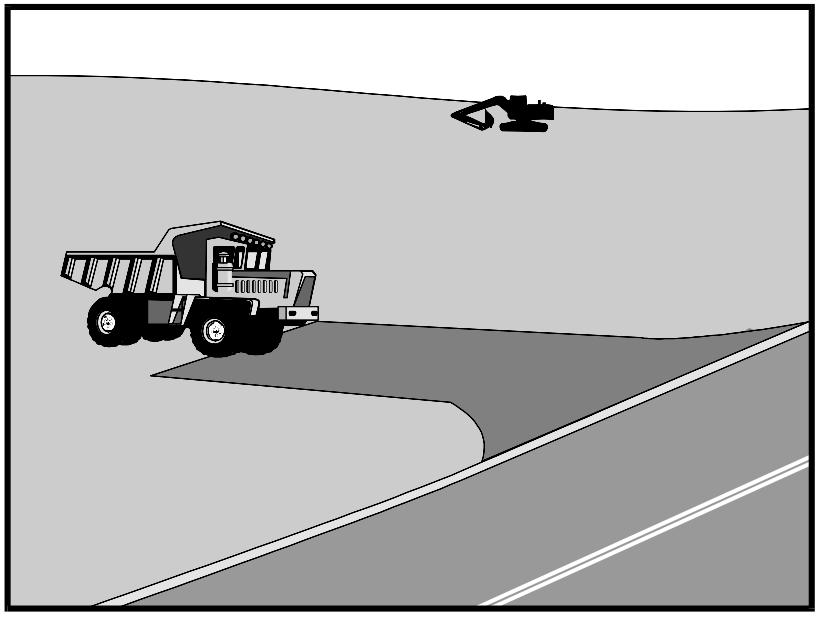
Suitable Applications

ATS can reliably provide exceptional reductions of turbidity and associated pollutants and should be considered where turbid discharges to sediment and turbidity sensitive waters cannot be avoided using traditional BMPs. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.

Limitations

Dischargers choosing to utilize chemical treatment in an ATS must follow all guidelines of the Construction General Permit Attachment F – Active Treatment System Requirements. General limitations are as follows:

Stabilized Construction Entrance/Exit TC-1



Categories		
EC	Erosion Control	☒
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water runoff.

Targeted Constituents	
Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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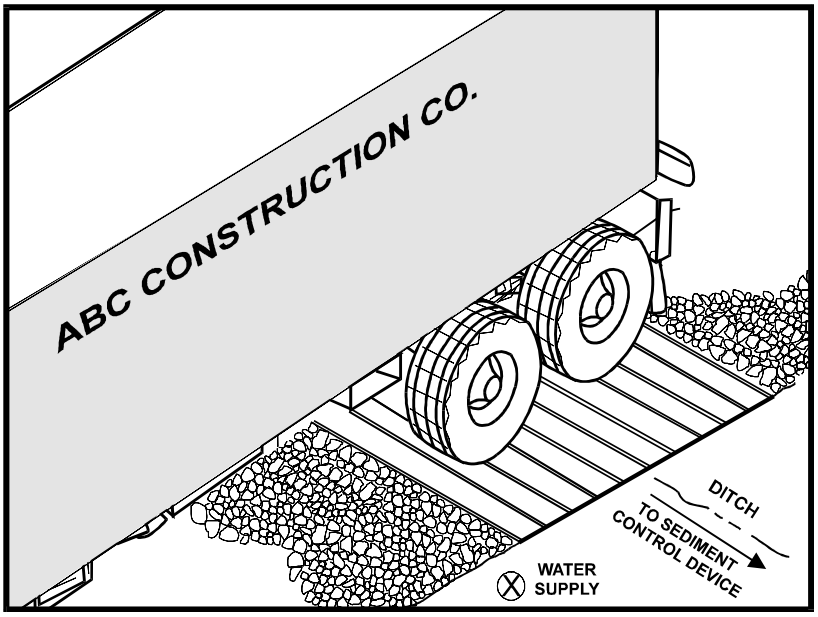
Entrance/Outlet Tire Wash TC-3



Description and Purpose

A tire wash is an area located at stabilized construction access points to remove sediment from tires and under carriages and to prevent sediment from being transported onto public roadways.

Suitable Applications

Tire washes may be used on construction sites where dirt and mud tracking onto public roads by construction vehicles may occur.

Limitations

- The tire wash requires a supply of wash water.
- A turnout or doublewide exit is required to avoid having entering vehicles drive through the wash area.
- Do not use where wet tire trucks leaving the site leave the road dangerously slick.

Implementation

- Incorporate with a stabilized construction entrance/exit. See TC-1, Stabilized Construction Entrance/Exit.
- Construct on level ground when possible, on a pad of coarse aggregate greater than 3 in. but smaller than 6 in. A geotextile fabric should be placed below the aggregate.
- Wash rack should be designed and constructed/manufactured for anticipated traffic loads.

Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	☑
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

TC-1 Stabilized Construction Entrance/Exit

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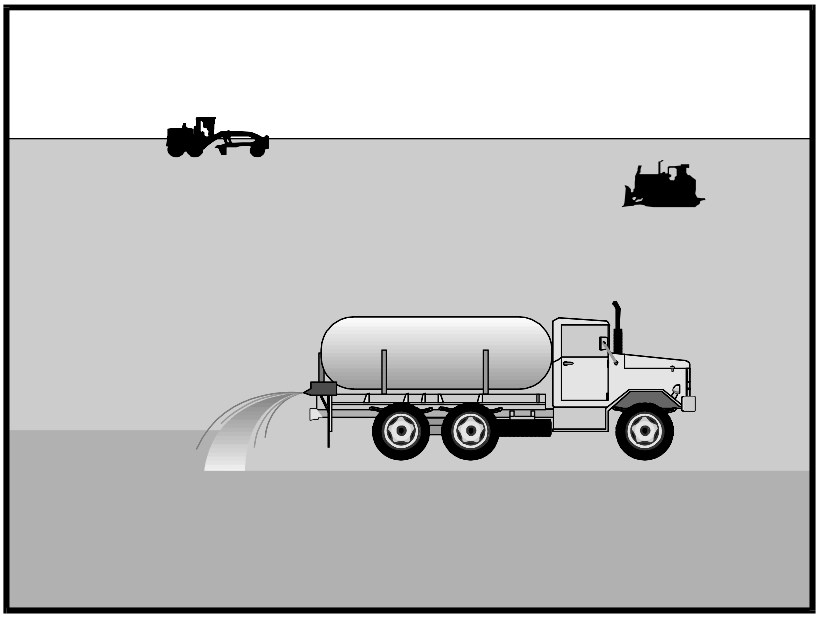
Wind Erosion Control WE-1



Categories

EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	☑
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

EC-5 Soil Binders

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Description and Purpose

Wind erosion or dust control consists of applying water or other chemical dust suppressants as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

California's Mediterranean climate, with a short "wet" season and a typically long, hot "dry" season, allows the soils to thoroughly dry out. During the dry season, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking and dust generated by construction equipment. Site conditions and climate can make dust control more of an erosion problem than water based erosion. Additionally, many local agencies, including Air Quality Management Districts, require dust control and/or dust control permits in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. Wind erosion control is required to be implemented at all construction sites greater than 1 acre by the General Permit.

Suitable Applications

Most BMPs that provide protection against water-based erosion will also protect against wind-based erosion and dust control requirements required by other agencies will generally meet wind erosion control requirements for water quality protection. Wind erosion control BMPs are suitable during the following construction activities:

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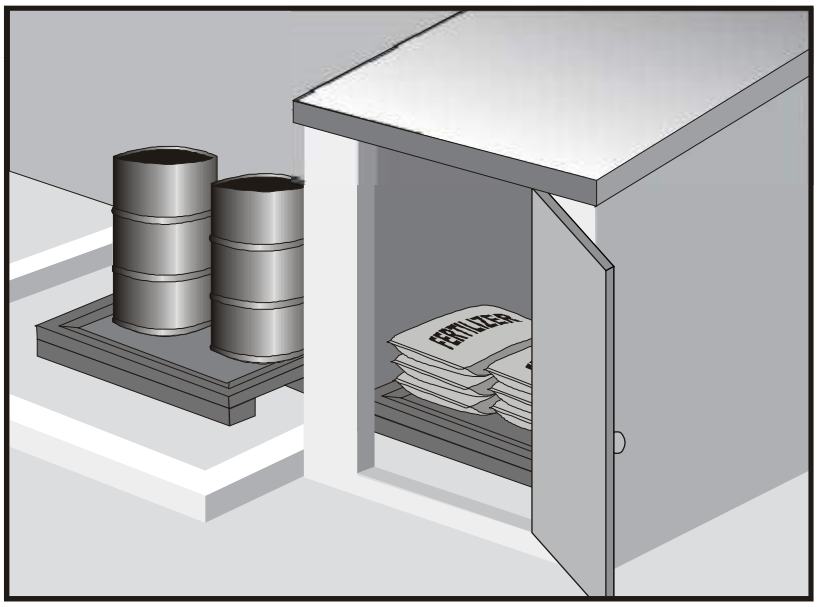
Material Delivery and Storage WM-1



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

Prevent, reduce, or eliminate the discharge of pollutants from material delivery and storage to the stormwater system or watercourses by minimizing the storage of hazardous materials onsite, storing materials in watertight containers and/or a completely enclosed designated area, installing secondary containment, conducting regular inspections, and training employees and subcontractors.

This best management practice covers only material delivery and storage. For other information on materials, see WM-2, Material Use, or WM-4, Spill Prevention and Control. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

These procedures are suitable for use at all construction sites with delivery and storage of the following materials:

- Soil stabilizers and binders
- Pesticides and herbicides
- Fertilizers
- Detergents
- Plaster
- Petroleum products such as fuel, oil, and grease

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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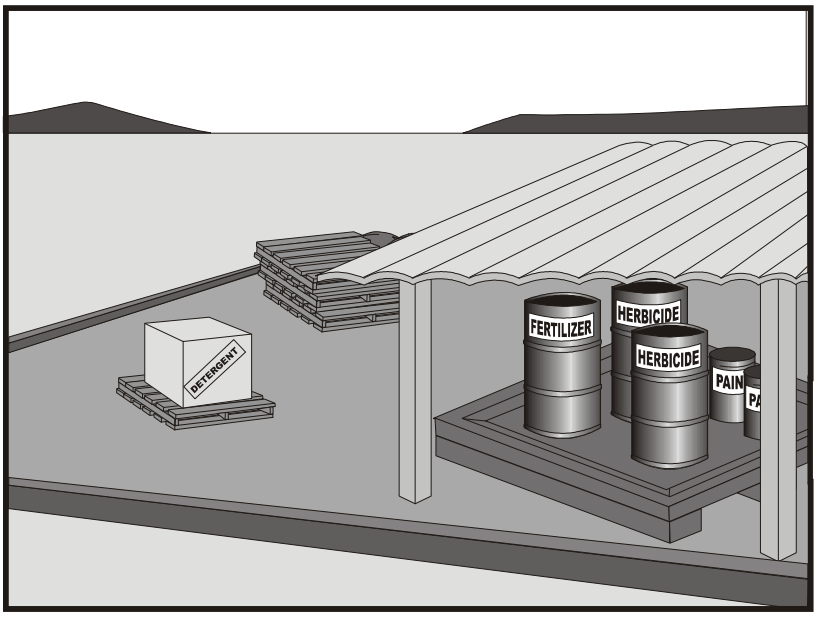
Material Use WM-2



Description and Purpose

Prevent or reduce the discharge of pollutants to the storm drain system or watercourses from material use by using alternative products, minimizing hazardous material use onsite, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for use at all construction projects. These procedures apply when the following materials are used or prepared onsite:

- Pesticides and herbicides
- Fertilizers
- Detergents
- Petroleum products such as fuel, oil, and grease
- Asphalt and other concrete components
- Other hazardous chemicals such as acids, lime, glues, adhesives, paints, solvents, and curing compounds
- Other materials that may be detrimental if released to the environment

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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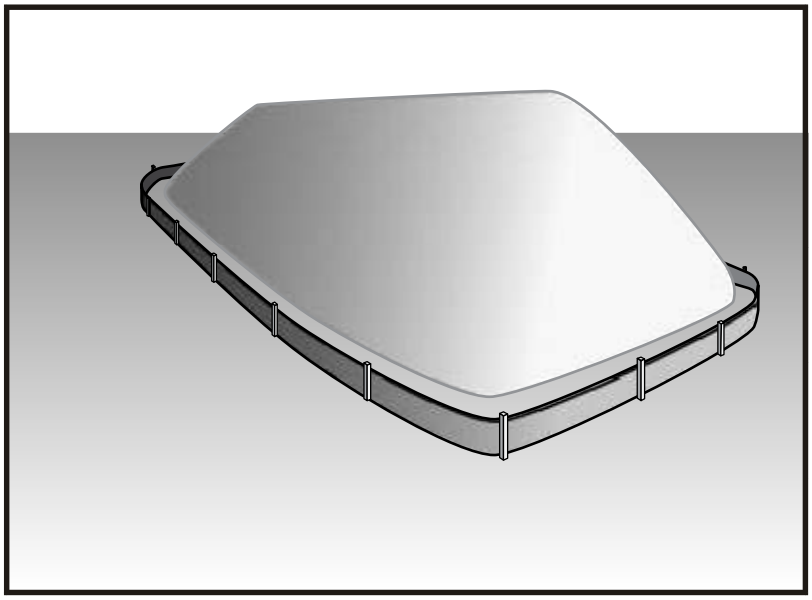
Stockpile Management WM-3



Categories		
EC	Erosion Control	
SE	Sediment Control	☒
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Description and Purpose

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

Suitable Applications

Implement in all projects that stockpile soil and other loose materials.

Limitations

- Plastic sheeting as a stockpile protection is temporary and hard to manage in windy conditions. Where plastic is used, consider use of plastic tarps with nylon reinforcement which may be more durable than standard sheeting.
- Plastic sheeting can increase runoff volume due to lack of infiltration and potentially cause perimeter control failure.
- Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

Implementation

Protection of stockpiles is a year-round requirement. To properly manage stockpiles:

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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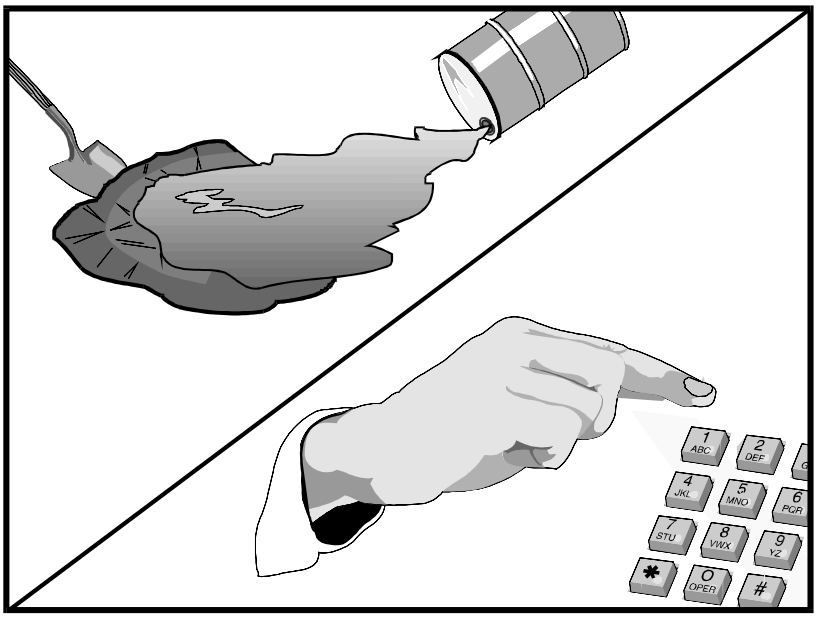
Spill Prevention and Control WM-4



Description and Purpose

Prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

This best management practice covers only spill prevention and control. However, WM-1, Materials Delivery and Storage, and WM-2, Material Use, also contain useful information, particularly on spill prevention. For information on wastes, see the waste management BMPs in this section.

Suitable Applications

This BMP is suitable for all construction projects. Spill control procedures are implemented anytime chemicals or hazardous substances are stored on the construction site, including the following materials:

- Soil stabilizers/binders
- Dust palliatives
- Herbicides
- Growth inhibitors
- Fertilizers
- Deicing/anti-icing chemicals

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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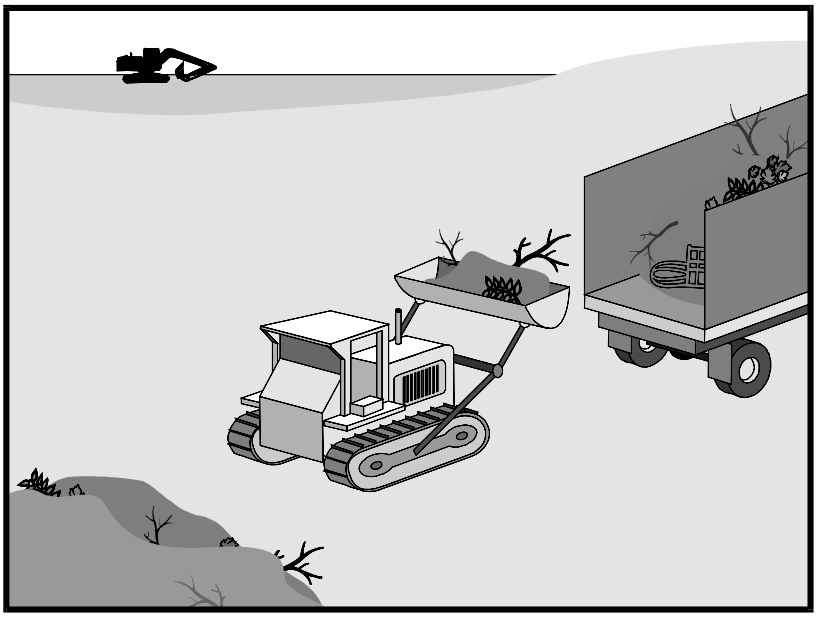
Solid Waste Management WM-5



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Targeted Constituents	
Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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Description and Purpose

Solid waste management procedures and practices are designed to prevent or reduce the discharge of pollutants to stormwater from solid or construction waste by providing designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.

Suitable Applications

This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction
- Packaging materials including wood, paper, and plastic
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces, and masonry products
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, styrofoam and other materials used to transport and package construction materials

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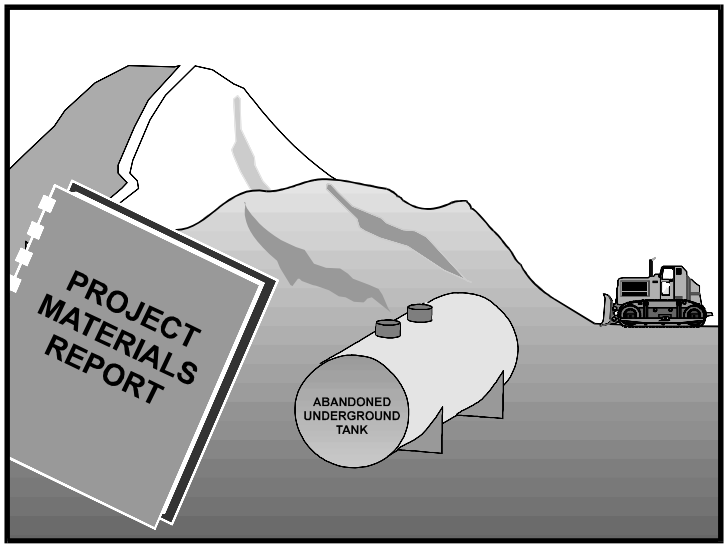
Contaminated Soil Management WM-7



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Objective**
☒ **Secondary Objective**

Description and Purpose

Prevent or reduce the discharge of pollutants to stormwater from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly.

Suitable Applications

Contaminated soil management is implemented on construction projects in highly urbanized or industrial areas where soil contamination may have occurred due to spills, illicit discharges, aerial deposition, past use and leaks from underground storage tanks.

Limitations

Contaminated soils that cannot be treated onsite must be disposed of offsite by a licensed hazardous waste hauler. The presence of contaminated soil may indicate contaminated water as well. See NS-2, Dewatering Operations, for more information.

The procedures and practices presented in this BMP are general. The contractor should identify appropriate practices and procedures for the specific contaminants known to exist or discovered onsite.

Implementation

Most owners and developers conduct pre-construction environmental assessments as a matter of routine. Contaminated soils are often identified during project planning and development with known locations identified in the plans, specifications and in the SWPPP. The contractor should review applicable reports and investigate appropriate call-outs in the

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	☑
Oil and Grease	☑
Organics	☑

Potential Alternatives

None

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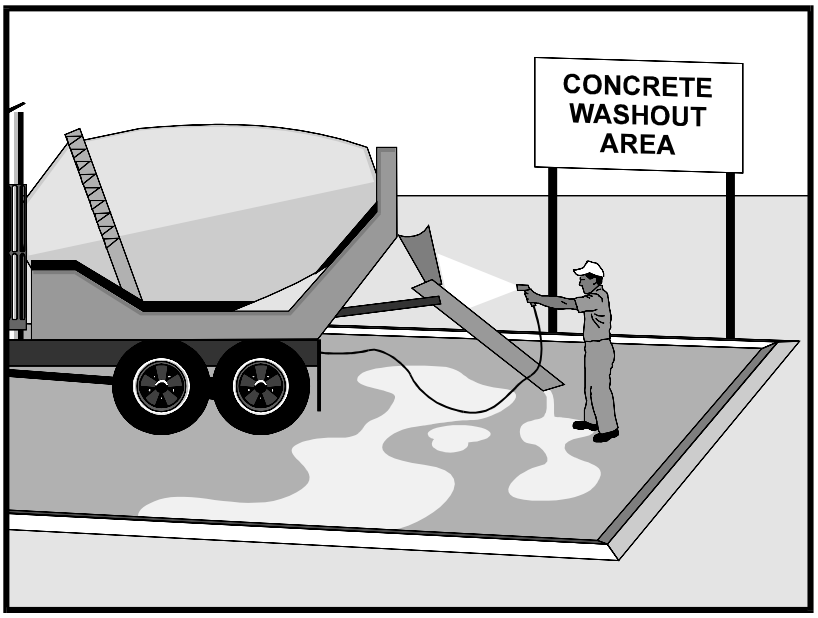
Concrete Waste Management WM-8



Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	☒
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Category**

☒ **Secondary Category**

Targeted Constituents

Sediment	☑
Nutrients	
Trash	
Metals	☑
Bacteria	
Oil and Grease	
Organics	

Potential Alternatives

None

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Description and Purpose

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Action Levels (NAL) for pH (see Section 2 of this handbook to determine your project's risk level and if you are subject to these requirements).

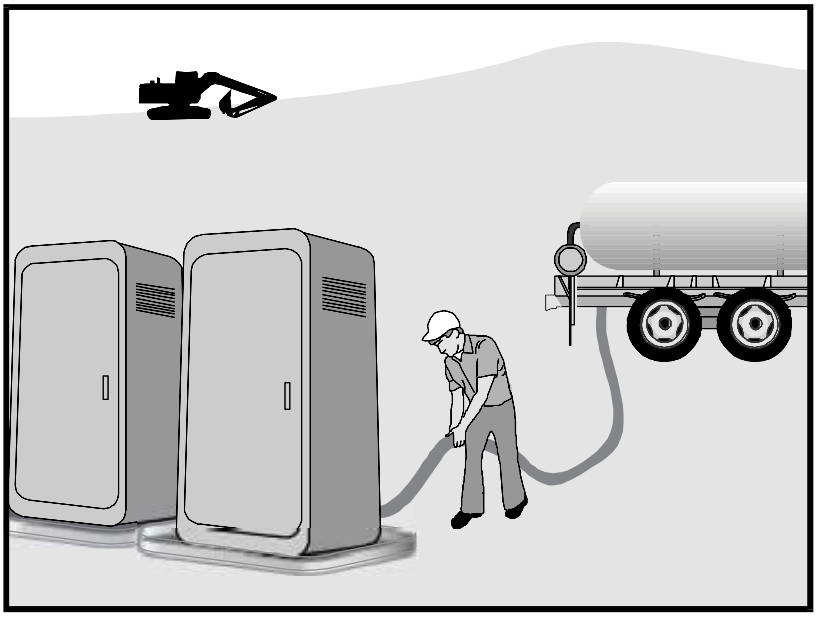
Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

Suitable Applications

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.
- Concrete trucks and other concrete-coated equipment are washed onsite.

Sanitary/Septic Waste Management WM-9



Categories		
EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:
☑ **Primary Category**
☒ **Secondary Category**

Targeted Constituents	
Sediment	
Nutrients	☑
Trash	☑
Metals	
Bacteria	☑
Oil and Grease	
Organics	☑

Potential Alternatives

None

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Description and Purpose

Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

Suitable Applications

Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.

Limitations

None identified.

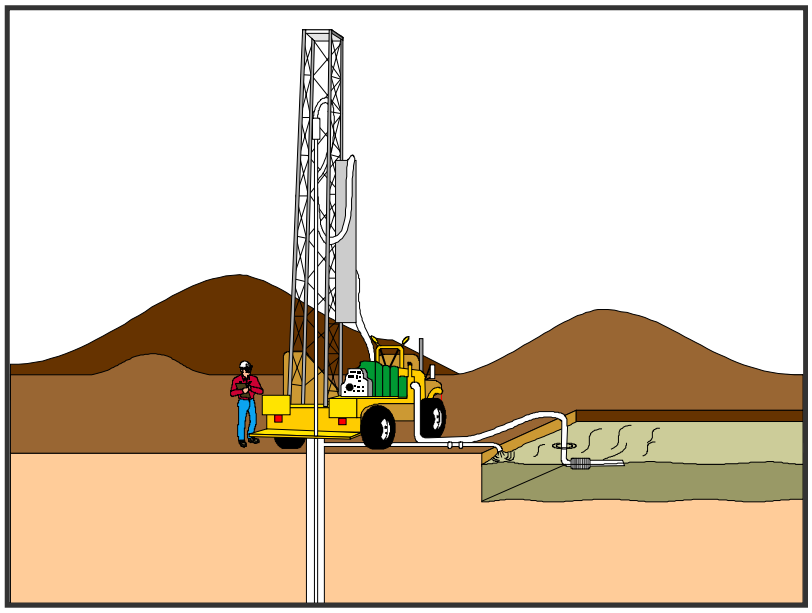
Implementation

Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements. In many cases, one contract with a local facility supplier will be all that it takes to make sure sanitary wastes are properly disposed.

Storage and Disposal Procedures

- Temporary sanitary facilities should be located away from drainage facilities, watercourses, and from traffic circulation. If site conditions allow, place portable facilities a minimum of 50 feet from drainage conveyances and traffic areas. When subjected to high winds or risk of high winds, temporary sanitary facilities should be secured to prevent overturning.

Liquid Waste Management WM-10



Description and Purpose

Liquid waste management includes procedures and practices to prevent discharge of pollutants to the storm drain system or to watercourses as a result of the creation, collection, and disposal of non-hazardous liquid wastes.

Suitable Applications

Liquid waste management is applicable to construction projects that generate any of the following non-hazardous by-products, residuals, or wastes:

- Drilling slurries and drilling fluids
- Grease-free and oil-free wastewater and rinse water
- Dredgings
- Other non-stormwater liquid discharges not permitted by separate permits

Limitations

- Disposal of some liquid wastes may be subject to specific laws and regulations or to requirements of other permits secured for the construction project (e.g., NPDES permits, Army Corps permits, Coastal Commission permits, etc.).
- Liquid waste management does not apply to dewatering operations (NS-2 Dewatering Operations), solid waste management (WM-5, Solid Waste Management), hazardous wastes (WM-6, Hazardous Waste Management), or

Categories

EC	Erosion Control	
SE	Sediment Control	
TC	Tracking Control	
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	☑

Legend:

☑ **Primary Objective**

☒ **Secondary Objective**

Targeted Constituents

Sediment	☑
Nutrients	☑
Trash	☑
Metals	☑
Bacteria	
Oil and Grease	☑
Organics	

Potential Alternatives

None

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APPENDIX I
Noise Technical Report

ESA

TIMES MIRROR SQUARE PROJECT

NOISE AND VIBRATION TECHNICAL REPORT

Prepared for
ONNI Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

March 2019

ESA

TIMES MIRROR SQUARE PROJECT

NOISE AND VIBRATION TECHNICAL REPORT

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March 2019

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
City	City of Los Angeles
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted dB scale
dBC	C-weighted dB scale
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Noise Level
Noise Element	City of Los Angeles General Plan Noise Element
PPV	peak particle velocity
TeNS	Caltrans Technical Noise Supplement

EXECUTIVE SUMMARY

The ONNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project), which would include construction and operation of two new, mixed-use towers, along with rehabilitation of three existing buildings, including an eight-story building (Times Building), a four-story building (Plant Building), and a 10-story building (Mirror Building), located within the Times Mirror Square site (Project Site). The Project Site comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway. The Project Site totals approximately 160,578 square feet (3.6 acres) of lot area.

The proposed rehabilitated buildings, the Times, Plant, and Mirror Buildings, which have a total existing floor area of approximately 376,105 square feet, are located in the east sector of the block aligned with S. Spring Street. The existing Executive Building at the corner of W. 1st Street and S. Broadway and the parking structure at the corner of W. 2nd Street and S. Broadway would be demolished to allow for the development of the Project towers. The North and South Towers, which would be constructed above a five-story parking podium (Podium). The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park.

The analysis describes the existing noise environment in the Project area, estimates future noise and vibration levels at surrounding land uses resulting from construction and operation of the Project, and identifies the potential for significant impacts. An evaluation of the Project's contribution to potential cumulative noise impacts is also provided. Noise worksheets and technical data used in this analysis are provided in the Appendices. The report summarizes the potential for the Project to conflict with applicable noise and vibration regulations, standards, and thresholds. The findings of the analyses are as follows:

- Project on-site construction activities would result in sporadic, and temporary noise increases adjacent to the Project area, which would exceed established thresholds. With implementation of the technically feasible mitigation measures, construction noise would be reduced but impacts would be significant and unavoidable.

- Project off-site construction traffic would result in sporadic, and temporary noise increases adjacent to the Project area, but would not exceed established thresholds during daytime hours. However, potential nighttime off-site construction traffic would exceed established thresholds during nighttime hours. There are no feasible mitigation measures; therefore, impacts would be significant and unavoidable.
- Project operational off-site traffic would increase noise levels at off-site noise-sensitive uses in the Project area. Increases in ambient noise levels due to operational traffic would not exceed the established thresholds. Operational traffic-related noise impacts would be less than significant.
- Project operational on-site stationary noise sources would not result in a substantial permanent increase in ambient noise levels in the project vicinity. The Project's noise impacts on existing development from operational on-site stationary noise sources would be less than significant, as well as, composite noise impacts would be less than significant.
- Project construction vibration impacts for potential structural damage to the on-site Times, Plant, and Mirror Buildings would be potentially significant and mitigation measures would be required. With implementation of construction vibration mitigation measures, on-site construction vibration impacts would be mitigated to less than significant. Project construction vibration impacts for potential structural damage to off-site buildings would be less than significant.
- Project construction vibration impacts for potential human annoyance would be potentially significant due to off-site truck traffic. There are no feasible mitigation measures and impacts would be significant and unavoidable.
- Project operation would not generate excessive vibration levels at nearby sensitive receptor locations. Thus, operational vibration impacts would be less than significant.
- Noise associated with cumulative construction activities would be reduced to the degree reasonably and technically feasible through proposed mitigation measures for each individual project and compliance with locally adopted and enforced noise ordinances. However, even with implementation of proposed design features and mitigation measures, if nearby cumulative projects were constructed concurrently with the Project, significant and unavoidable cumulative construction noise impacts could result at the nearby noise sensitive receptors. Furthermore, should Related Project No. 110 be constructed concurrently with the Project, this would result in a unique situation as it is a large project in very close proximity to the proposed Project. In this unique situation, construction truck traffic from the Project, Related Project No. 110, and other nearby related projects have the potential to exceed the ambient noise levels along S. Los Angeles Street in excess of standards. As such, cumulative daytime noise impacts from off-site construction are conservatively considered to be significant. Off-site construction noise impacts during the nighttime would be cumulatively considerable and cumulative off-site construction nighttime noise impacts would be cumulatively significant.

SECTION 1
Introduction

This report analyzes potential noise and vibration impacts that would result from the Times Mirror Square Project (Project). The analysis describes the existing noise environment in the vicinity of the Times Mirror Square site (Project Site), estimates future noise and vibration levels at surrounding sensitive land uses resulting from construction and operation of the Project, evaluates the potential for significant impacts, and provides mitigation measures to address any significant impacts. In addition, this section evaluates the potential cumulative noise and vibration impacts resulting from the Project together with related projects and other future growth. Noise calculation worksheets and technical data used in this analysis are provided in the Appendices at the end of this report. This report demonstrates that with implementation of mitigation measures, noise and vibration impacts associated with construction and operation of the Project would be less than significant.

1.1 Existing Conditions

The ONNI Group (the Applicant) proposes to develop the Times Mirror Square Project (Project) which would include construction of two new mixed-use residential and commercial towers along with rehabilitation of three existing buildings at 202 West 1st Street on an approximately 3.6- that comprises the city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway (Project Site).[1] The Project Site location is shown in **Figure 1**, *Vicinity Location Map.*

The Project Site is currently developed with five structurally distinct, but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to ten stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the ten-story Mirror Building, the six-story parking structure, and the six-story Executive Building. This includes approximately 541,113 square feet of commercial office uses across the four existing buildings, an approximately 7,500 square-foot bank in the Executive Building, an approximately 11,250 square-foot cafeteria in the Plant Building. Approximately 223,945 square feet, or 40 percent of the existing uses, are vacant office spaces that have been vacant for 10 years. GHG emissions are currently associated with vehicle trips to and from the existing Project Site (on-road mobile sources), on-site combustion of natural gas for heating and cooking, on-site combustion emissions from landscaping equipment (area source), off-site combustion of fossil fuels for electricity, and off-site emissions from solid waste decomposition, water conveyance, and wastewater treatment.

[1] The Project Site is zoned Commercial (C2-4D-SN), which permits general commercial and multi-family residential uses.

1.2 Project Description

The Project would demolish the Executive Building and parking structure and develop two high-rise mixed-use towers, the North Tower and South Tower that would replace these structures along the S. Broadway frontage, while the Times, Plant and Mirror Buildings would be renovated and preserved. The proposed Paseo would separate the existing Times, Plant, and Mirror Buildings from the new towers and intersect the Project Site between the W. 1st Street and W. 2nd Street sidewalks.

The North and South Towers, which would be constructed above a five-story parking podium (Podium). The North Tower would contain 450 residential units and the South Tower would contain 677 residential units, for a total of 1,127 residential units and approximately 34,572 square feet of commercial floor area. Total residential floor area within the two towers would be approximately 1,071,692 square feet. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 square feet. Open space amenities available to residents of the North and South Towers include an approximately 28,777-square-foot residential terrace (Residential Terrace) on the rooftop of the five-story Podium (Level 6). The Residential Terrace, which is located on the rooftop of the Podium between the North and South Towers, would be open to sky and provide approximately 7,700 square feet of landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and other amenities such as dining tables and fire-side seating. The Project would provide other amenities at the 6th floor level, as well as ground-floor lounges in each of the tower buildings. These amenity areas are expected to include a gym, club rooms, meeting rooms, film screening room, private dining, and potentially other common areas to serve residents.

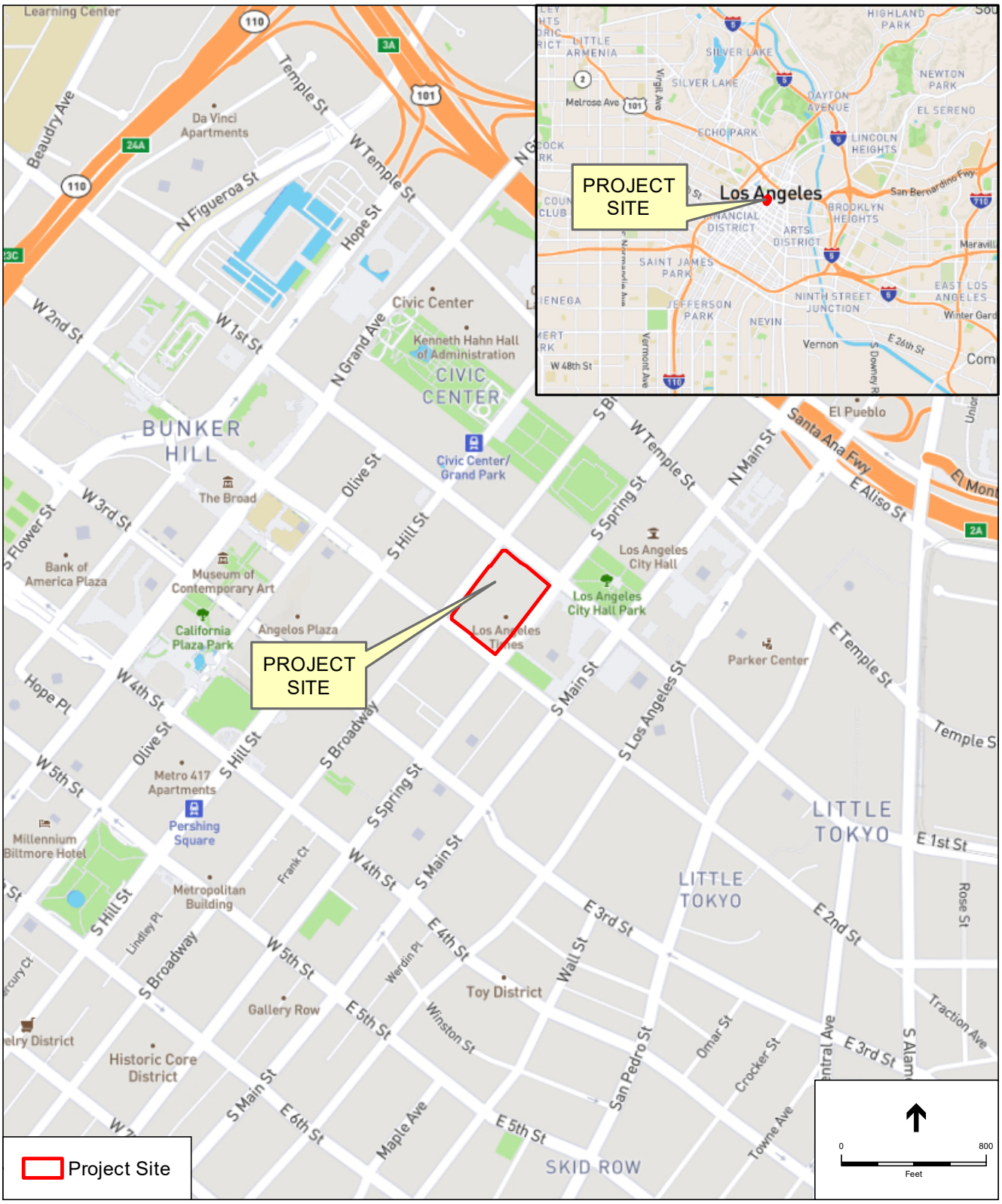
Approximately 73,128 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. Of the common open space, only the Paseo is available for public access. The remaining 57,420 square feet are provided as common use for the Project's residents. With the addition of approximately 56,349 square feet of private balconies, combined private and common open space would be approximately 129,477 square feet.

The Podium would be a five-story above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. The Project is designed for approximately 1,744 vehicle parking spaces in the five-level above-ground Podium and nine-level subterranean parking structure. The Project would also provide 1,240 bicycle parking spaces for the residential uses and 34 bicycle parking spaces for the commercial uses.

The existing buildings to remain approximately total 376,105 square feet. Under the Project, there would be approximately 307,288 square feet of commercial office uses, approximately 18,817 square feet of commercial restaurant uses, an approximately 50,000 square-foot grocery store, and an Office Terrace (Level 6 of the Plant Building). Although the total floor area of 376,105 square feet and the proportional mix of commercial uses would not change, the Project would allow flexibility in how the uses are allocated among the three existing buildings. The interiors of all three

historic buildings have been heavily altered over time. The two original and architecturally distinctive interior spaces, the lobbies of the Times Building and Mirror Building, would be preserved. The upper floors contain little if any historic fabric, as it was removed as a result of past structural improvements and office modernizations. The upper floors would be reconfigured for office tenants, if required. The exteriors of all three buildings would be cleaned and repaired as necessary. Overall, including the existing buildings to remain that total approximately 376,105 square feet, the Project would comprise approximately 1,511,908 square feet of floor area, resulting in a 9.42 FAR. The Project Site area and vicinity is provided in **Figure 2**, *Aerial Photograph of Project Site and Vicinity*.

Demolition activities on the subject property would include the removal of two of the five existing buildings. Approximately 35,000 tons of debris would be exported from the Project site. The Project would require the excavation of approximately 364,000 cubic yards of earth for the proposed nine levels of parking, four of which would be constructed above grade in the Podium and five of which would be constructed below grade.



SOURCE: Open Street Map, 2016.

Times Mirror Square

Figure 1

Vicinity Location Map

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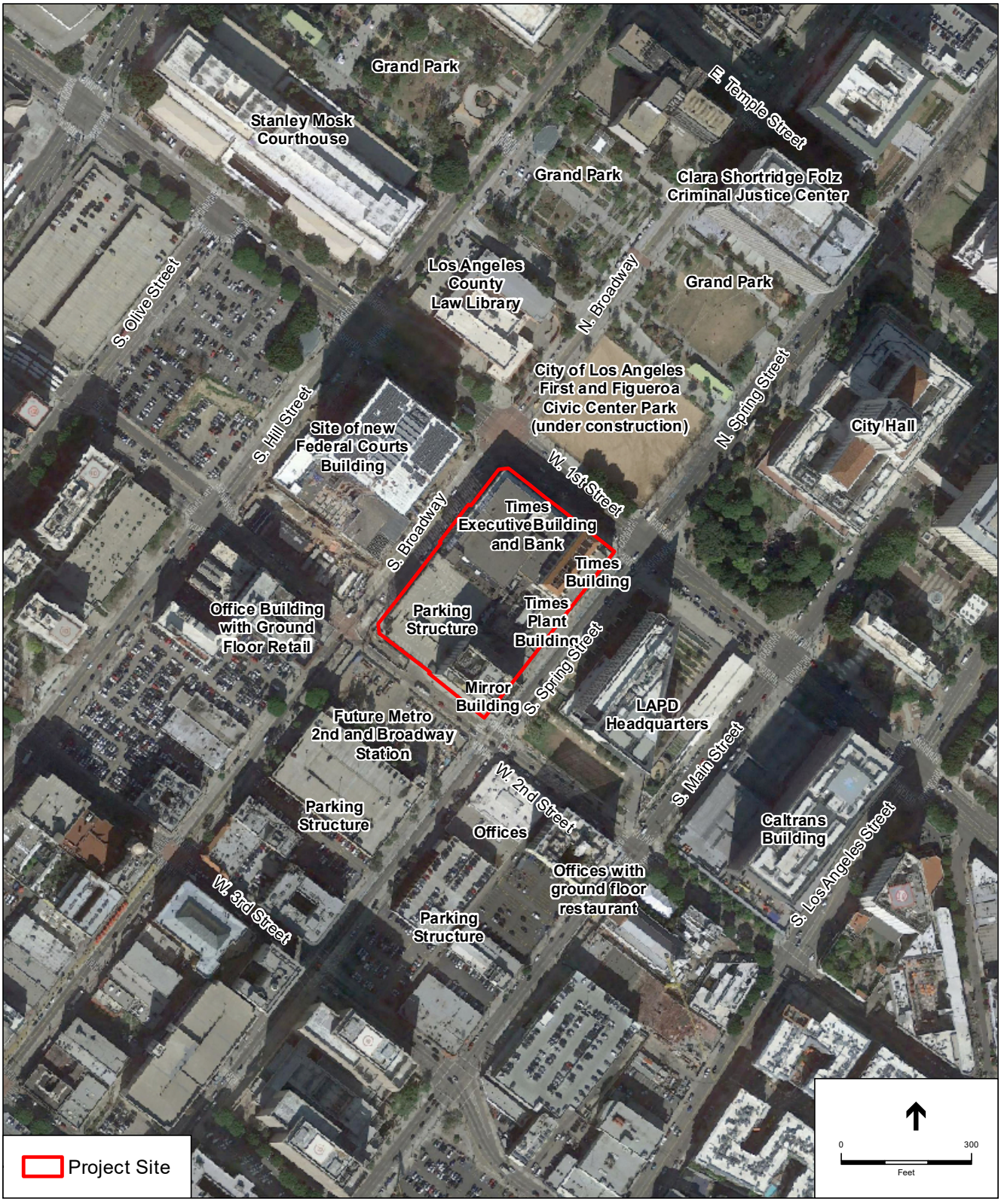


SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square

Figure 2

Aerial Photograph of Project Site and Vicinity

ESA

1.3 Environmental Setting

1.3.1 Noise and Vibration Basics

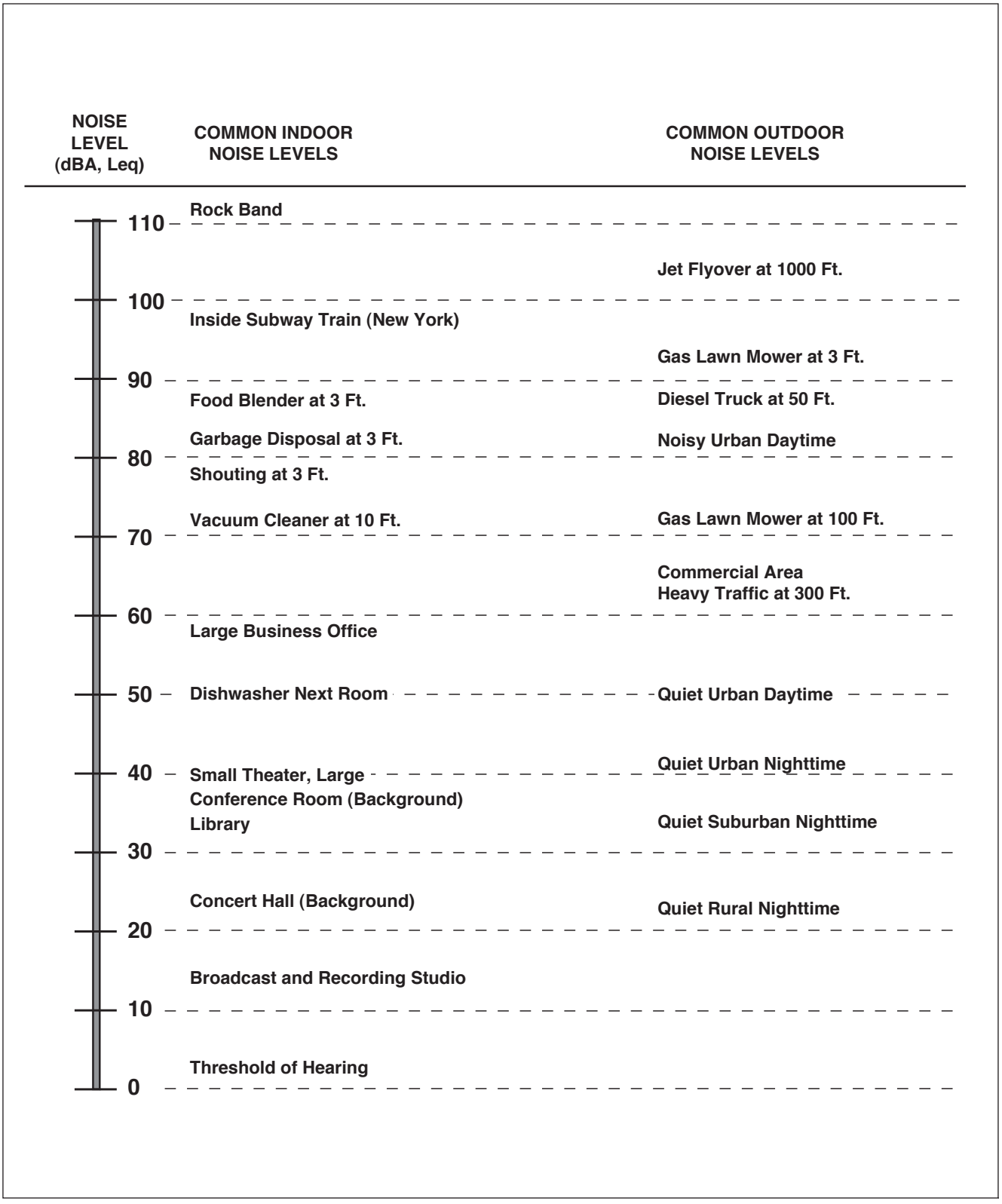
Noise Principals and Descriptors

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air). Noise is generally defined as unwanted sound (i.e., loud, unexpected, or annoying sound). Acoustics is defined as the physics of sound. In acoustics, the fundamental scientific model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. Acoustics addresses primarily the propagation and control of sound.[2]

Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the theoretical threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain. Pressure waves traveling through air exert a force registered by the human ear as sound.[3]

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The typical human ear is not equally sensitive to this frequency range. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to these extremely low and extremely high frequencies. This method of frequency filtering or weighting is referred to as A-weighting, expressed in units of A-weighted decibels (dBA), which is typically applied to community noise measurements.[4] Some representative common outdoor and indoor noise sources and their corresponding A-weighted noise levels are shown in **Figure 3**, *Decibel Scale and Common Noise Sources*.

2 M David Egan, Architectural Acoustics, Chapter 1, March, 1988.
3 M David Egan, Architectural Acoustics, Chapter 1.
4 M David Egan, Architectural Acoustics, Chapter 1.



SOURCE: Caltrans

Times Mirror Square

Figure 3

Decibel Scale and Common Noise Sources

ESA

Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time; a noise level is a measure of noise at a given instant in time, as presented in **Figure 3**. However, noise levels rarely persist at that level over a long period of time. Rather, community noise varies continuously over a period of time with respect to the sound sources contributing to the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with many of the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources, such as changes in traffic volume. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.[5]

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the noise exposure to be measured over periods of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. The following noise descriptors are used to characterize environmental noise levels over time, which are applicable to the Project.[6]

L_{eq}: The equivalent sound level over a specified period of time, typically, 1 hour ($L_{eq(1)}$). The L_{eq} may also be referred to as the average sound level.

L_{max}: The maximum, instantaneous noise level experienced during a given period of time.

L_{min}: The minimum, instantaneous noise level experienced during a given period of time.

L_x: The noise level exceeded a percentage of a specified time period. For instance, L_{50} and L_{90} represent the noise levels that are exceeded 50 percent and 90 percent of the time, respectively.

L_{dn}: The average A-weighted noise level during a 24-hour day, obtained after an addition of 10 dB to measured noise levels between the hours of 10:00 P.M. to 7:00 A.M. to account for nighttime noise sensitivity. The L_{dn} is also termed the day-night average noise level (DNL).

CNEL: The Community Noise Equivalent Level (CNEL) is the average A-weighted noise level during a 24-hour day that includes an addition of 5 dB to measured noise levels between the hours of 7:00 A.M. to 10:00 P.M. and an addition of 10 dB to noise levels between the hours of 10:00 P.M. to 7:00 A.M. to account for noise sensitivity in the evening and nighttime, respectively.

5 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.2.1, September, 2013.
6 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.2.2, September, 2013.

Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance);
- Interference effects (e.g., communication, sleep, and learning interference);
- Physiological effects (e.g., startle response); and
- Physical effects (e.g., hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Activities most affected by noise include rest, relaxation, recreation, study, and communications.[7]

With regard to the subjective effects, the individuals' responses to similar noise events are diverse and influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity. Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which a person has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur:[8]

- Except in carefully controlled laboratory experiments, a change of 1 dBA in ambient noise levels cannot be perceived.
- Outside of the laboratory, a 3 dBA change in ambient noise levels is considered to be a barely perceivable difference.
- A change in ambient noise levels of 5 dBA is considered to be a readily perceivable difference.
- A change in ambient noise levels of 10 dBA is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the dB scale. The human ear perceives sound in a non-linear fashion; therefore, the dBA scale was developed. Because the dBA scale is based on logarithms, two noise sources do not combine in a simple

7 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.4.2, September 2013.
8 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.1, September 2013.

additive fashion, but rather logarithmically. Under the dBA scale, a doubling of sound energy corresponds to a 3 dBA increase. In other words, when two sources are each producing sound of the same loudness, the resulting sound level at a given distance would be approximately 3 dBA higher than one of the sources under the same conditions. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA. Under the dB scale, three sources of equal loudness together produce a sound level of approximately 5 dBA louder than one source, and ten sources of equal loudness together produce a sound level of approximately 10 dBA louder than the single source.[9]

Noise Attenuation

When noise propagates over a distance, the noise level reduces with distance depending on the type of noise source and the propagation path. Noise from a localized source (i.e., point source) propagates uniformly outward in a spherical pattern, referred to as "spherical spreading." Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (i.e., reduce) at a rate between 6 dBA for acoustically "hard" sites and 7.5 dBA for "soft" sites for each doubling of distance from the reference measurement, as their energy is continuously spread out over a spherical surface (e.g., for hard surfaces, 80 dBA at 50 feet attenuates to 74 at 100 feet, 68 dBA at 200 feet, etc.). Hard sites are those with a reflective surface between the source and the receiver, such as asphalt or concrete surfaces or smooth bodies of water. No excess ground attenuation is assumed for hard sites and the reduction in noise levels with distance (drop-off rate) is simply the geometric spreading of the noise from the source. Soft sites have an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees, which in addition to geometric spreading, provides an excess ground attenuation value of 1.5 dBA (per doubling distance).[10]

Roadways and highways consist of several localized noise sources on a defined path, and hence are treated as "line" sources, which approximate the effect of several point sources. Noise from a line source propagates over a cylindrical surface, often referred to as "cylindrical spreading."[11] Line sources (e.g., traffic noise from vehicles) attenuate at a rate between 3 dBA for hard sites and 4.5 dBA for soft sites for each doubling of distance from the reference measurement.[12] Therefore, noise due to a line source attenuates less with distance than that of a point source with increased distance.

Additionally, receptors located downwind from a noise source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Atmospheric temperature inversion (i.e., increasing temperature with elevation) can increase sound levels at long distances (e.g., more than 500 feet). Other factors such as air temperature, humidity, and turbulence can also have significant effects on noise levels.[13]

9 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.2.1.1, September 2013.
10 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.2, September 2013.
11 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.1, September 2013
12 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.1, September 2013.
13 California Department of Transportation, *Technical Noise Supplement* (TeNS), Section 2.1.4.3, September 2013.

1.3.2 Foundations of Vibration

Vibration can be interpreted as energy transmitted in waves through the ground or man-made structures, which generally dissipate with distance from the vibration source. Because energy is lost during the transfer of energy from one particle to another, vibration becomes less perceptible with increasing distance from the source.

As described in the Federal Transit Administration's (FTA) *Transit Noise and Vibration Impact Assessment*, ground-borne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard.[14] In contrast to airborne noise, ground-borne vibration is not a common environmental problem, as it is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of ground-borne vibration are trains, heavy trucks traveling on rough roads, and construction activities, such as blasting, pile-driving, and operation of heavy earth-moving equipment.[15]

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal in inches per second (in/sec), and is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is defined as the average of the squared amplitude of the signal and is most frequently used to describe the effect of vibration on the human body. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. PPV is typically a factor of 1.7 to 6 times greater than RMS vibration velocity.[16] The decibel notation VdB acts to compress the range of numbers required to describe vibration. Typically, ground-borne vibration generated by man-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include buildings where vibration would interfere with operations within the building or cause damage (especially older masonry structures), locations where people sleep, and locations with vibration sensitive equipment.[17]

The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings.

14 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 7, 2018.

15 California Department of Transportation, *Transportation and Construction Vibration Guidance Manual*, p. 1, September 2013.

16 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 5.1, 2018.

17 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Section 6.1, 6.2, and 6.3, 2018.

1.4 Existing Conditions

1.4.1 Noise-Sensitive Receptors Locations

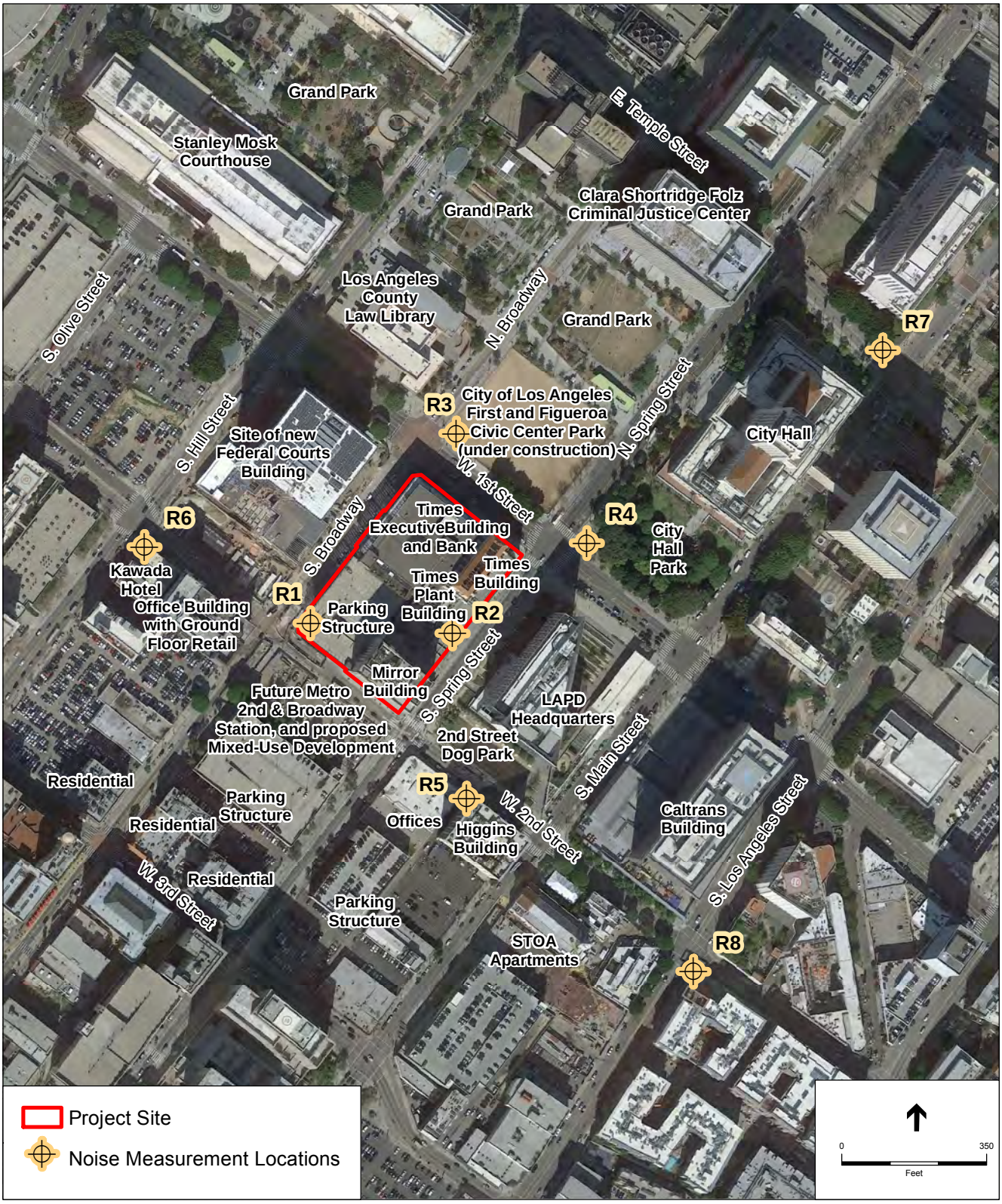
Some land uses are considered more sensitive to noise than others due to the types of activities typically involved at the receptor location, and the effect that noise can have on those activities and the persons engaged in them. The City of Los Angeles CEQA Thresholds Guide (*Thresholds Guide)* states that residences, transient lodgings, schools, libraries, churches, hospitals, nursing homes, auditoriums, concert halls, amphitheaters, playgrounds and parks are noise-sensitive land uses.[18] Therefore, the existing on-site office buildings are not considered as noise-sensitive uses. Existing noise-sensitive uses within 500 feet of the Project Site include the following, as shown in **Figure 4,** *Noise Measurement Locations and Surrounding Uses*:

- The Federal Courthouse, approximately 80 feet to the west of the Project Site;
- The Los Angeles County Law Library and Grand Park, approximately 180 feet and 434 feet to the north of the Project Site, respectively;
- The City Hall Park, approximately 150 feet to the northeast of the Project Site;
- The Higgins Building Lofts apartment complex at the corner of S. Main Street and West 2nd Street, approximately 250 feet southeast of the Project Site, and the one-acre park just south of the LAPD Headquarters Building, approximately 80 feet southeast of the Project Site;
- The Kawada Hotel, approximately 300 feet to the west of the Project Site along W. 2nd Street;
- The Douglas Lofts apartment complex at the corner of Spring Street and West 3rd Street, approximately 530 feet southwest of the Project Site;
- The Victor Clothing apartment complex on Broadway, approximately 480 feet to the southwest of the of the Project Site;
- The Pan American Lofts building, at the corner of Broadway and W. 3rd Street, approximately 550 feet southwest of the Project Site; and
- The STOA apartment complex, on S. Main Street approximately 550 feet southeast of the Project Site.

Future sensitive receptor locations (not yet built) include:

- A mixed-use residential development, planned for construction over the Metro station at the corner of 2nd Street and Broadway, approximately 50 feet southwest of the Project Site;
- The First and Broadway Civic Center Park planned for construction at the corner of 1st and Broadway, approximately 130 feet northwest of the Project Site; and

18 City of Los Angeles, 2006. L.A. CEQA Thresholds Guide, page I.1-3.



SOURCE: Google Maps, 2016 (Aerial).

Times Mirror Square

Figure 4

Noise Measurement Locations and Surrounding Uses

ESA

- The Etco Homes apartment complex, planned for construction on Astronaut E. S. Onizuka Street, approximately 1,300 feet southeast of the Project Site.

All other noise-sensitive uses regulated by the City of Los Angeles are located at greater distances from the Project Site, and therefore, would experience lower noise levels from the potential noise sources on the Project Site, due to the attenuation of noise with distance.

1.4.2 Vibration-Sensitive Receptor Locations

Typically, groundborne vibration generated by man-made activities (i.e., rail and roadway traffic, operation of mechanical equipment and typical construction equipment) diminishes rapidly with distance from the vibration source. With respect to potential structural damage, FTA considers four categories of buildings, as shown in Section 2 in **Table 3**, below. With respect to potential human annoyance, the FTA considers three land use categories for human annoyance, as shown in Section 2 in **Table 4**, below, and uses a screening distance of: 100 feet for highly vibration-sensitive buildings (e.g., hospitals with vibration sensitive equipment) (Category 1), and 50 feet for residential uses (Category 2) and schools (Category 3). When vibration-sensitive buildings are within these distances from a project site, vibration impact analysis is required.

Regarding potential structural damage impacts, there are no existing extremely vibration-susceptible buildings located within 150 feet of the Project Site. The Times, Plant, and Mirror Buildings are located on the Project Site within the area of potential building vibration impacts (within 50 feet) due to short-term Project construction and long-term Project operation. According to Section IV.C, *Cultural Resources*, of the Project's Draft Environmental Impact Report (EIR), the Times, Plant, and Mirror Buildings have a steel frame structural system and the walls are made of reinforced concrete.[19] Therefore, for potential structural damage due to vibration, the Times, Plant, and Mirror Buildings are considered in the FTA's *Transit Noise and Vibration Impact Assessment*, as Category I buildings for structural damage. The Federal Courthouse has a steel frame structural system,[20] and therefore, is also considered as a Category I building for structural damage

With respect to potential human annoyance impacts, FTA's *Transit Noise and Vibration Impact Assessment* identifies residential and institutional buildings as vibration sensitive receptors. Therefore, the Federal Courthouse and Los Angeles County Law Library buildings nearby the Project Site would be considered as vibration sensitive receptors for human annoyance.

The closest future vibration sensitive receptor for potential structural damage and human annoyance is a mixed-use residential development planned at the corner of 2nd Street and Broadway, approximately 50 feet southwest of the Project Site. All other vibration-sensitive uses

[19] GPA Consulting, Times Mirror Square, Los Angeles, California – Historic Resource Technical Report, pages 13, 16, and 18, 2018. Provided in Appendix D-1 of the Project's Draft EIR.

[20] Curbed Los Angeles, Judges are moving into LA's shiny new federal courthouse, https://la.curbed.com/2016/9/14/12905838/new-federal-courthouse-downtown-los-angeles. Accessed December 2018.

are located at distances greater than 50 feet from the Project Site; and therefore, would experience lower vibration levels associated with the Project.

1.4.3 Ambient Noise Levels

The predominant existing noise source surrounding the Project Site is vehicle traffic, including buses and trucks, traveling on the roadways adjacent to the Project Site (W. 1st Street to the north, W. 2nd Street to the south, and Broadway to the west, Spring Street to the east) and on other roadways in the Project vicinity. Secondary noise sources include general commercial-related activities, such as, loading dock/delivery truck activities, trash compaction, and refuse service activities. Other existing noise sources would include occasional outdoor gatherings or events at or near City Hall or at nearby parks.[21]

To establish ambient noise levels, ambient noise measurements were conducted at eight locations, representing the nearby land uses in the vicinity of the Project Site. The measurement locations and existing development are shown on **Figure 4**.

The ambient noise measurements were conducted using the Larson-Davis 820 Precision Integrated Sound Level Meter ("SLM"). The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The SLM microphone was placed at a height of 5 feet above the local grade, at the following locations, as shown in **Figure 4**:

- R1: the northeast corner of Broadway and 2nd Street, which represents the existing noise environment of the west corner the Project Site and the Federal Courthouse and Future Mixed-Use Residential Development at the corner of 2nd Street and Broadway.

- R2: the southeastern boundary of the Los Angeles Times Building along Spring Street, which represents the existing noise environment of the Los Angeles Times Building.

- R3: the southeast corner of Broadway and 1st Street, which represents the existing noise environment of the Los Angeles County Law Library and the future First and Broadway Civic Center Park at the corner of Broadway and 1st Street north of the Project Site.

- R4: the southwest corner of the park at Spring Street and 1st Street, which represents the existing noise environment of the City Hall Park at the corner of Spring Street and 1st Street, east of the Project Site.

- R5: along south side of 2nd Street, midway between Main Street and Spring Street, which represents the existing noise environment of the Higgins Building Lofts apartment complex at

[21] Metro station construction was not occurring during the ambient noise measurements. The Metro station construction area was fenced off and marked, but no construction activities were observed. The Project would be under construction at the same time as the Metro station (at least until 2021). However, construction noise would be intermittent, temporary, and would cease at the end of the construction phase. Furthermore, not including Metro station construction noise as part of the existing ambient noise environment is a more conservative approach for assessing potential Project impacts because it results in lower significance thresholds as the thresholds are based on noise increases above ambient conditions. Therefore, Metro station construction noise shall not be considered as part of the existing ambient noise environment for Project impact analysis purposes. However, with respect to potential cumulative construction noise impacts, Metro station construction noise is included in the cumulative impacts analysis for the Project and is discussed in Section 6), Cumulative Impacts.

the corner of S. Main Street and West 2nd Street and the one-acre park just south of the LAPD Headquarters Building.

- R6: near the southeast corner of Hill Street and 2nd Street, which represents the existing noise environment of the Kawada Hotel on 2nd Street between Hill Street and Broadway, west of the Project Site.

- R7: at the northwest corner of intersection of E. Temple Street and S. Main Street, which represents the existing noise environment along the Project's haul route on Main Street.

- R8: at the southeast corner of the intersection of W. 2nd Street and S. Los Angeles Street, which the existing noise environment along the Project's haul route on Los Angeles Street.

To characterize the existing noise environment in the Project vicinity, long-term (24-hour) noise measurements were conducted at locations R1 and R2, and short-term (15-minute) daytime and nighttime noise measurements were conducted at locations R3 through R8. The long-term measurements were conducted from 11:00 A.M. on Tuesday, August 8, to 11:00 A.M. on Wednesday, August 9, 2017. The short-term daytime measurements were conducted between 11:00 A.M. and 1:00 P.M. on Wednesday, August 9, 2017, and at 2:00 p.m. on Monday, October 8, 2018. Short-term nighttime measurements were conducted between 10:00 P.M. and 12:00 A.M. on Monday, October 8, 2018. A summary of noise measurement results is provided in **Table 1**, *Summary of Ambient Noise Measurements*. As shown in **Table 1**, daytime hourly average noise levels ranged from approximately 60.3 dBA to 72.8 dBA, L_{eq}, and nighttime hourly average noise levels ranged from approximately 54.1 dBA to 67.1 dBA, L_{eq}.

TABLE 1
SUMMARY OF AMBIENT NOISE MEASUREMENTS

	Measured Ambient Noise Levels,[a] (dBA)			
Location, Duration, Existing Land Uses and, Date of Measurements	**Daytime (7 A.M. to 10 P.M.) Hourly L_{eq}**	**Daytime Average Hourly L_{eq}**	**Nighttime (10 P.M. to 7 A.M.) Hourly L_{eq}**	**Nighttime Average Hourly L_{eq}**
R1 8/8/17 11:00 A.M. to 8/9/17 10:45 A.M.	65.4-71.8	67.7	60.4-67.1	63.8
R2 8/8/17 10:43 A.M. to 8/9/17 10:55 A.M.	60.3-66.9	64.9	56.7-65.1	60.7
R3 8/9/17 10:32 A.M. to 10:47 A.M.	72.8	N/A	N/A	N/A
R4 8/9/17 11:48 A.M. to 12:03 P.M.; 10/8/18 10:04 p.m. to 10:19 p.m.	68.5	N/A	62.7	N/A
R5 8/9/17 12:08 P.M. to 12:23 P.M.; 10/8/18 10:50 P.M. to 11:05 P.M.	65.0	N/A	63.4	N/A

Location, Duration, Existing Land Uses and, Date of Measurements	Measured Ambient Noise Levels,[a] (dBA) Daytime (7 A.M. to 10 P.M.) Hourly L_{eq}	Daytime Average Hourly L_{eq}	Nighttime (10 P.M. to 7 A.M.) Hourly L_{eq}	Nighttime Average Hourly L_{eq}
R6 8/9/17 11:11 A.M. to 11:26 A.M.; 10/8/18 10:27 p.m. to 10:42 p.m.	66.3	N/A	54.1	N/A
R7 10/8/18 1:48 P.M. to 2:03 P.M. 10/8/18 11:37 P.M. to 11:52 P.M.	72.6	N/A	61.2	N/A
R8 10/9/18 1:57 P.M. to 2:12 P.M. 10/8/18 11:12 P.M. to 11:27 P.M.	69.8	N/A	56.8	N/A

[a] Detailed measured noise data, including hourly Leq levels, are included in Appendix I-1 of this report.

SOURCE: ESA, 2017,2018.

Existing Roadway Noise Levels

Existing roadway noise levels were calculated for 47 roadway segments located in the vicinity of the Project Site. The roadway segments selected for analysis includes the roadways that are located near and immediately adjacent to the Project Site. These roadways, when compared to roadways located further away from the Project Site, would experience the greatest percentage increase in traffic generated by the Project (as distances are increased from the Project Site, traffic is spread out over a greater geographic area and its effects are reduced).

Existing roadway noise levels were calculated using the Federal Highway Administration's (FHWA's) Traffic Noise Model (TNM) and traffic volumes on roadway segments analyzed in the Project's traffic study prepared by Fehr & Peers, provided in Appendix L of the Project's Draft EIR.[22] The model calculates the average noise level at specific locations based on traffic volumes, average speeds, and site environmental conditions. The average daily noise levels at these roadway intersections are presented in **Table 2**, *Existing Roadway Noise Levels*. As shown in **Table 2**, the ambient noise environment of the project vicinity can be characterized by 24-hour CNEL levels attributable to existing traffic on local roadways. As indicated in **Table 2**, the calculated CNEL from actual existing traffic volumes on the analyzed roadway segments ranged from 66.0 dBA to 71.2 dBA CNEL for residential areas, parks, lodging, concert halls, and commercial uses.

Existing Groundborne Vibration Levels

Aside from periodic construction work occurring throughout the city, field observations noted that sources of groundborne vibration in the Project Site vicinity would be limited to heavy-duty vehicular travel (refuse trucks, delivery trucks, etc.) on local roadways. Trucks traveling at a

[22] Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

distance of 50 feet typically generate groundborne vibration velocity levels of 63 VdB (approximately 0.006 in/sec PPV).[23]

TABLE 2
EXISTING ROADWAY NOISE LEVELS

Roadway Segments	Existing Land Uses Located Along Roadway intersections	dBA CNEL[a]
W. Sunset Boulevard/E. Cesar Chavez Avenue		
West of N. Figueroa Street	Residential/Commercial	70.6
East of N. Figueroa Street	Residential/Commercial	70.4
W. Aliso Street		
Between Broadway and N. Spring Street	Commercial	66.0
W. Temple Street		
Between N. Hill Street and N. Broadway	Federal Courthouse/Commercial	70.2
Between N. Broadway and N. Spring Street	Federal Courthouse	70.0
Between N. Spring Street and N. Main Street	Federal Courthouse/Commercial	70.1
W. 1st Street		
Between S. Grand Avenue and S. Olive Street	Federal Courthouse/Commercial	70.9
Between S. Olive Street and S. Hill Street	Federal Courthouse/Park/Commercial	70.4
Between S. Hill Street and S. Broadway	Federal Courthouse/Library	70.3
Between S. Broadway and S. Spring Street	Commercial	70.4
Between S. Spring Street and S. Main Street	Commercial/Park	69.4
Between S. Main Street and S. Los Angeles Street	Commercial	70.1
W. 2nd Street		
Between S. Beaudry Avenue and S. Figueroa Street	Residential/Commercial	68.0
Between S. Figueroa Street and S. Hill Street	Residential/Commercial	66.8
Between S. Hill Street and S. Broadway	Commercial/Concert Halls	67.3
Between S. Broadway and S. Spring Street	School/Commercial	67.7
Between S. Spring Street and S. Main Street	Commercial	67.0
Between S. Main Street and S. Los Angeles Street	Hotel/Commercial	66.9
W. 3rd Street		
Between S. Figueroa Street and S. Hill Street	Residential/hotel/Commercial	71.2
Between S. Hill Street and S. Broadway	Residential/Commercial	69.1
Between S. Broadway and S. Spring Street	Residential/Commercial	68.6
Between S. Spring Street and S. Main Street	Commercial	69.4
W. 4th Street		
Between S. Broadway and S. Spring Street	Commercial	68.6
S. Beaudry Avenue		
North of W. 2nd Street	Commercial	69.8
South of W. 2nd Street	Commercial	70.5
N./S. Figueroa Street		
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	Residential/Commercial	70.9
Between W. 2nd Street and W. 3rd Street	Commercial	70.9
N./S. Grand Avenue		
North of W. 1st Street	Commercial	70.1

[23] Federal Transit Authority, Transit Noise and Vibration Impact Assessment, Figure 5-4, 2018.

Roadway Segments	Existing Land Uses Located Along Roadway intersections	dBA CNEL[a]
South of W. 1st Street	Commercial/Concert Halls	69.3
S. Olive Street		
South of W. 1st Street	Commercial/Concert Halls	67.4
N./S. Hill Street		
Between W. Temple Street and W. 1st Street	Federal Courthouse/Park	70.1
Between W. 1st Street and W. 2nd Street	Federal Courthouse/Park/Commercial	69.3
Between W. 2nd Street and W. 3rd Street	Hotel/Commercial	69.7
N./S. Broadway		
Between W. Aliso Street and W. Temple Street	Federal Courthouse/Commercial	69.4
Between W. Temple Street and W. 1st Street	Federal Courthouse/Library/Park	68.7
Between W. 1st Street and W. 2nd Street	Federal Courthouse/Commercial	67.5
Between W. 2nd Street and W. 3rd Street	Commercial	67.9
Between W. 3rd Street and W. 4th Street	Park/Commercial	67.7
N./S. Spring Street		
Between W. Aliso Street and W. Temple Street	Federal Courthouse	69.0
Between W. Temple Street and W. 1st Street	Federal Courthouse/Park	68.5
Between W. 1st Street and W. 2nd Street	Commercial	68.2
Between W. 2nd Street and W. 3rd Street	Residential/Commercial	69.5
Between W. 3rd Street and W. 4th Street	Commercial	68.1
N./S. Main Street		
Between W. Temple Street and W. 1st Street	Federal Courthouse/Park/Commercial	70.2
Between W. 1st Street and W. 2nd Street	Commercial	69.5
Between W. 2nd Street and W. 3rd Street	Commercial	69.4
S. Los Angeles Street		
Between W. 1st Street and W. 2nd Street	Hotel/Commercial	68.8

[a] Based on noise levels at the property lines of land uses along roadways.

SOURCE: ESA, 2018

SECTION 2
Regulatory Setting

2.1 Federal

Under the authority of the Noise Control Act of 1972, the United States Environmental Protection Agency (USEPA) established noise emission criteria and testing methods published in Parts 201 through 205 of Title 40 of the Code of Federal Regulations (CFR) that apply to some transportation equipment (e.g., interstate rail carriers, medium trucks, and heavy trucks) and construction equipment. In 1974, USEPA issued guidance levels for the protection of public health and welfare in residential land use areas[24] of an outdoor L_{dn} of 55 dBA and an indoor L_{dn} of 45 dBA. These guidance levels are not considered as standards or regulations and were developed without consideration of technical or economic feasibility. There are no federal noise standards that directly regulate environmental noise related to the construction or operation of the proposed Project.

Under the Occupational Safety and Health Act of 1970 (29 U.S.C. §1919 et seq.), the Occupational Safety and Health Administration (OSHA) has adopted regulations designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, ensuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

Federal Vibration Guidelines

FTA has adopted vibration criteria that are used to evaluate potential structural damage to buildings by building category from construction activities. The vibration damage criteria adopted by FTA are shown in **Table 3,** *Construction Vibration Damage Criteria***.**

TABLE 3
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced-concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

SOURCE: FTA, Transit Noise and Vibration Impact Assessment. 2018.

[24] United States Environmental Protection Agency, EPA Identifies Noise Levels Affecting Health and Welfare, April 1974.

FTA has also adopted vibration criteria associated with the potential for human annoyance from groundborne vibration for the following three land-use categories: Category 1 – High Sensitivity, Category 2 – Residential, and Category 3 – Institutional. FTA defines Category 1 as buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes. Category 2 refers to all residential land uses and any buildings where people sleep, such as hotels and hospitals. Category 3 refers to institutional land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but still have the potential for activity interference. The vibration criteria associated with human annoyance for these three land-use categories are shown in **Table 4**, *Groundborne Vibration Impact Criteria for General Assessment*. No vibration criteria have been adopted or recommended by FTA for commercial and office uses.

TABLE 4
GROUNDBORNE VIBRATION IMPACT CRITERIA FOR GENERAL ASSESSMENT

Land Use Category	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations.	65 VdB[d]	65 VdB[d]	65 VdB[d]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

[a] "Frequent Events" is defined as more than 70 vibration events of the same source per day.
[b] "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.
[c] "Infrequent Events" is defined as fewer than 30 vibration events of the same kind per day.
[d] This criterion is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes.

SOURCE: FTA, Transit Noise and Vibration Impact Assessment. 2018.

2.2 State

2.2.1 California Noise Standards

The State of California does not have statewide standards for environmental noise, but the Governor's Office of Planning and Research (OPR) has established general plan guidelines for evaluating the compatibility of various land uses as a function of community noise exposure, as presented in **Figure 5**, *Guidelines for Noise Compatible Land Use*. [25] The purpose of these guidelines is to maintain acceptable noise levels in a community setting for different land use types. Noise compatibility by different land uses types is categorized into 4 general levels: "normally acceptable," "conditionally acceptable," "normally unacceptable," and "clearly unacceptable." For instance, a noise environment ranging from 50 dBA CNEL to 65 dBA CNEL is considered to be "normally acceptable" for multi-family residential uses, while a noise environment of 75 dBA

[25] State of California, General Plan Guidelines, Governor's Office of Planning and Research, 2003.

CNEL or above for multi-family residential uses is considered to be "clearly unacceptable." In addition, California Government Code Section 65302(f) requires each County and City in the state to prepare and adopt a comprehensive long-range General Plan for its physical development, with Section 65302(g) requiring a noise element to be included in the General Plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

The State of California has also established noise insulation standards for new multi-family residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dBA CNEL in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

2.3 Local

2.3.1 City of Los Angeles General Plan, Noise Element

The Noise Element of the City's General Plan establishes CNEL guidelines for land use compatibility as shown in **Table 5** and includes a number of goals, objectives, and policies for land use planning purposes. The overall purpose of the Noise Element of the City's General Plan is to guide policymakers in making land use determinations and in preparing noise ordinances that would limit exposure of citizens to excessive noise levels. The following policies and objectives from the Noise Element of the General Plan are applicable to the Project.[26]

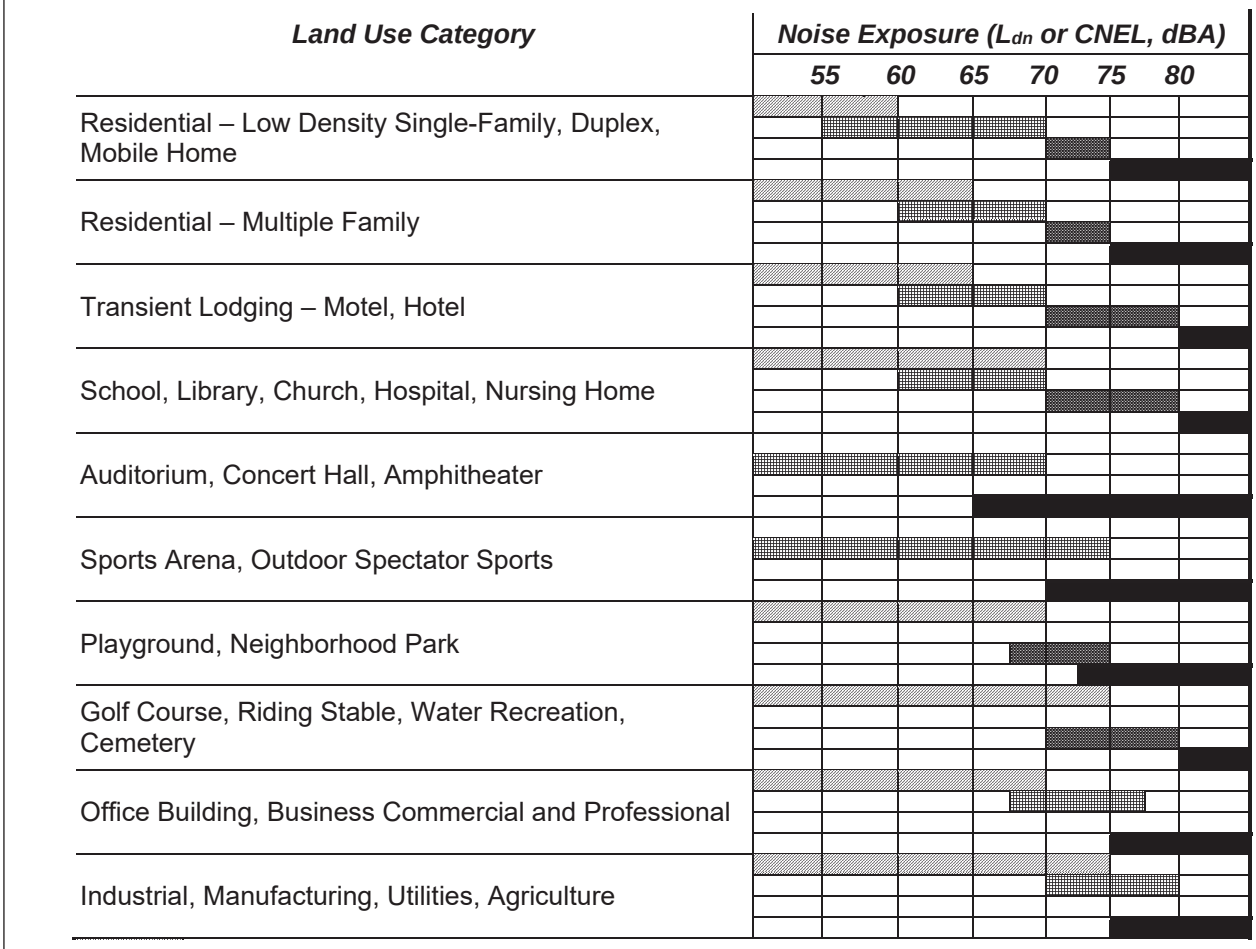
Objective 2 (Non-airport): Reduce or eliminate non-airport related intrusive noise, especially relative to noise sensitive uses.

Policy 2.2: Enforce and/or implement applicable city, state, and federal regulations intended to mitigate proposed noise producing activities, reduce intrusive noise and alleviate noise that is deemed a public nuisance.

Objective 3 (Land Use Development): Reduce or eliminate noise impact associated with proposed development of land and changes in land use.

Policy 3.1: Develop land use policies and programs that will reduce or eliminate potential and existing noise impacts.

[26] Noise Element of the General Plan, adopted February 3, 1999.



NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken. Construction costs to make the indoor environmental acceptable would be prohibitive and the outdoor environment would not be usable.

SOURCE: State of California, General Plan Guidelines, Governor's Office of Planning and Research, 2003

Times Mirror Square

Figure 5

Guidelines for Noise Compatible Land Use

2.3.2 Los Angeles Municipal Code

The City also has regulations to control unnecessary, excessive, and annoying noise, as set forth in Chapter XI of the Los Angeles Municipal Code (LAMC). The City's Noise Regulation establishes acceptable ambient sound levels to regulate intrusive noises (e.g., stationary mechanical equipment and vehicles other than those traveling on public streets) within specific land use zones and provides procedures and criteria for the measurement of the sound level of noise sources. These procedures recognize and account for differences in the perceived level of different types of noise and/or noise sources.

Section 111.01 and Section 111.03 of the LAMC define the ambient noise as the actual measured ambient noise level or the City's presumed ambient noise level, whichever is greater. The actual ambient noise level is the measured noise level averaged over a period of at least 15 minutes L_{eq}.

Section 111.02 of the LAMC provides procedures and criteria for the measurement of the sound level of "offending" noise sources. In accordance with the LAMC, a noise level increase of 5 dBA over the existing average ambient noise level at an adjacent property line is considered a noise violation. To account for people's increased tolerance for short-duration noise events, the Noise Regulation provides a 5 dBA allowance for noise occurring more than five but less than fifteen minutes in any one-hour period and an additional 5 dBA allowance (total of 10 dBA) for noise occurring five minutes or less in any one-hour period.[27] Section 112.01 of the LAMC prohibits noise from any radio, musical instrument, phonograph, television receiver, or other machine or device for the producing, reproducing or amplification of the human voice, music, or any other sound, in such a manner, as to disturb the peace, quiet, and comfort of neighbor occupants or any reasonable person residing or working in the area or that exceeds the ambient noise level on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit, by more than 5 dBA.

Section 112.02 limits increases in noise levels from air conditioning, refrigeration, heating, pumping and filtering equipment. Such equipment may not be operated in such manner as to create any noise which would cause the noise level on the premises of any other occupied property, or, if a condominium, apartment house, duplex, or attached business, within any adjoining unit, to exceed the ambient noise level by more than 5 dBA.

Section 112.05 of the LAMC sets a maximum noise level for construction equipment of 75 dBA at a distance of 50 feet when operated within 500 feet of a residential zone. Compliance with this standard is required only where "technically feasible."[28] Section 41.40 of the LAMC prohibits construction between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, 6:00 P.M. and 8:00 A.M. on Saturday, and at any time on Sunday (i.e., construction is allowed Monday through Friday between 7:00 A.M. to 9:00 P.M.; and Saturdays and National Holidays between 8:00 A.M. to 6:00 P.M.). In general, the City's Department of Building and Safety enforces noise ordinance provisions relative to equipment and the Los Angeles Police Department enforces provisions

[27] LAMC, Chapter XI, Article I, Section 111.02-(b).

[28] In accordance with the City's Noise Ordinances, "technically feasible" means that the established noise limitations can be complied with at a project site, with the use of mufflers, shields, sound barriers, and/or other noise reduction devices or techniques employed during the operation of equipment.

relative to noise generated by people. However, the provisions of Section 41.40(a) shall not apply to any person who performs the construction, repair or excavation work involved pursuant to the express written permission of the Board of Police Commissioners through its Executive Director. The Executive Director on behalf of the Board, may grant this permission, upon application in writing, where the work purposed to be done is in the public interest, or where hardship or injustice, or unreasonable delay would result from its interruption during the hours mentioned above, or where the building or structure involved is devoted or intended to be to be developed to a use immediately related to public defense.

Section 113.01 of LAMC prohibits collecting or disposing of rubbish or garbage, to operate any refuse disposal truck, or collecting, loading, picking up, transferring, unloading, dumping, discarding, or disposing of any rubbish or garbage, as such terms are defined in Section 66.00 of LAMC, within 200 feet of any residential building between the hours of 9:00 P.M. and 6:00 A.M. of the following day, unless a permit therefore has been duly obtained beforehand from the Board of Police Commissioners.

The City allows project applicants to obtain permission to conduct construction outside of the hours specified above. In these cases, a project applicant must obtain the express written permission of the Board of Police Commissioners through its Executive Director. The Executive Director, on behalf of the Board, may grant this permission upon application in writing where the work purposed to be done is in the public interest, or where hardship or injustice, or unreasonable delay would result from its interruption during the hours mentioned above.

2.3.3 Guidelines for Noise-Compatible Land Uses

In addition, the City's Thresholds Guide provides criteria for evaluating the noise impacts of a project. These criteria are described further below. The City has adopted local guidelines based, in part, on the community noise compatibility guidelines established by the State OPR for use in assessing the compatibility of various land use types with a range of noise levels. These guidelines are set forth in the *Thresholds Guide* in terms of the CNEL. CNEL guidelines for specific land uses are classified into four categories: (1) "normally acceptable," (2) "conditionally acceptable," (3) "normally unacceptable," and (4) "clearly unacceptable." As shown in **Table 5,** *City of Los Angeles Land Use Compatibility for Community Noise*, a CNEL value of 70 dBA is the upper limit of what is considered a "conditionally acceptable" noise environment for multi-family residential uses, although the upper limit of what is considered "normally acceptable" for multi-family residential uses is set at 65 dBA CNEL.[29] New development should generally be discouraged within the "normally unacceptable" or "clearly unacceptable" categories. However, if new development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

[29] City of Los Angeles, 2006. L.A. CEQA Thresholds Guide: Your Resource for Preparing CEQA Analyses in Los Angeles, Section I.2, 2006.

TABLE 5
CITY OF LOS ANGELES LAND USE COMPATIBILITY FOR COMMUNITY NOISE

	Community Noise Exposure CNEL (dBA)			
Land Use	**Normally Acceptable**	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Single-Family, Duplex, Mobile Homes	50 to 60	55 to 70	70 to 75	Above 70
Multi-Family Homes	50 to 65	60 to 70	70 to 75	Above 70
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 to 70	60 to 70	70 to 80	Above 80
Transient Lodging—Motels, Hotels	50 to 65	60 to 70	70 to 80	Above 80
Auditoriums, Concert Halls, Amphitheaters	—	50 to 70	—	Above 65
Sports Arena, Outdoor Spectator Sports	—	50 to 75	—	Above 70
Playgrounds, Neighborhood Parks	50 to 70	—	67 to 75	Above 72
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 to 75	—	70 to 80	Above 80
Office Buildings, Business and Professional Commercial	50 to 70	67 to 77	Above 75	—
Industrial, Manufacturing, Utilities, Agriculture	50 to 75	70 to 80	Above 75	—

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: City of L.A. CEQA Thresholds Guide, 2006.

SECTION 3
Significance Thresholds

3.1 State CEQA Guidelines Appendix G

In accordance with Appendix G of the State *CEQA Guidelines,* the project would have a significant impact related to Noise if it would result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

c) A substantial permanent increase in ambient noise levels in the vicinity of the Project above levels existing without the Project;

d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

For this analysis, the Appendix G Thresholds are relied upon. The analysis utilizes factors and considerations identified in the *2006 L.A. CEQA Thresholds Guide (Thresholds Guide)*, as appropriate, to assist in answering the Appendix G Threshold questions.

The *Thresholds Guide*, identifies the following factors for consideration on a case-by-case basis to evaluate noise impacts:

3.2.1 Construction Noise

The *Thresholds Guide* identifies the following criteria to evaluate construction noise:

- Construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA L_{eq} or more at a noise sensitive use;
- Construction activities lasting more than 10 days in a three-month period would exceed existing ambient exterior noise levels by 5 dBA L_{eq} or more at a noise sensitive use; or

- Construction activities would exceed the ambient noise level by 5 dBA L_{eq} at a noise sensitive use between the hours of 9:00 P.M. and 7:00 A.M. Monday through Friday, before 8:00 A.M. or after 6:00 P.M. on Saturday, or at any time on Sunday.

As discussed in Chapter II, *Project Description*, of the Project's Draft EIR, construction of the Project is anticipated to commence in 2019 and be completed in 2023. Therefore, since construction activities would occur over a period longer than 10 days for all phases, the corresponding criteria used in the construction noise analysis presented in this report is an increase in the ambient exterior noise levels of 5 dBA L_{eq} or more at a noise sensitive use.

3.2.2 Operational Noise

The following criteria are applied to the Project, as set forth in the *Thresholds Guide* and the City's Noise Regulations, with the more restrictive provisions applied, to evaluate operational noise. The Project would have a significant impact from operations if:

- The Project causes the ambient noise levels measured at the property line of affected uses to increase by 3 dBA CNEL to or within the "normally unacceptable" or "clearly unacceptable" categories; or
- The Project causes the ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more increase in noise level; or
- Project-related operational on-site (i.e., non-roadway) noise sources such as outdoor building mechanical/electrical equipment, outdoor activities, or parking facilities increase the ambient noise level (L_{eq}) at noise sensitive uses by 5 dBA L_{eq}.

In summary, for operational noise, the criteria for on-site operations is an increase in ambient noise level of 5 dBA L_{eq} at an adjacent property line, in accordance with the LAMC. The LAMC does not apply to the off-site traffic (i.e., vehicle traveling on public roadways). Therefore, the criteria for off-site traffic noise associated with Project operations is based on the *Thresholds Guide*. In addition, the criteria for composite noise levels (on-site and off-site sources) are also based on the *Thresholds Guide*, as again, the LAMC does not apply to off-site traffic noise. The criteria used below in the noise analysis for off-site operations and the composite operational noise is therefore an increase in the ambient noise level of 3 dBA or 5 dBA CNEL, depending on the existing conditions at the affected noise-sensitive land use.

3.2.3 Ground-Borne Vibration

The City of Los Angeles has not adopted criteria to assess vibration impacts during construction. Thus, for this Project, the City has determined to use the FTA's criteria for structural damage and human annoyance, as described in Tables IV.I-3 and IV.I-4, respectively, above, to evaluate potential impacts related to Project construction and operation.

- Potential Building Damage – Project construction activities that cause groundborne vibration levels to exceed the potential structural damage threshold of 0.5-in/sec PPV at the nearest off-site buildings of Building Category I, Reinforced-concrete, steel, or timber (no plaster).

- Potential Human Annoyance – Project construction and operation activities that cause groundborne vibration levels to exceed 72 VdB at nearby residential uses and 75 VdB for institutional land uses with primarily daytime use (including the Federal Courthouse)

SECTION 4
Methodology

An acoustical study was conducted for the Project with respect to potential noise and vibration impacts with construction activities, surface transportation, and other aspects of Project operations that are noise and vibration intensive and that have the potential to impact noise sensitive land uses. It is possible that off-hour construction could occur during the foundation/continuous concrete pour activities, which would need to extend beyond daytime hours (one nighttime and early morning period each) due to the need for concrete pours to be continuous (for example, up to 18 hours). This would be outside of the City's allowable construction hours specified in the LAMC and, as such, the Project would file an application to obtain permission pursuant to City regulations. A discussion of the Project Design Features that were taken into account in the quantitative noise and vibration assessment is provided below in Section 4.5.

4.1 On-Site Construction Noise

On-site construction noise impacts were evaluated by determining the noise levels generated by the different types of construction activity anticipated, calculating the construction-related noise levels produced by the mix of equipment assumed for all construction activities at nearby sensitive receptor locations, and comparing these construction-related noise levels to existing ambient noise levels (i.e., noise levels without construction noise) at those receptors. More, specifically, the following steps were undertaken to assess construction-period noise impacts.

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (see **Table 1**);

2. Typical noise levels for each type of construction equipment were obtained from the Federal Highway Administration Roadway Construction Noise Model;

3. It is anticipated that concrete pour would occur off-hours during the foundation/continuous concrete pour activities.

4. Distances between construction site locations (noise sources) and surrounding sensitive receptors were measured using Project architectural drawings, site plans, and Google Earth;

5. The construction noise level was then calculated, in terms of hourly L_{eq}, for sensitive receptor locations based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance;

6. The Project will not require or allow blasting involving the use of explosives (refer to PDF NOISE-1 below in Subsection 4.5);

7. To provide a more conservative analysis, the construction noise modeling assumed that diesel/gasoline generators would be used during Project construction instead of electricity from power poles and/or solar-powered generators (refer to PDF NOISE-2 below in Section 4.5); and

8. Construction noise levels were then compared to the construction noise daytime/nighttime significance thresholds identified below.

4.2 Off-Site Roadway Noise (Construction and Operation)

Roadway noise impacts were evaluated using the FHWA TNM and the Caltrans Technical Noise Supplement (TeNS) method based on the roadway traffic volume data provided in the Traffic Study prepared for the Project and included in Appendix L of the Project's Draft EIR.[30] This method allows for the definition of roadway configurations, barrier information (if any), and receiver locations. Roadway noise attributable to Project development was calculated and compared to baseline noise levels that would occur under the "Without Project" condition.

4.3 Stationary Point-Source Noise (Operations)

Stationary point-source noise impacts were evaluated by identifying the noise levels generated by outdoor stationary noise sources, such as rooftop mechanical equipment and loading area activity, calculating the hourly L_{eq} noise level from each noise source at sensitive receptor property lines, and comparing such noise levels to existing ambient noise levels. More specifically, the following steps were undertaken to calculate outdoor stationary point-source noise impacts:

1. Ambient noise levels at surrounding sensitive receptor locations were estimated based on field measurement data (see **Table 1**);

2. Distances between stationary noise sources and surrounding sensitive receptor locations were measured using Project architectural drawings, Google Earth, and site plans;

3. Stationary-source noise levels were then calculated for each sensitive receptor location based on the standard point source noise-distance attenuation factor of 6.0 dBA for each doubling of distance;

4. Noise level increases were compared to the stationary source noise significance thresholds identified below; and

5. For outdoor mechanical equipment, the operation of any and all outdoor mechanical equipment would be subject to the noise control requirements of the City's noise ordinance and municipal codes.

6. Parking related noise levels were estimated by using the methodology recommended by FTA for the general assessment of stationary transit noise source. Using the methodology, the

[30] Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

project's peak hourly noise level that would be generated by the onsite parking levels was estimated using the following FTA equation for a parking lot:[31]

$L_{eq}(h) = SEL_{ref} + 10\log(NA/1000) - 35.6$, where

$L_{eq}(h)$ = hourly L_{eq} noise level at 50 feet

SEL_{ref} = reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet

N_A = number of automobiles per hour

7. The combined noise levels from each operational noise source were estimated and the combined noise level increases were compared to the significance thresholds identified below.

4.4 Groundborne Vibration (Construction and Operations)

Groundborne vibration impacts were evaluated by identifying potential vibration sources, measuring the distance between vibration sources and surrounding structure locations, identifying the building categories of the surrounding structures, and making a significance determination based on the FTA's criteria previously described in **Table 3** and **Table 4**.

Surrounding structures were determined to be in Building Category I – Reinforced-concrete, steel, or timber (no plaster) with construction vibration damage criteria of 0.5 in/sec PPV, as shown in **Table 3**.

On-site Project construction activities by heavy construction equipment would generate an unknown number of vibration events from the same source throughout a construction day. As shown in **Table 4**, FTA provides thresholds based on the estimated number of vibration events per source per day. To be conservative, the number of events for the Project were estimated to "Frequent Events", i.e., greater than 70 vibration events for FTA thresholds in **Table 4**.

During peak off-site construction truck activity, approximately 1,406 concrete truck trips would occur per day during the foundation/continuous concrete pour activities; and therefore, would be considered as "Frequent Events" for FTA thresholds in **Table 4**. Activities from on-site operational equipment, such as air handling units, condenser units, and exhaust fans would also be considered as "Frequent Events" for FTA thresholds in **Table 4**.

4.5 Project Design Features

The following Project Design Features would reduce the noise levels generated by the Project:

PDF NOISE-1: The Project will not require or allow blasting, involving the use of explosives, during construction activities.

[31] Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Table 4-13 and Table 4-14, 2018.

PDF NOISE-2: Where power poles are available, electricity from power poles and/or solar-powered generators rather than temporary diesel or gasoline generators shall be used during construction.

PDF NOISE-3: The Project will not require or allow operation of any amplified sound system in the outdoor plaza areas, including the residential and office terraces, outdoor dining areas, and paseo.

PDF NOISE-4: The Project will limit the maximum occupancy of the Office Terrace to 150 people and the Residential Terrace to 200 people at any one time. A sign will be posted at the main entrances to these areas of the occupancy limit.

PDF NOISE-5: Emergency generators would be designed to meet the requirements of LAMC Chapter XI, Section 112.02. Section 112.02 of the LAMC requires that any mechanical system within any zone of the City not cause an increase in ambient noise levels on any other occupied property or if a condominium, apartment house, duplex, or attached business, within any adjoining unit to exceed the ambient noise level by more than 5 dBA.

The noise and vibration analysis incorporates into the quantitative analysis PDF NOISE-1, which states that the Project will not require or allow blasting, involving the use of explosives, during construction activities, and PDF NOISE-3, which states that the Project will not require or allow operation of any amplified sound system in the outdoor plaza areas, including the residential and office terraces, outdoor dining areas, and paseo. While PDF NOISE-2 would require the Project to use power poles and/or solar-powered generators are available rather than temporary diesel or gasoline generators during construction, the quantitative analysis includes the use of diesel or gasoline generators during phases of construction that would use such equipment, as a conservative assumption, in the event pole power and solar-power generators are not available. PDF NOISE-4, would limit maximum occupancy on the terraces, respectively; thereby, reducing the number of people that would potentially congregate and converse socially, thereby reducing conversation noise levels.

SECTION 5
Environmental Impacts

Threshold a): Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

5.1 Construction and Operational Noise

Several Project characteristics have the potential to reduce noise and vibration generation and were taken into account in the analysis of potential impacts. In accordance with LAMC requirements, construction hours for exterior construction and hauling activities would be limited to between the hours of 7:00 A.M. and 9:00 P.M., Monday through Friday, and 8:00 A.M. and 6:00 P.M. on Saturday. However, it is anticipated that construction activities could occur outside of these hours but would be limited to concrete pouring. The Project contractor(s) would equip all construction equipment, fixed or mobile, with properly operating and maintained noise mufflers, consistent with manufacturers' standards.

5.1.1 On-Site Construction Noise

Construction of the Project would require the use of heavy equipment during the demolition, grading, and excavation activities at the Project Site. During each stage of development, a different mix of equipment would be used. As such, construction activity noise levels at and near the Project Site would fluctuate depending on the particular type, number, and duration of use of the various pieces of construction equipment.

Individual pieces of construction equipment expected to be used during Project construction could produce maximum noise levels of 75 dBA to 101 dBA L_{max} at a reference distance of 50 feet from the noise source, as shown in **Table 6***, Construction Equipment Noise Levels*. These maximum noise levels would occur when equipment is operating at full power. The estimated usage factor for the equipment is also shown in **Table 6**. The usage factors are based on FHWA's Roadway Construction Noise Model (RCNM) User's Guide.[32]

[32] Federal Highway Administration, Roadway Construction Noise Model User's Guide, p. 3, (2006).

TABLE 6
CONSTRUCTION EQUIPMENT NOISE LEVELS

Construction Equipment	Estimated Usage Factor, %	Noise Level at 50 Feet (dBA, Lmax)
Air Compressors	40%	78
Bore/Drill Rig	20%	79
Cement and Mortar Mixer	40%	79
Compactor	20%	83
Concrete Saw	20%	90
Crane	16%	81
Dumpers/Tenders	40%	76
Excavator	40%	81
Forklift	10%	75
Generator Sets	50%	81
Jackhammers	20%	89
Off-highway Trucks	20%	76
Other Equipment	50%	85
Paver	50%	77
Paving Equipment	20%	90
Roller	20%	80
Rough Terrain Forklift	10%	75
Rubber Tired Loader	50%	79
Surfacing Equipment	50%	85
Tractor/Loader/Backhoe	25%	80
Vacuum Street Sweeper	10%	82
Vibratory Pile Driver	20%	101

FHWA, 2006

During Project construction, the nearest and most affected off-site noise sensitive receptors that would be exposed to increased noise levels would be the existing residential uses, a hotel, libraries, and parks located in proximity to the Project Site. Specifically, the nearest off-site noise sensitive receptors include the following:

- R1: The Federal Courthouse is located approximately 80 feet to the west of the Project Site.
- R3: The First and Broadway Civic Center Park and the Los Angeles County Law Library are located approximately 130 feet and 180 feet to the north of the Project Site, respectively.
- R4: The City Hall Park is located approximately 150 feet to the northeast of the Project Site.

- R5: The one-acre park just south of the LAPD Headquarters Building and Higgins Building Lofts apartment complex are located approximately 80 feet and 250 feet to the southeast of the Project Site, respectively.

- R6: Kawada Hotel is located approximately 300 feet to the west of the Project Site along W. 2nd Street.

Location R2 is not included in the list above because it corresponds to the Los Angeles Times Building on the Project Site itself. This building would be part of Project-related construction activities and would not be a noise-sensitive receptor. Locations R7 and R8 are not included in the list above because they do not represent the nearest noise sensitive receptors. In addition, due to the distances from the Project Site, father than 1,000 feet, and existing buildings between Locations R7 and R8 and the Project Site, construction noise levels at Location R7 and R8 would be well below the construction noise levels at Location R4 and R5, respectively. As such, construction noise impacts from onsite sources at Receptors R7 and R8 would be less than significant.

Over the course of a construction day, the highest noise levels would be generated when multiple pieces of construction equipment would be being operated concurrently. The Project's estimated construction noise levels were calculated for a scenario in which all construction equipment was assumed to be operating simultaneously and located at the construction area nearest the affected receptors to present a conservative impact analysis. The estimated noise levels at the off-site sensitive receptors were calculated using the FHWA's RCNM, and were based on a maximum concurrent operation of construction equipment (i.e., air compressors, cranes, tractor/loader/backhoe, forklift, generator sets, welders, etc.), which is considered a worst-case evaluation because the Project would typically use less overall equipment on a daily basis, and as such would generate lower noise levels. In addition, the noise levels were estimated including the assumption that there will be building construction phase overlap into paving and architectural coating phases. **Table 7**, *Estimate of Construction Noise levels (L_{eq}) at Existing Off-Site Sensitive Receptor Locations,* shows the estimated construction noise levels that would occur at the nearest off-site sensitive uses during a peak day of construction activity at the Project Site.

As shown in **Table 7**, construction noise levels are estimated to reach a maximum of 90 dBA L_{eq} at the nearest sensitive receptor (at measurement location R1, The Federal Courthouse). This would exceed the 70.4 dBA L_{eq} significance threshold at R1 (lowest hourly L_{eq} daytime ambient noise level of 65.4 dBA L_{eq} at R1 in **Table 1** plus 5 dBA). Sensitive receptor locations R3, R4, R5, and R6 would be exposed to construction noise levels which would exceed the daytime significance thresholds of 77.8 dBA L_{eq} at R3, 73.5 dBA L_{eq} at R4, 70.0 dBA L_{eq} at R5, and 71.3 dBA L_{eq} at R6.

Construction noise during the foundation/continuous concrete phase is included in the construction noise levels shown in **Table 7** and detailed in Appendix I-2 of this report. The concrete pour activities on-site would last up to two days each for the two continuous concrete pouring foundation phases, which would need to extend beyond daytime hours (one nighttime and early morning period each) due to the need for concrete pours to be continuous (for example, up to 18 hours). For the construction calculations used in **Table 7** and detailed in Appendix I-2, nighttime construction noise levels during the on-site foundation concrete pours would be 78 dBA L_{eq} at R1, 74 dBA L_{eq} at R3, 68 dBA L_{eq} at R4, 64 dBA L_{eq} at R5, and 62 dBA L_{eq} at R6. These noise levels would exceed

the respective significance threshold of 65.4 dBA at R1, 67.7 dBA L_{eq} at R4, and 59.1 dBA L_{eq} at R6; however, they would not exceed the 68.4 dBA L_{eq} threshold at R5.

As such, the Project would have a potentially significant construction noise impact on the nearby sensitive receptors. Impacts at all other sensitive receptor locations would be less than significant. Mitigation measures are identified to reduce construction noise levels to the nearby sensitive receptors, as presented below in Section 7, Mitigation Measures. However, implementation of mitigation measures could not reduce temporary or periodic increases in ambient noise levels in the Project vicinity above levels existing without the Project to below the significance thresholds established by the City, and therefore these temporary impacts would be significant and unavoidable.

TABLE 7
ESTIMATE OF CONSTRUCTION NOISE LEVELS (L_{EQ}) AT EXISTING OFF-SITE SENSITIVE RECEIVER LOCATIONS

Off-site Sensitive Land Uses [a]	Location	Nearest Distance from Construction Activity to Noise Receptor (ft.) [b]	Estimated Maximum Construction Noise Levels (dBA L_{eq}) [c] Daytime/ Nighttime	Significance Threshold [e] Daytime/ Nighttime	Exceed Significance Thresholds?
R1	West of the Project Site along Broadway	80	90 / 78	70.4 / 65.4	Yes / Yes
R3	North of the Project Site along Broadway/1st Street	130	87 / 74	77.8 / NA[f]	Yes / NA[f]
R4	East of the Project Site along 1st Street	150	81 / 68 [d]	73.5 / 67.7	Yes / Yes
R5	South of the Project Site along 2nd Street	250	77 / 64 [d]	70.0 / 68.4	Yes / No
R6	West of the Project Site along 2nd/Hill Street	300	75 / 62 [d]	71.3 / 59.1	Yes / Yes

[a] Construction noise levels at location R2 are not estimated since R2 represent the noise environment at the Project Site. Locations R7 and R8 are not included because they do not represent the nearest noise sensitive receptors. In addition, due to the distances from the Project Site, father than 1,000 feet, and existing buildings between Locations R7 and R8 and the Project Site, construction noise levels at Location R7 and R8 would be well below the construction noise levels at Location R4 and R5, respectively. As such, construction noise impacts from onsite sources at Receptors R7 and R8 would be less than significant.

[b] The distance represents the nearest construction area on the Project Site to the property line of the off-site receptor.

[c] The daytime construction noise levels were estimated including assumption that there will be some Building Construction phase overlap into Paving. Concrete pour noise levels provided for occurring off-hours without daytime construction.

[d] Receptors are partially shielded from the construction site by existing buildings; and the result of 5 dBA reduction by the shielding is included in the analyses.

[e] The significance thresholds are the lowest hourly Leq day/night ambient noise levels, as shown in **Table 1**, plus 5 dBA.

[f] Location R3 represents the Los Angeles County Law Library and the future First and Broadway Civic Center Park. No nighttime occupants are anticipated.

NA = not applicable.

SOURCE: ESA, 2018

Based on available information, the Initial Study[33] for Related Project No. 110 states that its construction would not begin until construction of Related Project No. 168, the Metro Regional Connector portal and station, within the site is complete. Therefore, construction of Related Project No. 110 would not begin until 2022 and would not be complete until 2025, which would be two years after expected completion of the Project. In addition, Related Project No. 168, Metro Regional Connector is currently under construction and is slated to be completed in 2021. **Therefore, this future mixed-use residential development would not be occupied by residents during construction of the Project, and as such, there would no impacts to these future residents from construction-related noise from the Project.**

5.1.2 Off-Site Construction Noise

Construction truck trips would occur throughout the construction period. Haul trucks would travel on approved truck routes designated within the City. Given the Project Site's proximity to State Route (SR) 110 and 101, heavy truck traffic would take the most direct route to the appropriate freeway ramps. An estimated maximum of approximately 38 daily worker vehicle trips and approximately 1,406 concrete truck trips (equal to approximately 2,812 passenger car equivalent [PCE]) would occur per day (up to approximately 78 concrete truck trips per hour) during the foundation/continuous concrete pour activities. The foundation/continuous concrete pour activities would generate the maximum number of trucks trips, but would only last up to two days during each of the two continuous concrete pouring foundation phases. If renovation activities would overlap, approximately 124 additional daily worker vehicle trips would occur. Trucks would exit the Project Site from N. Broadway and turn right, head eastbound on W. 1st Street to Main Street, head north on Main Street to Aliso Street, turn right onto Aliso Street, and merge on to the SR-101 southbound on-ramp. Empty trucks would take the exit on Los Angeles Street, head south to 2nd Street, make a right on W. 2nd Street, turn right on N. Broadway, and right into the Project Site. Sensitive receptors along these routes include the City Hall Park on the west side of S. Main Street, multi-family-uses on the south side of W. 2nd Street, the 2nd Street Dog Park on the north side of W. 2nd Street, and the Federal Courthouse on the west side of S. Broadway. The anticipated truck route would be subject to review and approval by the City. Construction worker vehicle trips would be dispersed along various roadways and would contribute a very small number of vehicle trips when compared to existing traffic volumes on these same roadways and compared to the truck trips along the route. Construction worker vehicles would need to travel on N. Broadway to access the Project Site. The majority of construction worker vehicle trips would not result in travel on Main Street, W. 1st Street, and 2nd Street, as most workers would commute to and from their homes using a variety of different commuting routes. However, for the purposes of this analysis, it was conservatively assumed that construction worker vehicle trips would travel on the same roadway segments as the heavy trucks to evaluate maximum potential offsite noise impacts.

As shown in **Table 8**, *Estimate Off-Site Construction Traffic Noise,* the Project's truck trips and worker trips would generate maximum noise levels of approximately 68.8 dBA L_{eq} along W. 2nd Street.

[33] City of Los Angeles, Initial Study, 222 West 2nd Project, Case No. ENV 2016-3809-EIR, January 2017, https://planning.lacity.org/eir/nops/222West2nd/nop.pdf. Accessed December 2018.

TABLE 8
ESTIMATE OFF-SITE CONSTRUCTION TRAFFIC NOISE LEVELS

		Calculated Traffic Noise Levels On Roadway dBA L_{eq}		
		Daytime	Nighttime	Exceed Threshold?
Roadway Segment	Construction Traffic	Significance Threshold	Significance Threshold	Daytime/Nighttime
S. Broadway (R1)	66.0	70.4	65.4	No / Yes
Main Street (R7)	68.2	77.6	N/A [b]	No / – [b]
Los Angeles Street (R8)	63.3	74.8	61.8	No / Yes
W. 1st Street (R3/R4)	67.3	73.5	N/A [b]	No / – [b]
W. 2nd Street (R5)	68.8	70.0	68.4	No / Yes

[a] The significance thresholds are the lowest hourly L_{eq} day/nighttime ambient noise levels, as shown in **Table 1**, plus 5 dBA.

[b] Sensitive receptors located along Main Street (the City Hall Park) and W. 1st Street (Los Angeles County Law Library and City of LA First and Broadway Civic Center Park) are not occupied during the nighttime hours.

SOURCE: ESA, 2018

As shown in **Table 8**, off-site construction traffic noise levels generated by construction worker and truck trips would not exceed the daytime significance thresholds along the truck routes, but would exceed the applicable nighttime significance thresholds along the truck route on S. Broadway, Los Angeles Street, and W. 2nd Street. **Therefore, off-site construction traffic noise impacts would be significant during nighttime hours.**

5.1.3 Off-site Operational Noise

Impacts Under Existing Traffic Baseline Conditions

Existing roadway noise levels were calculated along various arterial segments adjacent to the Project Site. Roadway noise attributable to Project operation was calculated using the traffic noise model previously described and was compared to existing noise levels in the vicinity.

Project impacts are shown in **Table 9**, *Off-Site Traffic Noise Impacts – Existing with Project Conditions*. As indicated, the maximum increase in Project-related traffic noise levels over existing traffic noise levels would be 0.6 dBA CNEL, which would occur at the roadway segment of N./S. Broadway, between W. 1st Street and W. 2nd Street adjacent to Federal Courthouse and commercial uses. This increase in sound level would be well below the most stringent significance threshold of 3 dBA CNEL increase over ambient noise levels; and is also below the other standards of within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA CNEL or greater noise increase (see **Table 5**). The increase in sound levels would be lower at the remaining roadway segments analyzed. Accordingly, the Project-related noise increases would be less than the applicable thresholds. **Therefore, operation of the Project would not result in off-site traffic-related noise impacts in excess of City standards and impacts would be less than significant.**

TABLE 9
OFF-SITE TRAFFIC NOISE IMPACTS – EXISTING WITH PROJECT CONDITIONS

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Existing (A)	Existing with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
W. Sunset Boulevard/E. Cesar Chavez Avenue					
West of N. Figueroa Street	70.6	70.7	0.1	3	No
East of N. Figueroa Street	70.4	70.4	0.0	3	No
W. Aliso Street					
Between Broadway and N. Spring Street	66.0	66.0	0.0	5	No
W. Temple Street					
Between N. Hill Street and N. Broadway	70.2	70.2	0.0	3	No
Between N. Broadway and N. Spring Street	70.0	70.1	0.1	3	No
Between N. Spring Street and N. Main Street	70.1	70.1	0.0	3	No
W. 1st Street					
Between S. Grand Avenue and S. Olive Street	70.9	70.9	0.0	3	No
Between S. Olive Street and S. Hill Street	70.4	70.4	0.0	3	No
Between S. Hill Street and S. Broadway	70.3	70.4	0.1	3	No
Between S. Broadway and S. Spring Street	70.4	70.5	0.1	5	No
Between S. Spring Street and S. Main Street	69.4	69.5	0.1	5	No
Between S. Main Street and S. Los Angeles Street	70.1	70.1	0.0	5	No
W. 2nd Street					
Between S. Beaudry Avenue and S. Figueroa Street	68.0	68.1	0.1	5	No
Between S. Figueroa Street and S. Hill Street	66.8	66.9	0.1	5	No
Between S. Hill Street and S. Broadway	67.3	67.5	0.2	3	No
Between S. Broadway and S. Spring Street	67.7	68.2	0.5	5	No
Between S. Spring Street and S. Main Street	67.0	67.1	0.1	5	No
Between S. Main Street and S. Los Angeles Street	66.9	67.0	0.1	5	No
W. 3rd Street					
Between S. Figueroa Street and S. Hill Street	71.2	71.3	0.1	3	No
Between S. Hill Street and S. Broadway	69.1	69.2	0.1	5	No
Between S. Broadway and S. Spring Street	68.6	68.6	0.0	5	No

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Existing (A)	Existing with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between S. Spring Street and S. Main Street	69.4	69.4	0.0	5	No
W. 4th Street					
Between S. Broadway and S. Spring Street	68.6	68.6	0.0	5	No
S. Beaudry Avenue					
North of W. 2nd Street	69.8	69.8	0.0	5	No
South of W. 2nd Street	70.5	70.5	0.0	5	No
N./S. Figueroa Street					
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	70.9	70.9	0.0	3	No
Between W. 2nd Street and W. 3rd Street	70.9	70.9	0.0	5	No
N./S. Grand Avenue					
North of W. 1st Street	70.1	70.1	0.0	5	No
South of W. 1st Street	69.3	69.3	0.0	3	No
S. Olive Street					
South of W. 1st Street	67.4	67.4	0.0	3	No
N./S. Hill Street					
Between W. Temple Street and W. 1st Street	70.1	70.1	0.0	3	No
Between W. 1st Street and W. 2nd Street	69.3	69.3	0.0	5	No
Between W. 2nd Street and W. 3rd Street	69.7	69.7	0.0	5	No
N./S. Broadway					
Between W. Aliso Street and W. Temple Street	69.4	69.4	0.0	5	No
Between W. Temple Street and W. 1st Street	68.7	68.8	0.1	5	No
Between W. 1st Street and W. 2nd Street	67.5	68.1	0.6	5	No
Between W. 2nd Street and W. 3rd Street	67.9	68.0	0.1	5	No
Between W. 3rd Street and W. 4th Street	67.7	67.9	0.2	5	No
N./S. Spring Street					
Between W. Aliso Street and W. Temple Street	69.0	69.0	0.0	5	No
Between W. Temple Street and W. 1st Street	68.5	68.5	0.0	5	No
Between W. 1st Street and W. 2nd Street	68.2	68.3	0.1	5	No
Between W. 2nd Street and W. 3rd Street	69.5	69.6	0.1	5	No
Between W. 3rd Street and W. 4th Street	68.1	68.2	0.1	5	No
N./S. Main Street					

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Existing (A)	Existing with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between W. Temple Street and W. 1st Street	70.2	70.2	0.0	3	No
Between W. 1st Street and W. 2nd Street	69.5	69.5	0.0	5	No
Between W. 2nd Street and W. 3rd Street	69.4	69.5	0.1	5	No
S. Los Angeles Street					
Between W. 1st Street and W. 2nd Street	68.8	68.8	0.0	5	No

[a] The Project related traffic would cause any ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more; or cause ambient noise levels measured at the property line of affected uses to increase by 3 dBA in CNEL or more to or within the "normally unacceptable" or "clearly unacceptable category."

SOURCE: ESA, 2018

Impacts Under Future (2023) Traffic Conditions

Future roadway noise levels were also calculated along various arterial segments adjacent to the Project as compared to 2023 traffic noise levels that would occur with implementation of the Project. Future traffic noise levels were calculated based on the roadway traffic volume data provided in the Traffic Impact Analysis prepared for the Project and included in Appendix L of the Project's Draft EIR. According to the Traffic Impact Analysis, the future baseline traffic volumes reflect traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects).[34] Project impacts are shown in **Table 10**, *Off-Site Traffic Noise Impacts – Future (2023) With Project Conditions*. As indicated, the maximum increase in Project-related traffic noise levels over the future traffic noise levels would be 0.4 dBA CNEL, which would occur at the roadway segments of W. 2nd Street, between S. Broadway and S. Spring Street adjacent to a school and commercial uses and N./S. Broadway, between W. 1st Street and W. 2nd Street adjacent to Federal Courthouse and commercial uses. This increase in sound level would be below the significance threshold of 3 dBA CNEL increase to or within the "normally unacceptable" or "clearly unacceptable" category, or any 5 dBA CNEL or greater noise increase (see **Table 5**), and the increase in sound level would be lower at the remaining roadway intersections analyzed. **The Project-related noise increases would be less than the threshold established by the City and, therefore, impacts would be less than significant. No mitigation measures would be required.**

[34] Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

TABLE 10
OFF-SITE TRAFFIC NOISE IMPACTS – FUTURE (2023) WITH PROJECT CONDITIONS

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Future without Project (A)	Future with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
W. Sunset Boulevard/E. Cesar Chavez Avenue					
West of N. Figueroa Street	71.1	71.2	0.1	3	No
East of N. Figueroa Street	70.8	70.8	0.0	3	No
W. Aliso Street					
Between Broadway and N. Spring Street	66.6	66.6	0.0	5	No
W. Temple Street					
Between N. Hill Street and N. Broadway	71.2	71.2	0.0	3	No
Between N. Broadway and N. Spring Street	71.3	71.3	0.0	3	No
Between N. Spring Street and N. Main Street	71.3	71.3	0.0	3	No
W. 1st Street					
Between S. Grand Avenue and S. Olive Street	73.2	73.2	0.0	3	No
Between S. Olive Street and S. Hill Street	72.6	72.6	0.0	3	No
Between S. Hill Street and S. Broadway	72.3	72.4	0.1	3	No
Between S. Broadway and S. Spring Street	72.2	72.2	0.0	5	No
Between S. Spring Street and S. Main Street	71.3	71.3	0.0	5	No
Between S. Main Street and S. Los Angeles Street	72.1	72.1	0.0	5	No
W. 2nd Street					
Between S. Beaudry Avenue and S. Figueroa Street	69.2	69.2	0.0	5	No
Between S. Figueroa Street and S. Hill Street	68.3	68.4	0.1	5	No
Between S. Hill Street and S. Broadway	68.6	68.7	0.1	3	No
Between S. Broadway and S. Spring Street	68.8	69.2	0.4	5	No
Between S. Spring Street and S. Main Street	68.5	68.6	0.1	5	No
Between S. Main Street and S. Los Angeles Street	68.5	68.5	0.0	5	No
W. 3rd Street					
Between S. Figueroa Street and S. Hill Street	72.1	72.1	0.0	3	No
Between S. Hill Street and S. Broadway	70.2	70.3	0.1	5	No
Between S. Broadway and S. Spring Street	69.9	69.8	-0.1	5	No

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Future without Project (A)	Future with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between S. Spring Street and S. Main Street	70.6	70.6	0.0	5	No
W. 4th Street					
Between S. Broadway and S. Spring Street	70.0	70.0	0.0	5	No
S. Beaudry Avenue					
North of W. 2nd Street	70.1	70.1	0.0	5	No
South of W. 2nd Street	70.8	70.8	0.0	5	No
N./S. Figueroa Street					
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	71.3	71.4	0.1	3	No
Between W. 2nd Street and W. 3rd Street	71.3	71.3	0.0	5	No
N./S. Grand Avenue					
North of W. 1st Street	71.0	71.1	0.1	5	No
South of W. 1st Street	72.2	72.2	0.0	3	No
S. Olive Street					
South of W. 1st Street	67.9	67.9	0.0	3	No
N./S. Hill Street					
Between W. Temple Street and W. 1st Street	71.0	71.0	0.0	3	No
Between W. 1st Street and W. 2nd Street	70.9	70.9	0.0	5	No
Between W. 2nd Street and W. 3rd Street	71.1	71.1	0.0	5	No
N./S. Broadway					
Between W. Aliso Street and W. Temple Street	70.8	70.8	0.0	5	No
Between W. Temple Street and W. 1st Street	70.0	70.1	0.1	5	No
Between W. 1st Street and W. 2nd Street	69.2	69.6	0.4	5	No
Between W. 2nd Street and W. 3rd Street	69.7	69.8	0.1	5	No
Between W. 3rd Street and W. 4th Street	69.7	69.8	0.1	5	No
N./S. Spring Street					
Between W. Aliso Street and W. Temple Street	70.0	70.0	0.0	5	No
Between W. Temple Street and W. 1st Street	69.4	69.4	0.0	5	No
Between W. 1st Street and W. 2nd Street	69.2	69.4	0.2	5	No
Between W. 2nd Street and W. 3rd Street	70.9	70.9	0.0	5	No
Between W. 3rd Street and W. 4th Street	69.3	69.4	0.1	5	No
N./S. Main Street					

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Future without Project (A)	Future with Project (B)	Project Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between W. Temple Street and W. 1st Street	70.9	70.9	0.0	3	No
Between W. 1st Street and W. 2nd Street	70.4	70.4	0.0	5	No
Between W. 2nd Street and W. 3rd Street	70.6	70.7	0.1	5	No
S. Los Angeles Street					
Between W. 1st Street and W. 2nd Street	70.4	70.4	0.0	5	No

[a] The Project related traffic would cause any ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more; or cause ambient noise levels measured at the property line of affected uses to increase by 3 dBA in CNEL or more to or within the "normally unacceptable" or "clearly unacceptable category."

SOURCE: ESA, 2018

Impacts from On-Site Stationary Noise Sources

Open Space

The Project's North Tower and South Tower mixed-use components would be constructed on the western side of the Project Site. The towers would include restaurant uses, which would be located at ground level and oriented to W. 1st Street, S. Broadway, and W. 2nd Street, while also fronting the Paseo. The Paseo would be constructed along the east edge of the North Tower and the South Tower, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. The occupant load of Paseo area was estimated based on the occupancy load factor of 15 square feet per person for an assembly area without fixed seats from the California Building Code Table 1004.1.2 Maximum Floor Area Allowances Per Occupant. These values were applied to the Project's estimated the Paseo area (approximately 15,708 square feet), which results in approximately 1,000 people.[35] Noise from human conversation is approximately 55 dBA at a distance of 3 feet.[36] Assuming 500 visitors talking simultaneously, the continuous noise level would be up to 82 dBA at 3 feet. Based on a noise level source strength of 82 dBA at a reference distance of 3 feet, and accounting for distance attenuation (6 dBA per doubling of distance, a minimum of 29 dBA attenuation or more for 80 feet distance to the nearest sensitive receptor location R1, future mixed-use residential development) and barrier-insertion loss by the Project buildings (minimum 5 dBA insertion loss), the Paseo related noise would be reduced to 48 dBA, which would be inaudible at the noise sensitive receptor location R1 (future mixed-use residential development) and would not exceed the lowest hourly L_{eq} daytime significance threshold of 70.4 dBA L_{eq} and the nighttime significance threshold of 65.4 dBA L_{eq}. **Therefore, the Paseo operations would not result in a**

[35] California Building Standards Commission, 2016 Title 24, Part 2 – California Building Code, http://www.bsc.ca.gov/codes.aspx. Accessed October 2018.

[36] American Journal of Audiology Vol.7 21-25 October 1998. doi:10.1044/1059-0889(1998/012).

substantial increase in ambient noise levels, and impacts would be less than significant, and no mitigation measures would be required.

The mechanical equipment that currently occupies the rooftop of the four-story Plant Building would be relocated and replaced with an Office Terrace. The Office Terrace would provide conference/presentation and break space for office employees of the Time/Plant/Mirror Buildings and would not be available to the general public. Views of the Office Terrace would be visible from surrounding structures higher than four stories, including, but not limited to, the proposed Project to the west, north, and south, City Hall to the northeast, Los Angeles Police Department Headquarters to the east, and the future 232 W. 2nd Street Project to the south. The Office Terrace would be located approximately 80 feet from the one-acre park south of the LAPD Headquarters Building (R5), which is the closest noise-sensitive receptor, and therefore, all other receptors including the future mixed-use residential development to the south across 2nd Street, which would be located approximately 170 feet from the Office Terrace, are located farther away where impacts would be less than those at R5.

According to the Project Architect and as set forth in PDF NOISE-4, there could be up to approximately 150 visitors to the Office Terrace at one time on a peak weekend day. Noise from human conversation is approximately 55 dBA at a distance of 3 feet.[37] Assuming 75 visitors talking simultaneously, the continuous noise level would be up to 74 dBA at 3 feet. Based on a noise level source strength of 74 dBA at a reference distance of 3 feet, and accounting for distance attenuation (6 dBA per doubling of distance, a minimum of 29 dBA attenuation or more[38] for 80 feet distance to the sensitive receptor location R5), the Office Terrace-related noise would be reduced to 45 dBA, which would be inaudible at the noise sensitive receptor location R5 and would not exceed the daytime significance threshold of 70.0 dBA and the nighttime significance threshold of 68.4 dBA. **Therefore, Office Terrace operations would not result in a substantial increase in ambient noise levels. Impacts would be less than significant, and no mitigation measures would be required.**

A Residential Terrace would be located at the roof level of the five-story Podium, which connects the two residential towers. This area, which would be used by residents of the North Tower and South Tower, would be located between the North Tower and the South Tower, as shown in Figure II-22. The Residential Terrace would be located approximately 80 feet from the nearest sensitive receptor location R1 (Federal Court), which is the closest receptor, and therefore, all other receptors including the future noise sensitive uses across 2nd Street, which would be located approximately 150 feet from the Residential Terrace are located farther away where impacts would be less than those at R1.

37 American Journal of Audiology Vol.7 21-25 October 1998. doi:10.1044/1059-0889(1998/012).

38 Stationary point sources of noise attenuate at a rate of 6 dBA for acoustically hard site. For an example, noise level of 55 dBA at a distance of 3 feet would be reduced to 49 dBA at a distance of 6 feet and 43 dBA at a distance of 12 feet.

According to the Project Architect, there could be up to approximately 200 visitors to the Residential Terrace at one time on a peak weekend day. Noise from human conversation is approximately 55 dBA at a distance of 3 feet.[39] Assuming 100 visitors talking simultaneously, the continuous noise level would be up to 75 dBA at 3 feet. Based on a noise level source strength of 75 dBA at a reference distance of 3 feet, and accounting for distance attenuation (6 dBA per doubling of distance, a minimum of 29 dBA attenuation or more for 80 feet distance to the nearest sensitive receptor location R1) and barrier-insertion loss by the Project buildings (minimum 5 dBA insertion loss), the Residential Terrace related noise would be reduced to 41 dBA, which would be inaudible at the noise sensitive receptor location R1 and would not exceed the lowest hourly L_{eq} daytime significance threshold of 70.4 dBA L_{eq}. The operation hours of the Federal Courthouse are from 8:30 a.m. to 4:30 p.m. Therefore, nighttime noise impacts would not be expected at the Federal Courthouse. For the future mixed-uses residential development (R1) to the south across W. 2nd Street, the Residential Terrace related noise would be reduced to 36 dBA due to the 150 feet distance and barrier-insertion loss by the Project buildings, which would not exceed the lowest hourly L_{eq} nighttime significance threshold of 65.4 dBA. **Therefore, Residential Terrace operations would not result in a substantial increase in ambient noise levels.**

In summary, open space noise impacts would be less than significant and no mitigation measures would be required.

Fixed Mechanical Equipment

With respect to Project operation, all building outdoor mounted mechanical and electrical equipment would be designed to meet the requirements of LAMC Chapter XI, Section 112.02. Section 112.02 of the LAMC requires that any heating, ventilation, and air conditioning (HVAC) system within any zone of the City not cause an increase in ambient noise levels on any other occupied property or if a condominium, apartment house, duplex, or attached business, within any adjoining unit to exceed the ambient noise level by more than 5 dBA.

The operation of mechanical equipment typical for developments like the Project, such as air conditioners, fans, generators, and related equipment, may generate audible noise levels. Project mechanical equipment would be located on rooftops or within buildings, and would be shielded from nearby land uses to attenuate noise and avoid conflicts with adjacent uses. In addition, all mechanical equipment would be designed with appropriate noise control devices, such as sound attenuators, acoustics louvers, or sound screen/parapet walls, to comply with noise limitation requirements provided in Section 112.02 of the LAMC, which prohibit the noise from such equipment causing an increase in the ambient noise level by more than five decibels. The Project would comply with the requirement to install mechanical equipment that would generate noise levels below this threshold, consistent with applicable regulatory requirements.

Exterior reference noise levels for air condenser units, fans, and related equipment, the primary sources of noise from fixed mechanical equipment, would be 81.9 dBA L_{eq} measured at a distance of 5 feet (based on noise data from large shopping center projects in Southern California).[40] Noise

[39] American Journal of Audiology Vol.7 21-25 October 1998. doi:10.1044/1059-0889(1998/012).

[40] Refer to: City of Moreno Valley, Moreno Valley Walmart Noise Impact Analysis, Table 9-1, Page 71, February 10, 2015; and City of Pomona, Pomona Ranch Plaza Walmart Expansion Project, Table 4.4-5, Pg. 4.4-33, August 2014.

control devices, such as sound attenuators, acoustics louvers, or sound screen/parapet walls would achieve a minimum 5 dBA reduction in noise level due to partial noise shielding, although 10 dBA or more could be achieved from blocking the line of sight completely. A 5 dBA reduction is assumed to provide a conservative assessment. The nearest sensitive receptor is approximately 80 feet from the Project Site at measurement location R1 (Federal Courthouse). At this distance, the noise level would attenuate to 53 dBA (6 dBA attenuation per doubling of distance, a minimum of 24 dBA attenuation or more[41] for 80 feet distance to the sensitive receptor location R1), assuming a minimum 5 dBA reduction in noise level due to partial noise shielding (although a reduction of 10 dBA or more could be achieved). This would be 12 dBA below the lowest hourly L_{eq} daytime ambient noise level of 65.4 dBA L_{eq} (see **Table 1**), which would increase the daytime average ambient noise level by 0.2 dBA, and would not result in an increase by 5 dBA or more over ambient levels. The operation hours of the Federal Courthouse are from 8:30 a.m. to 4:30 p.m. Therefore, nighttime noise impacts would not be expected at the Federal Courthouse. For the future mixed-uses residential development to the south across W. 2nd Street, the mechanical equipment related noise would be reduced to 57 dBA due to the 50 feet distance and barrier-insertion loss by partial noise shielding, which would not exceed the nighttime significance threshold of 68.8 dBA L_{eq}. Therefore, operation of mechanical equipment would not exceed the City's thresholds of significance. **Impacts from fixed mechanical equipment noise would be less than significant, and no mitigation measures would be required.**

Refuse Collection Areas

Refuse collection areas would be located within parking garage level P-1. Loading dock and refuse service-related activities such as truck movements/idling and loading/unloading operations generate noise levels that have a potential to adversely impact adjacent land uses during long-term Project operations. However, since the loading and refuse service areas would be enclosed within the parking garage and shielded from surrounding off-site development, there would be no perceptible increases in noise from loading dock and refuse collection areas at off-site sensitive receptor locations. **As such, impacts from refuse collection area noise would be less than significant and no mitigation measures would be required.**

Loading Dock Areas

Loading dock activities such as truck movements/idling and loading/unloading operations generate noise levels that have the potential to adversely impact adjacent land uses during long-term Project operations. The Project will not allow any delivery truck idling for more than 5 consecutive minutes in the loading area pursuant to State regulation (Title 13 California Code of Regulations [CCR], Section 2485. Signs will be posted in delivery loading areas specifying this idling restriction. In addition, the loading area would be located in the middle of the North Tower and South Tower on the ground level and would be screened from public view and shielded from surrounding off-site development by the Project buildings. Based on a noise survey that was conducted at a loading

[41] Stationary point sources of noise attenuate at a rate of 6 dBA for acoustically hard site. For an example, noise level of 55 dBA at a distance of 3 feet would be reduced to 49 dBA at a distance of 6 feet and 43 dBA at a distance of 12 feet.

dock facility by ESA, loading dock activity (namely idling semi-trucks and backup alarm beeps) would generate noise levels of approximately 70 dBA L_{eq} at a reference distance of 50 feet from the noisiest portion of the truck (i.e., to the side behind the cab and in line with the engine and exhaust stacks).[42] The nearest noise sensitive uses to the west of the Project Site, represented by measurement location R1 (Federal Courthouse) would be located approximately 150 feet or more from the loading dock area. The loading dock area would be located approximately 200 feet from the future mixed use residential development. Based on a noise level source strength of 70 dBA at a reference distance of 50 feet, and accounting for barrier-insertion loss by the Project buildings (minimum 15 dBA insertion loss) and distance attenuation (minimum 10 dBA loss), loading dock noise would be approximately 45 dBA at these noise sensitive uses and therefore would not increase the daytime average ambient noise levels of 67.7 dBA L_{eq} when combining the ambient noise levels and noise from the loading areas. **Because the loading area noise would not increase ambient noise levels at the noise sensitive receptor location R1 by 5 dBA, impacts would be less than significant, and no mitigation measures would be required.**

Emergency Generator

The Project would include two on-site emergency generators located at the North Tower with an estimated rating of approximately 414 kilowatts (approximately 555 HP) and at the South Tower with an estimated rating of approximately 623 kilowatts (approximately 835 HP). The emergency generators may be used in the event of a power outage to provide electricity for emergency safety lighting and other emergency electricity needs. Maintenance and testing of the emergency generator would not occur daily, but rather periodically, up to 50 hours per year per SCAQMD 1470. The emergency generators would be located southwest corner of P1 Level and screened from public view and shielded from surrounding off-site development by the Project buildings.

For the purposes of providing a conservative noise assessment, it is assumed the emergency generators could be located as close as approximately 80 feet from the nearest noise-sensitive uses to the west of the Project Site, which would be the Federal Courthouse represented by measurement location R1. Other off-site noise-sensitive receptors would be farther away or would not have a line-of-site to the emergency generator and would be less impacted by noise from this source. Based on a noise survey that was conducted for an equivalent generator by ESA, the generator would generate noise levels of approximately 96 dBA (L_{eq}) at 25 feet without any sound attenuations.[43] As set forth in PDF NOISE-5, emergency generators would be designed not to exceed the ambient noise level by more than 5 dBA. Therefore, the emergency generators would be designed to generate noise levels of approximately 81 dBA (L_{eq}) at 25 feet with the noise attenuation devices and enclosures. Based on a noise level source strength of 81 dBA at a reference distance of 25 feet,

[42] The loading dock facility noise measurements were conducted at a loading dock facility at a Wal-Mart store using the Larson-Davis 820 Precision Integrated Sound Level Meter ("SLM") in May 2003. The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The microphone was placed at a height of approximately 5 feet above the local grade.

[43] The generator noise measurements were conducted at a Verizon facility using the Larson-Davis 820 Precision Integrated Sound Level Meter (SLM) in November 2000. The Larson-Davis 820 SLM is a Type 1 standard instrument as defined in the American National Standard Institute S1.4. All instruments were calibrated and operated according to the applicable manufacturer specification. The microphone was placed at a height of approximately 5 feet above the local grade.

and accounting for distance attenuation (minimum 10 dBA loss) and barrier-insertion loss by the Project buildings (minimum 10 dBA insertion loss), generator-related activity noise would be approximately 61 dBA and would increase the daytime average ambient noise level of 67.7 dBA L_{eq} by 0.8 dBA at the noise-sensitive uses (the Federal Courthouse and future mixed-use residential development to the south) represented by measurement location R1. Therefore, operation of the emergency generators would not exceed the City's thresholds of significance. **Impacts from the emergency generator noise would be less than significant, and no mitigation measures would be required.**

Parking Structure

The Project is designed for approximately 1,744 vehicle parking spaces in the five-level above-ground Podium and nine-level subterranean parking structure. The entrance and exit to the residential and retail parking would be located on S. Broadway and W. 2nd Street.

Sources of noise associated with parking facilities typically include engines accelerating, doors slamming, car alarms, tire squeals, and people talking. Noise levels at these facilities would fluctuate throughout the day with the amount of vehicle and human activity. Noise levels would generally be the highest in the morning and evening peak traffic hours when the largest number of automobiles would enter and exit the parking facility.

For the purpose of providing a conservative, quantitative estimate of the noise levels that would be generated from vehicles entering and exiting the project's parking structure, the methodology recommended by FTA for the general assessment of stationary transit noise sources is used discussed in the Methodology Section.

Based on the Project's traffic study prepared by Fehr & Peers,[44] provided in Appendix L of the Project's Draft EIR, the Project is forecasted to generate 12,358 total project external daily vehicle trips, including an anticipated 889 trips and 854 trips during the A.M. and P.M. peak hours, respectively. Using the FTA's reference noise level of 92 dBA sound exposure level (SEL)[45] at 50 feet from the noise source for a parking lot, it was determined that the Project's highest peak hour vehicle trips, which would be 889 trips during the A.M. peak hour, would generate noise levels of approximately 56 dBA L_{eq} at 50 feet from the Project's parking entrance. The nearest noise sensitive use to the entrance on W. 2nd Street would be approximately 50 feet, at measurement location R1 (Future Mixed-Use Residential Development). Based on this distance, the vehicle related noise levels would be approximately 56 dBA L_{eq} at measurement location R1, which would increase the daytime average ambient noise level of 67.7 dBA by 0.1 dBA and nighttime average ambient noise level of 63.8 dBA by 0.7 dBA. All other noise sensitive uses would experience lower parking structure noise levels. This also conservatively assumes the peak hour traffic would all utilize one entrance. These noise levels analysis would not increase the daytime average ambient noise levels of 68 dBA L_{eq} at these noise sensitive uses by 5 dBA. **As such, impacts parking structure noise would be less than significant, and no mitigation measures would be required.**

44 Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018.

45 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, 2018.

Composite Noise Level Impacts from Project Operations

An evaluation of the combined noise from the Project's various noise sources (i.e., composite noise level) was conducted to conservatively ascertain the potential maximum Project-related noise level increase that may occur at the noise-sensitive receptor locations included in this analysis. Noise sources associated with the Project would include traffic on nearby roadways, open space, on-site mechanical equipment, refuse collection area, loading dock area, emergency generator, and parking structure. The noise level from stationary noise sources were converted from the maximum L_{eq} noise levels discussed above to CNEL by conservatively assuming the maximum L_{eq} noise levels would occur during the operational hours for each stationary noise source. Open space noise was assumed to occur from 12:00 pm to 12:00 am; mechanical equipment noise was assumed to occur 24-hours per day; loading dock noise was assumed to occur from 7:00 am to 9:00 pm; emergency generator noise from testing and maintenance was assumed to occur for approximately one hour during the daytime; and parking structure noise was assumed to occur 24-hours per day.

Based on the location of the Project noise sources, the only noise-sensitive locations at which composite noise impacts could occur are the future residences located to the southwest of the Project Site and the Federal Courthouse located to the west of the Project Site (both represented by Location R1). The noise-sensitive location R1 is the nearest sensitive receptor and if a noise impact at the location R1 is less than significant, noise impacts at all other noise sensitive receptors will be less than significant because of distance attenuations. The predominant Project noise source that could potentially affect these off-site sensitive receptors would be noise-generating activities at loading dock areas, emergency generators, and parking structure.

Noise associated with activities in the refuse collection areas would not increase the overall ambient noise levels in the project vicinity. As shown in **11**, *Composite Noise Levels At Sensitive Receptor Location R1 From Project Operations*, based on the future without Project traffic noise level of 69.6 dBA at S. Broadway, between W. 1st Street and W. 2nd Street in the vicinity of R1, project-related traffic would contribute approximately 59.0 dBA of sound energy, which would increase the existing roadway noise levels by 0.4 dBA. Mechanical equipment would contribute a maximum of 59.7 dBA of sound energy at R1. Loading dock areas would contribute a maximum of 46.2 dBA of sound energy each at R1. Emergency generator use would contribute a maximum of 61.0 dBA of sound energy at R1. The parking structure would contribute a maximum of 62.7 dBA of sound energy at R1. Overall, relative to the existing noise environment, the Project would be estimated to increase the exterior ambient noise level by approximately 1.3 dBA at the Federal Courthouse (R1) to the west, which would not exceed the significance threshold of a 3 dBA increase. This analysis conservatively assumes that the Project's operational noise sources would generate maximum noise levels simultaneously. **Therefore, the Project's operational composite noise would be less than significant.**

TABLE 11
COMPOSITE NOISE LEVELS AT SENSITIVE RECEPTOR LOCATION R1 FROM PROJECT OPERATIONS

Operational Noise Sources	Noise Levels, dBA CNEL Location R1
Existing (Ambient) Noise Level (A)	**71.8** [a]
Project Composite Noise Sources	
Open spaces	52.8 (48 dBA L_{eq})
Mechanical equipment	59.7 (53 dBA L_{eq})
Refuse collection areas	0
Loading dock areas	46.2 (45 dBA L_{eq})
Emergency generator	61.0 (61 dBA L_{eq})
Parking Structure	62.7 (56 dBA L_{eq})
Offsite traffic (S. Broadway, between W. 1st Street and W. 2nd Street)	
Future without Project traffic noise level	*69.6*
Future plus Project traffic noise level	*69.2*
Estimated Project-only traffic noise level	59.0
Project Composite Noise Level (B)	**67.1**
Existing Plus Project Composite Noise Level (C)	**73.1**
Project Increment (C-A)	1.3
Exceeds Threshold (3 dBA increase)?	No

[a] CNEL level is from Appendix I-3.
[b] CNEL levels for each noise source are calculated based on operational hours of each noise source.

SOURCE: ESA, 2018.

Therefore, as discussed above, the Project would result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. As discussed below in Section 8, impacts to on-site construction noise would be significant with the incorporation of mitigation measures. In addition, there are no feasible mitigation measures to reduce the noise impacts due to off-site truck trips during the nighttime along the truck routes. Therefore, temporary off-site construction noise impacts during the nighttime would be significant and unavoidable. Operational off-site traffic noise and on-site composite operational noise would be less than significant, and operational noise mitigation measures would not be required.

Site Compatibility (Proposed On-Site Noise-Sensitive Uses)

The Project would locate new noise-sensitive uses on the Project Site in an existing urban setting, which may subject future residents of the Project to typical types of urban noise sources, such as traffic noise.

As discussed above, the City of Los Angeles prohibits interior noise levels from all exterior sources to exceed 45 dBA CNEL in any habitable room (LAMC 91.1207.14.2), and exterior noise levels of greater than 65 dBA CNEL for outdoor living areas (excluding balconies) (LAMC 91.1208). As

indicated by the predicted vehicular traffic noise levels presented in **Table 2**, the Project's western perimeter at the ground level along Broadway would be exposed to maximum ambient noise levels of up to 73.8 dBA CNEL (also see **Table 9** and **Table 10**), which is within the "Normally Unacceptable" category for multi-family residential uses. In accordance with the City's Building Code, the Project would be required to include noise insulation features for multi-family buildings in the design of the residential buildings, such as insulated windows and doors, in order to achieve the interior noise limits of 45 dBA CNEL. The Project would be required to comply with these regulations and, therefore, impacts would be less than significant.

Threshold b): Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

5.2 Groundborne Vibration

5.2.1 Structural Damage Impacts

Construction activities at the Project Site have the potential to generate relatively low levels of groundborne vibration, as the operation of heavy equipment (e.g., vibratory pile driver, backhoe, dozer, excavators, drill rig, loader, scraper, and haul trucks) generates vibrations that propagate though the ground and diminish in intensity with distance from the source. No rock blasting with explosives would be used during Project construction

Project construction would generate varying degrees of ground vibration, depending on the construction procedures and the construction equipment used. The PPV vibration velocities for several types of construction equipment measured at increasing distances are identified in **Table 12,** *Vibration Source PPV Levels for Construction Equipment*.

TABLE 12
VIBRATION SOURCE PPV LEVELS FOR CONSTRUCTION EQUIPMENT

	Approximate PPV (in/sec)			
Equipment	**25 Feet**	**50 Feet**	**75 Feet**	**100 Feet**
Vibratory Pile Driver (sonic) (typical soil conditions)	0.17	0.06	0.033	0.021
Large Bulldozer	0.089	0.031	0.017	0.011
Bore/Drill Rig	0.089	0.031	0.017	0.011
Loaded Trucks	0.076	0.027	0.015	0.010
Jackhammer	0.035	0.012	0.007	0.004
Small Bulldozer	0.003	0.001	0.0006	0.0004

SOURCE: FTA, Transit Noise and Vibration Impact Assessment, 2018; ESA, 2018.

As shown in **Table 12**, at a distance of 100 feet, the maximum vibration levels at off-site receptors would be up to approximately 0.021 in/sec PPV from the operation of a vibratory pile driver (sonic)

with typical soil conditions. The vibration criteria for potential structural damage for the Project construction is 0.5 in/sec PPV at the nearest buildings, which have been determined to be of FTA Building Category I – Reinforced-concrete, steel, or timber (no plaster).

The Times, Plant, and Mirror Buildings are components of the Project that would be subject to vibration from construction activities. The Times, Plant, and Mirror Buildings are located on the Project Site and Project construction activities could be as close as approximately 1 foot from the buildings.

The nearest off-site sensitive buildings to the Project Site that could be exposed to vibration levels generated from Project construction include the Federal Courthouse structure, approximately 100 feet to the west of the Project Site and the Metro Station structure to the south of the Project Site.[46]

Table 13, *Groundborne Vibration Levels at Sensitive Uses Compared to FTA's Vibration Criteria for Building Damage,* provides the estimated vibration levels at the Times, Plant, and Mirror Buildings, and the Federal Courthouse.

As shown in **Table 13**, at the closest distance to construction activities (1 foot), the Times, Plant, and Mirror Buildings could be exposed to vibration velocities up to 3.07 in/sec PPV from the operation of a large dozer and 5.864 in/sec PPV from the operation of a vibratory pile driver, assuming vibration-generating equipment are used as close as approximately 1 foot from the Times, Plant, and Mirror Buildings.[47] This value would exceed the 0.50 in/sec PPV significance threshold for potential building damage for on-site structures. **Therefore, structural damage vibration impacts to the Times, Plant, and Mirror Buildings would be potentially significant prior to the implementation of mitigation measures.**

Under the FTA's construction vibration damage criteria, the Project would not generate vibration levels at nearby offsite buildings that would exceed the significance criterion of 0.5 in/sec PPV. **As such, the potential vibration impacts for structural damage at offsite buildings would be less than significant; therefore, no mitigation measures would be required.**

According to the FTA's *Transit Noise and Vibration Impact Assessment*, haul truck trips on roadways rarely create vibration levels that exceed 70 VdB, which would be equivalent to 0.012 in/sec PPV, which would not exceed the significance threshold for building damage of 0.50 in/sec PPV.[48] **Therefore, the potential vibration impacts for building damage due to off-site haul trucks would be less than significant, and no mitigation measures would be required.**

46 The distance of 80 feet shown in **Table 7** is from the Project construction boundary nearest to the Federal Courthouse property line. The distance of 100 feet shown in **Table 13** is from the Project construction site boundary nearest to the Federal Courthouse building, which is the appropriate distance for evaluating structural vibration impacts.

47 Vibrations estimates are based on guidance in the Transportation- and Construction-Induced Vibration Guidance Manual, California Department of Transportation, Environmental Program, Environmental Engineering, Noise, Vibration, and Hazardous Waste Management Office, June 2004: $PPV_{equip} = PPV_{ref} (25/D)^n$; where PPV_{ref} = reference source vibration, D = Distance, n =factor for soil attenuation.

48 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Table 7-5, 2018.

TABLE 13
GROUNDBORNE VIBRATION LEVELS AT SENSITIVE USES COMPARED TO FTA'S VIBRATION CRITERIA
POTENTIAL FOR STRUCTURAL DAMAGE

Sensitive Land Use	Approximate Distance to Project Site[a] ft.	Estimated PPV Large Dozer : Vibratory Pile Driver PPV (in/sec)	FTA's Vibration Criteria Potential for Structural Damage[b] PPV (in/sec)	Exceed FTA's Vibration Threshold? (Yes or No)
Times Building, Plant Building, and Mirror Building	1	3.07 : 5.864	0.5	Yes
R1 – Federal Courthouse Building: west of the Project Site	100	0.011 : 0.021	0.5	No
R5 – Metro Station: south of the Project Site	80	0.016 : 0.03	0.5	No

ft. = feet
in/sec = inches per second.

[a] Approximate distances are measured from the nearest construction area within the Project Site where vibration levels would be generated to the nearest off-site structure.
[b] FTA's' Vibration Damage Potential Thresholds were taken from **Table 3**.

SOURCE: FTA, Transit Noise and Vibration Impact Assessment. 2018; ESA, 2018.

5.2.2 Human Annoyance

Construction

With respect to human annoyance, the FTA's *Transit Noise and Vibration Impact Assessment* identifies residential and institutional buildings as sensitive receptors. Therefore, courthouse and library buildings nearby the Project Site would be considered as vibration sensitive receptors for human annoyance.

The RMS vibration velocities for several types of construction equipment that can generate perceptible vibration levels are identified in **Table 14,** *Vibration Source RMS Levels for Construction Equipment*.

TABLE 14
VIBRATION SOURCE RMS LEVELS FOR CONSTRUCTION EQUIPMENT

Equipment	Approximate RMS (VdB) 25 Feet	50 Feet	75 Feet	100 Feet
Vibratory Pile Driver (sonic) (typical soil conditions)	93	84	78	74
Large Bulldozer	87	78	73	69
Bore/Drill Rig	87	78	73	69
Loaded Trucks	86	77	72	68

Equipment	Approximate RMS (VdB)			
	25 Feet	50 Feet	75 Feet	100 Feet
Jackhammer	79	70	65	61
Small Bulldozer	58	49	44	40

SOURCE: FTA, Transit Noise and Vibration Impact Assessment, 2018; ESA, 2018.

The closest off-site sensitive land use to the Project Site is the Federal Courthouse (R1) to the west. Under the FTA's vibration criteria for potential human annoyance (refer to **Table 4**), vibration levels exceeding 75 VdB would be considered a human annoyance impact. As shown in **Table 15**, *Groundborne Vibration Levels at Sensitive Uses Compared to FTA's Vibration Impact Criteria For Human Annoyance*, the Federal Courthouse (R1) to the west of the Project Site could be exposed to vibration levels up to 74 VdB, which would not exceed the FTA's 75 VdB human annoyance criterion for frequent events for institutional land uses. **Thus, vibration impacts related to human annoyance due to on-site construction would be less than significant.**

TABLE 15
GROUNDBORNE VIBRATION LEVELS AT SENSITIVE USES COMPARED TO FTA'S VIBRATION IMPACT CRITERIA FOR HUMAN ANNOYANCE

Sensitive Land Use	Approximate Distance to Project Site [a]	Estimated PPV and VdB for Large Dozer : Vibratory Pile Driver (sonic) (typical soil conditions)	FTA's Vibration Critieria Potential for Human Annoyance[b]	Exceed FTA's Vibration Threshold? (Yes or No)
	feet	VdB	VdB	
Times Building, Plant Building, and Mirror Building	1	118 : 123	NA	NA
R1 – Federal Courthouse Building: west of the Project Site	100	69 : 74	75	No

[a] Approximate distances are measured from the nearest construction area within the Project Site where vibration levels would be generated to the nearest off-site structure.

[b] FTA's' Vibration Criteria for Human Annoyance Potential were taken from **Table 4**. Groundborne vibration impact criterion of frequent events was applied since frequent events is defined as more than 70 vibration events of the same source per day.

[c] Metro Station is considered to be a commercial use and not a sensitive receptor for human annoyance.

[d] On-site Times Building, Plant Building, and Mirror Buildings are office uses. Therefore, the existing on-site office buildings are not sensitive receptors for human annoyance.

SOURCE: FTA, Transit Noise and Vibration Impact Assessment. 2018; ESA, 2018.

For off-site haul truck vibration, as discussed above, loaded trucks would exit the Project Site from N. Broadway and turn right, head eastbound on W. 1st Street to Main Street, head north on Main Street to Aliso Street, turn right on Aliso Street, and merge on to the SR-101 southbound on-ramp. Empty trucks would take exit on Los Angeles Street, head south to 2nd Street, make a right on W. 2nd Street, turn right on N. Broadway, and right into the Project Site.

According to the FTA's *Transit Noise and Vibration Impact Assessment*, haul trucks rarely create vibration levels that exceed 70 VdB unless there are bumps in the road.[49] However, haul trucks would generate groundborne noise levels of approximately 75 VdB when they travel rough roads or uneven road surfaces, which would exceed the human annoyance significance threshold of 72 VdB for frequent events for residential uses.[50] **Even though haul trucks would pass vibration sensitive receptors along the haul routes for only a few seconds, groundborne noise impacts on sensitive receptors for human annoyance along the haul routes could be conservatively considered to be significant.**

As discussed previously, based on available information, the Future Mixed-Use Residential Development planned for future construction over the future Metro Station at the corner of 2nd Street and Broadway, approximately 50 feet southwest of the Project Site, is not expected to be in operation and occupied during construction of the Project. **As such, there would be no impacts to these future residents from construction-related vibration from the Project.**

Operations

The Project's day-to-day operations would include typical commercial-grade stationary mechanical and electrical equipment, such as air handling units, condenser units, and exhaust fans, which would produce vibration at low levels that would not cause damage or annoyance impacts to the Project buildings or on-site occupants and would not cause vibration impacts to the off-site environment. In addition, the primary sources of transient vibration would include passenger vehicle circulation within the proposed parking area. According to America Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), pumps or compressor would generate groundborne vibration levels of 0.5 in/sec PPV at 1 foot. The nearest vibration sensitive structures are located approximately 100 feet from the Project Site. Groundborne vibration generated by each of the above-mentioned equipment and activities would generate approximately up to 0.0007 in/sec PPV (42 VdB) at the nearest sensitive receptor location (R1 and R5) approximately 80 feet from the Project Site.[51] The potential vibration levels from all Project operational sources at the closest existing building and human annoyance receptor locations would be less than the significance criteria for building damage and human annoyance of 0.5 in/sec PPV and 72 VdB, respectively. **As such, vibration impacts associated with operation of the Project would be below the significance threshold and impacts would be less than significant.**

Therefore, as discussed above, the Project would result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels with respect to construction-related potential structural damage impacts to the on-site Times, Plant, and Mirror Buildings and human annoyance impacts from off-site truck traffic. As discussed below in subsection I.3.g, building damage impacts to on-site structures associated with construction vibration would be less than significant with the incorporation of mitigation measures. There are no feasible mitigation measures for human annoyance impacts due to

49 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, page 113, 2018.

50 Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Table 6-3, 2018.

51 America Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., Heating, Ventilating, and Air-Conditioning Applications, 1999.

off-site truck trips along the truck routes when trucks travel rough roads or uneven road surfaces. Therefore, temporary human annoyance impacts would be significant and unavoidable. Project operation would not generate excessive vibration levels at sensitive receptor locations. Thus, operational impacts would be less than significant.

Threshold c: Would the project result in a substantial permanent increase in ambient noise levels in the vicinity of the Project above levels existing without the Project?

5.3 Permanent Increase in Ambient Noise Levels

The existing noise environment in the Project area is dominated by traffic noise from nearby roadways, as well as nearby residential and commercial activities. Long-term operation of the proposed Project would not have a significant effect on the community noise environment in proximity to the Project Site. Noise sources that would have potential noise impacts include: off-site vehicle traffic; open spaces; mechanical (i.e., air-conditioning) equipment; loading areas; emergency generators; and parking structure. Motor vehicle travel on local roadways attributable to the proposed Project, as discussed above, would have a less-than-significant impact on community noise levels. Noise levels associated with on-site operations (e.g., parking and mechanical equipment) are also considered less than significant as discussed in Threshold a). Therefore, noise impacts with respect to threshold c) are also less than significant.

Threshold d: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

5.4 Temporary Increase in Ambient Noise Levels

Construction activities associated with the proposed Project would occur during the allowable construction hours under LAMC. However, it is anticipated that concrete pours require continuous hours of pouring, which would require occuring during off-hours; i.e., outside of the LAMC's allowable daytime construction hours. As indicated in **Table 7**, construction noise levels are estimated to reach a maximum of 90 dBA L_{eq} at the nearest sensitive receptor (at measurement location R1, the Federal Courthouse). This would exceed the 70.4 dBA significance threshold at R1 (average daytime noise level of 65.4 dBA at R1 in **Table 1** plus 5 dBA). The sensitive receptor locations R3, R4, R5, and R6 would be exposed to construction noise levels which would exceed the significance thresholds of 77.8 dBA L_{eq} at R3, 73.5 dBA L_{eq} at R4, 70.0 dBA L_{eq} at R5, and 71.3 dBA L_{eq} at R6. As such, construction of the proposed Project would cause a substantial temporary and periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project. A potentially significant impact would occur. Mitigation measures are identified to reduce on-site construction noise levels to the nearby sensitive receptors, as presented below in Section 7, Mitigation Measures. However, noise impacts from on-site construction would remain significant and unavoidable.

As discussed previously under Threshold a), the Project's construction truck trips would exceed the nighttime ambient noise levels by 5 dBA along the haul routes. As such, construction noise impacts associated with off-site construction vehicles would be significant and unavoidable since there are no feasible mitigation measures to reduce the noise impacts.

Therefore, as discussed in Threshold a), the Project would result in substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project without the incorporation of mitigation measures. As discussed below in Section 7, impacts from on-site and off-site construction noise would be significant and unavoidable with the incorporation of mitigation measures.

Threshold e: Would the project expose people residing or working in the project area to excessive noise levels (for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport)?

5.5 Public Airport or Public Use Airport

As discussed in the Initial Study (Appendix A-2 to the Project's Draft EIR), the Project is not located within an airport land use plan and is not within two miles of a public use airport or within the vicinity of a private airstrip. The nearest public airport is the Hawthorne Municipal Airport located approximately 10 miles southwest of the Project Site. **Therefore, the Project would not expose people in the Project vicinity to excessive noise levels from airport use. No impact would occur, and no mitigation measures are required.**

Threshold f: Would the project expose people residing or working in the project area to excessive noise levels (for a project within the vicinity of a private airstrip)?

5.6 Private Airstrip

As discussed in the Initial Study (Appendix A-2 to the Project's Draft EIR), the Project is not located within the vicinity of a private airstrip. The nearest private airport or airstrip is the Goodyear Blimp Base Airport in the City of Carson, approximately 13.5 miles south of the Project Site. **Therefore, the Project would not expose people in the Project vicinity to excessive noise levels from airport use. No impact would occur, and no mitigation measures are required.**

SECTION 6
Cumulative Impacts

The geographic context for the analysis of cumulative noise impacts depends on the impact being analyzed. Noise from stationary sources is by definition a localized phenomenon, and significantly reduces in magnitude as the distance from the source increases. As such, only related projects and growth due to occur in the immediate Project area would contribute to cumulative on-site stationary source noise impacts. However, cumulative off-site mobile source noise impacts would be created by traffic from all related projects throughout a larger vicinity.

6.1 Cumulative Construction Noise Impacts

The potential for cumulative construction noise impacts from on-site construction activities to occur is based on the distance between the Project and each of the related projects. Noise from construction activities would normally affect the areas immediately adjacent to each of the construction sites, specifically areas that are less than 500 feet from a construction site (500 feet is the distance identified in the *Thresholds Guide* as the Screening Criterion with respect to construction activities). That is, cumulative noise impacts could occur at receptor locations that are within 500 feet from two different construction sites. Therefore, based on the 500-foot Screening Criterion distance, the cumulative construction noise impacts analysis is limited to related projects within 1,000 feet of the Project Site. The 1,000-foot distance is based on an assumption that a noise-sensitive receptor would be located halfway between the Project Site and the related project.

As discussed in Chapter III, *General Description of Environmental Setting*, subsection III.2, Related Projects, of the Project's Draft EIR, there are 170 related projects identified in the vicinity of the Project Site. The three development projects plus the regional connector and Civic Center Park infrastructure project closest to the Project Site are situated approximately 50 feet to 960 feet from the Project Site, respectively: Related Project No. 25, the Mixed-Use Residential Development located at 201 S. Broadway; Related Project No. 110, the Mixed-Use Residential Development located at 222 W. 2nd Street; Related Project No. 130, the TV Studio and Auditorium project at 237 S. Los Angeles Street; and Related Project No. 168, Metro Regional Connector project located at southeastern corner of E. 2nd Street and S. Broadway. In addition, the Civic Center Park project is located at 1st Street and Broadway. All other related projects are located a minimum of 1,100 feet away from the Project Site and are thus not within the *Thresholds Guide* Screening Criterion distance.

Noise from on-site construction activities are localized and would normally affect the areas within 500 feet from the individual construction sites. The nearest existing sensitive/residential uses to the Project Site that would be subject to cumulative noise impacts are the Federal Courthouse (R1),

Los Angeles County Library (R3), City Hall Park (R4), the Higgins Building Lofts apartment complex (R5), and Kawada Hotel (R6).

Related Project No. 130 would be located approximately 400 feet from the sensitive receptor R5. Existing buildings are located between the Related Project No. 130 and the sensitive receptor R5. Accounting for noise attenuation from a distance of 400 feet and barrier insertion loss by the existing buildings (minimum 10 dBA insertion loss), the maximum construction noise levels from Related Project No. 130 would be approximately 65 dBA L_{eq} at the sensitive receptor R5. Construction noise levels of 77 dBA from the Project would be reduced to 72 dBA L_{eq} with implementation of prescribed mitigation measures because implementation of MM-NOISE-1 would reduce the Project's construction noise levels at least 5 dBA at R5. Implementation of MM-NOISE-2 requires that construction equipment be equipped with noise mufflers; however, as a conservative assumption, no quantified reduction was taken. The combined construction noise levels of 65 dBA L_{eq} from Related Project No. 130 and 72 dBA L_{eq} from the Project would be 72.8 dBA L_{eq} at sensitive receptor R5, which would exceed the significance threshold of 70 dBA L_{eq}. Therefore, if construction of the Related Project No. 130 were to overlap with construction of the Project, the cumulative noise level would exceed the significance threshold at sensitive receptor R5. As such cumulative construction noise impacts would occur.

The related projects closest to the R5 residences and R6 hotels are: Related Project No. 25, a Mixed-Use Residential Development; Related Project No. 110, a Mixed-Use Residential Development; and Related Project No. 168, the Metro Regional Connector project. If construction of the Related Projects No. 25, No. 110, or No. 168 would overlap with construction of the Project, cumulative construction noise level increases could occur at the sensitive receptor locations along S. Broadway, W. 1st Street, and W. 2nd Street. The City of Los Angeles does not have any noise studies for those related projects or quantitative analysis that shows that particular construction activities for the related projects would occur concurrently. However, as a worst-case scenario, this EIR assumes that construction of the related projects No. 25, No. 110, or No. 168 would overlap with construction of the Project, and that short-term cumulative construction noise impacts would be significant at the noise sensitive receptors at R3 through R6. **Therefore, cumulative construction noise impacts from on-site construction activities are conservatively considered to be significant and unavoidable.**

In contrast to cumulative on-site construction noise impacts, which are confined to a very limited geography surrounding the Project Site, off-site construction haul trucks would have the potential to result in cumulative impacts if the trucks associated with the related projects and the Project were to utilize the same haul route(s) over the same time periods. Related Project No. 25 would be located close to the Project Site, approximately 100 feet to the west of the Project Site. The Initial Study[52] for Related Project No. 110 states that its construction would not begin until construction of Related Project No. 168, the Metro Regional Connector portal and station, within the site is complete. Therefore, construction of Related Project No. 110 would not begin until 2022 and would not be complete until 2025, which would be two years after expected completion of the Project. In addition, Related Project No. 168, Metro Regional Connector is currently under construction and

52 City of Los Angeles, Initial Study, 222 West 2nd Project, Case No. ENV 2016-3809-EIR, January 2017, https://planning.lacity.org/eir/nops/222West2nd/nop.pdf. Accessed December 2018.

is slated to be completed in 2021. Therefore, Related Project No. 25, and Related Projects No. 110, or No. 168 would be under construction concurrently with the Project. It is anticipated that Related Project No. 25 and Related Projects No. 110 and No. 168 would use similar truck routes, which would be W. 2nd Street, S. Main Streets, and N. Los Angeles Street, as the Project since these Related Projects are located in proximity to the Project Site. Related Project No. 130 would be located at 237 S. Los Angeles Street, approximately 800 feet southeast of the Project Site. It is anticipated that Related Project No. 130 would use similar truck routes to access SR-101 freeway. Receptor location R8 along Los Angeles Street would be located along the truck route for Related Project No. 130.

The Project construction would generate a maximum of approximately 38 daily worker vehicle trips and approximately 1,406 daily concrete truck trips (equal to approximately 2,812 PCE) during the foundation/concrete pour phase. If renovation activities would overlap, approximately 124 additional daily worker vehicles trips would occur. As shown in **Table 8**, the Project's off-site construction traffic would generate maximum noise levels of approximately 68.8 dBA L_{eq}, on W. 2nd Street. The Project would not exceed the daytime significance thresholds for offsite construction noise, but would exceed the nighttime significance threshold on S. Broadway, Los Angeles Street, and W. 2nd Street during the two continuous concrete pour activities that would only last up to two days each (one nighttime and early morning period each).

Construction-related trips from the Project and related projects could combine to exceed ambient noise levels by 5 dBA at sensitive receptors adjacent to street segments along the Project truck route and, thus, exceed the significance criteria. Truck traffic related to construction of the Project could combine with the potentially concurrent construction of Related Project No. 110, located at 222 W. 2nd Street, immediately south of the Project Site. The Project is unique as it is one of two large projects in very close proximity that have the potential to be constructed concurrently. According to information on file with the Planning Department, heavy construction truck traffic from Related Project No. 110 would utilize segments of S. Los Angeles Street, same as the Project. In addition, construction traffic from other related projects could potentially use these street segments.[53] As previously discussed, it is not certain whether Project construction would occur concurrently with that of Related Project No. 110. However, given the possible unique circumstance of concurrent construction activities (including the possible overlapping renovation work for the Project) of these two large scale projects located across the street from one another and utilizing overlapping haul routes, it is conservatively assumed herein that these projects, combined with other related projects in the area noted in this section, could cumulatively generate sufficient truck trips to trigger a significant noise impact along segments of S. Los Angeles Street. It is noted, however, that should the Project's construction activities involving peak construction

[53] Related projects located along or near Spring Street, 3rd Street, or 4th Street that could potentially use those roadways to access the nearest freeway on- or off-ramp include Related Project Nos. 14, 38, 39, 49, 61, 77, 111, and 130. Related projects located along or near Los Angeles Street that could potentially use that roadway to access the nearest freeway on- or off-ramp include Related Project Nos. 16, 53, 61, 89, 97, 109, and 130. While some of these related projects may already be underway, may be operational prior to the start of Project construction, and/or may only involve interior renovations and therefore not require a haul route, other development projects in the surrounding area also could contribute to truck trips along the identified routes.

truck traffic be completed prior to commencement of construction of Related Project No. 110, this cumulative construction noise impact may not occur.

In addition, according to information on file with the Department of City Planning, the haul route for Related Project No. 110 is not anticipated to use W. 1st Street, W. 2nd Street,[54] S. Main Street, Aliso Street, or N. Broadway. Accordingly, even if the Project and Related Project No. 110 were to be constructed concurrently, unless Related Project No. 110 were to change its haul route to use W. 1st Street, S. Main Street, Aliso Street, or N. Broadway, that related project's construction truck trips would not contribute to cumulative off-site construction noise along those street segments. As such, the Project, combined with other related projects in the area, may not cumulatively generate sufficient truck trips to trigger a significant noise impact along W. 1st Street, W. 2nd Street, S. Main Street, Aliso Street, or N. Broadway.

In sum, based on the above, it is conservatively assumed that truck traffic related to construction of the Project, combined with Related Project No. 110 and other nearby related projects noted in this section, would occur throughout the day and could overlap, and, thus, could cumulatively exceed ambient noise levels by 5 dBA at sensitive receptors adjacent to S. Los Angeles Street.

Therefore, should Related Project No. 110 be constructed concurrently with the Project, cumulative noise due to construction truck traffic from the Project and other nearby related projects noted in this section has the potential to exceed the ambient noise levels along S. Los Angeles Street by 5 dBA. As such, cumulative daytime noise impacts from off-site construction are conservatively considered to be significant.

During the nighttime, the Project would exceed the nighttime significance threshold along the truck route. The Project's maximum truck trips would occur for a short duration during the continuous concrete pour activity, which would last one nighttime and early morning period for each residential tower for a total of up to two nighttime and early morning periods. Each project applicant would be required to prepare and submit to LADOT for approval a construction management plan that would be based on the nature and timing of the specific construction and other projects in the vicinity of the development site. Thus, while it would not be expected that related projects would contribute a maximum number truck trips during the same nighttime periods as the proposed Project, it is possible that related projects could require some nighttime construction work and generate some level of construction truck or worker trips along the same truck route at the Project. **Therefore, off-site construction noise impacts during the nighttime would be cumulatively considerable and cumulative off-site construction nighttime noise impacts would be cumulatively significant.**

As indicated above, each project applicant would be required to prepare and submit to LADOT for approval a construction management plan that would be based on the nature and timing of the

[54] While the haul routes for both the Project and Related Project No. 110 would include portions of W. 2nd Street, based on information on file with the Department of City Planning, the only overlapping segment would be located between the Related Project No. 110's driveway and Spring Street. Since the only sensitive receptors adjacent to this segment are the future residential uses in the Project, construction of these two projects could not combine to create a cumulative mobile noise impact since the future residential uses would not be occupied until after the Project has been completed and heavy construction ceased.

specific construction and other projects in the vicinity of the development site. Thus, it is unlikely that there would be simultaneous continuous concrete pouring activities during the nighttime and early morning hours from multiple related projects given that such activities are limited to a few specific days.

6.2 Cumulative Operational Noise Impacts

Cumulative off-site noise impacts would occur primarily as a result of increased traffic on local roadways due to operation of the Project and the related projects, as traffic is the greatest source of operational noise in the Project area. Cumulative off-site traffic-generated noise impacts were assessed based on a comparison of the future cumulative base traffic volumes with the Project to the existing base traffic volumes without the Project. The future cumulative base traffic volumes with the Project represent an estimate of the ambient background growth, related projects traffic, and the Project traffic volumes. Therefore, cumulative increase represents the increment by the ambient background growth, related project traffic, and the Project traffic volumes over the existing conditions. The results of that comparison are provided in **Table 16**, *Off-Site Traffic Noise Impacts – Future 2023 Cumulative Increment*. **Table 16** shows the Project's contribution to the cumulative noise levels. The maximum cumulative noise increase from the Project plus related project traffic would be 2.9 dBA CNEL, which would occur along N./S. Grand Avenue, south of W. 1st Street near concert hall and commercial uses. This increase in sound level would not exceed the significance thresholds of an increase of 3 or 5 dBA CNEL. **As a result, the Project's contribution to off-site traffic-related noise would not be cumulatively considerable and impacts would be less than significant.**

TABLE 16
OFF-SITE TRAFFIC NOISE IMPACTS – FUTURE 2023 CUMULATIVE INCREMENT

	Calculated Traffic Noise Levels On Roadway CNEL (dBA)				
Roadway Segment	**Existing (A)**	**Future with Project (B)**	**Cumulative Increment (B-A)**	**Significance Threshold [a]**	**Exceed Threshold?**
W. Sunset Boulevard/E. Cesar Chavez Avenue					
West of N. Figueroa Street	70.6	71.2	0.6	3	No
East of N. Figueroa Street	70.4	70.8	0.4	3	No
W. Aliso Street					
Between Broadway and N. Spring Street	66.0	66.6	0.6	5	No
W. Temple Street					
Between N. Hill Street and N. Broadway	70.2	71.2	1.0	3	No
Between N. Broadway and N. Spring Street	70.0	71.3	1.3	3	No
Between N. Spring Street and N. Main Street	70.1	71.3	1.2	3	No
W. 1st Street					
Between S. Grand Avenue and S. Olive Street	70.9	73.2	2.3	3	No

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Existing (A)	Future with Project (B)	Cumulative Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between S. Olive Street and S. Hill Street	70.4	72.6	2.2	3	No
Between S. Hill Street and S. Broadway	70.3	72.4	2.1	3	No
Between S. Broadway and S. Spring Street	70.4	72.2	1.8	5	No
Between S. Spring Street and S. Main Street	69.4	71.3	1.9	5	No
Between S. Main Street and S. Los Angeles Street	70.1	72.1	2.0	5	No
W. 2nd Street					
Between S. Beaudry Avenue and S. Figueroa Street	68.0	69.2	1.2	5	No
Between S. Figueroa Street and S. Hill Street	66.8	68.4	1.6	5	No
Between S. Hill Street and S. Broadway	67.3	68.7	1.4	3	No
Between S. Broadway and S. Spring Street	67.7	69.2	1.5	5	No
Between S. Spring Street and S. Main Street	67.0	68.6	1.6	5	No
Between S. Main Street and S. Los Angeles Street	66.9	68.5	1.6	5	No
W. 3rd Street					
Between S. Figueroa Street and S. Hill Street	71.2	72.1	0.9	3	No
Between S. Hill Street and S. Broadway	69.1	70.3	1.2	5	No
Between S. Broadway and S. Spring Street	68.6	69.8	1.2	5	No
Between S. Spring Street and S. Main Street	69.4	70.6	1.2	5	No
W. 4th Street					
Between S. Broadway and S. Spring Street	68.6	70.0	1.4	5	No
S. Beaudry Avenue					
North of W. 2nd Street	69.8	70.1	0.3	5	No
South of W. 2nd Street	70.5	70.8	0.3	5	No
N./S. Figueroa Street					
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	70.9	71.4	0.5	3	No
Between W. 2nd Street and W. 3rd Street	70.9	71.3	0.4	5	No
N./S. Grand Avenue					
North of W. 1st Street	70.1	71.1	1.0	5	No
South of W. 1st Street	69.3	72.2	2.9	3	No
S. Olive Street					
South of W. 1st Street	67.4	67.9	0.5	3	No
N./S. Hill Street					

Roadway Segment	Calculated Traffic Noise Levels On Roadway CNEL (dBA) Existing (A)	Future with Project (B)	Cumulative Increment (B-A)	Significance Threshold [a]	Exceed Threshold?
Between W. Temple Street and W. 1st Street	70.1	71.0	0.9	3	No
Between W. 1st Street and W. 2nd Street	69.3	70.9	1.6	5	No
Between W. 2nd Street and W. 3rd Street	69.7	71.1	1.4	5	No
N./S. Broadway					
Between W. Aliso Street and W. Temple Street	69.4	70.8	1.4	5	No
Between W. Temple Street and W. 1st Street	68.7	70.1	1.4	5	No
Between W. 1st Street and W. 2nd Street	67.5	69.6	2.1	5	No
Between W. 2nd Street and W. 3rd Street	67.9	69.8	1.9	5	No
Between W. 3rd Street and W. 4th Street	67.7	69.8	2.1	5	No
N./S. Spring Street					
Between W. Aliso Street and W. Temple Street	69.0	70.0	1.0	5	No
Between W. Temple Street and W. 1st Street	68.5	69.4	0.9	5	No
Between W. 1st Street and W. 2nd Street	68.2	69.4	1.2	5	No
Between W. 2nd Street and W. 3rd Street	69.5	70.9	1.4	5	No
Between W. 3rd Street and W. 4th Street	68.1	69.4	1.3	5	No
N./S. Main Street					
Between W. Temple Street and W. 1st Street	70.2	70.9	0.7	3	No
Between W. 1st Street and W. 2nd Street	69.5	70.4	0.9	5	No
Between W. 2nd Street and W. 3rd Street	69.4	70.7	1.3	5	No
S. Los Angeles Street					
Between W. 1st Street and W. 2nd Street	68.8	70.4	1.6	5	No

[a] The Project related traffic would cause any ambient noise levels measured at the property line of affected uses to increase by 5 dBA CNEL or more; or cause ambient noise levels measured at the property line of affected uses to increase by 3 dBA in CNEL or more to or within the "normally unacceptable" or "clearly unacceptable category."

SOURCE: ESA, 2018

As is true for the Project, compliance with the LAMC-required provisions that limit stationary source noise from items such as rooftop mechanical equipment would ensure that noise levels would be less than significant at the property line for each related project. However, the Project requires mitigation for operational on-site noise. As discussed below, with mitigation, the Project's

operational on-site noise impacts would be reduced to a less than significant level. In addition, on-site noise generated by each related project would be sufficiently low and sufficiently distant from the Project Site that it would not result in an additive increase to Project-related noise levels. Further, noise from other on-site sources, including parking structures, open space activity, emergency generator, and loading docks would be limited to areas in the immediate vicinity of each related project. Although each related project could potentially impact an adjacent sensitive use, that potential impact would be localized to that specific area and would not contribute to cumulative noise conditions at or adjacent to the proposed Project Site. **Therefore, cumulative stationary source noise impacts would be less than cumulatively significant.**

6.3 Cumulative Groundborne Vibration

Due to the rapid attenuation characteristics of groundborne vibration and distance from each of the related projects to the Project Site, there is no potential for cumulative construction- or operational-period impacts with respect to groundborne vibration. However, as the related projects would be anticipated to use similar trucks as the Project, it is expected that construction trucks from the related projects would generate similar vibration levels along the anticipated haul routes. If the Project and related projects would have the same haul routes and at least two trucks would pass together a sensitive receptor, cumulative groundborne noise impacts would occur. **Therefore, potential cumulative groundborne noise impacts for human annoyance would be cumulatively significant.**

The Metro Station site is located approximately 80 feet from the Project. As demonstrated in **Table 13**, with 80 feet distance, construction related vibration from the Metro Station construction would not exceed the 0.50 inches per second PPV significance threshold for potential building damage for the Times Building, the Plant Building, and the Mirror Building. **Therefore, cumulative vibration impacts for structural damage would not occur.**

SECTION 7
Mitigation Measures

7.1 Construction

Construction-related noise has the potential to result in significant noise impacts at the noise sensitive uses in the vicinity of the Project Site. However, the following mitigation measure would reduce construction-related noise impacts:

MM-NOISE-1: The Project shall provide a temporary 10-foot-tall construction fence equipped with noise reduction materials such as noise blankets rated to achieve sound level reductions of at least 5 dBA between the Project Site and the sensitive receptor locations R1 and R3 through R6.[55] Temporary noise barriers shall be used to block the line-of-sight between the construction equipment and the noise-sensitive receptor during early Project construction phases (up to the start of framing) when the use of heavy equipment is prevalent. The noise barrier shall have a minimum sound transmission class (STC) of 25 and noise reduction coefficient (NRC) of 0.75.[56, 57] At Plan Check, building plans shall include documentation prepared by a noise consultant verifying compliance with this measure.

MM-NOISE-2: Contractors shall ensure that all construction equipment, fixed or mobile, are equipped with properly operating and maintained noise shielding and muffling devices, consistent with manufacturers' standards. Construction contractor shall keep documentation on-site demonstrating that the equipment has been maintained in accordance with the manufacturers' specifications. Contractor shall also keep documentation on-site prepared by a noise consultant verifying compliance with this measure.

MM-NOISE-3: In order to reduce high noise levels at the Federal Courthouse located at 350 W. 1st St, Los Angeles, across S. Broadway from the Project Site, construction activities shall be scheduled to avoid operating several pieces of Heavy-Duty Equipment simultaneously. Heavy-Duty Equipment subject to the restrictions provided herein applies to all equipment generating noise levels of greater than 75 dBA Leq as measured at 50 feet from the source. The restrictions for Heavy-Duty Equipment on the Project Site during construction include:

55 R1: Federal Courthouse, R3: First and Broadway Civic Center Park and Los Angeles County Law Library, R4: City Hall Park, R5: One-acre park south of the LAPD Headquarters Building and Higgins Building Lofts apartment complex, R6: Kawada Hotel.

56 Sound Transmission Class (STC) is an integer rating of how well a wall attenuates airborne sound and Noise Reduction Coefficient (NRC) is a scalar representation of the amount of sound energy absorbed upon striking a wall.

57 M. David Egan, Architectural Acoustics, Chapter 2 and Chapter 4.

- A maximum of two (2) pieces of Heavy-Duty Equipment within 100 feet from the Courthouse;

- A maximum of four (4) pieces of Heavy-Duty Equipment between 100 feet and 150 feet from the Courthouse; and,

- A maximum of six (6) pieces of Heavy-Duty Equipment 150 feet or more from the Courthouse.

MM-NOISE-4: In order to reduce high noise levels at the Federal Courthouse across S. Broadway from the operation of a vibratory pile driver, the Project shall provide a temporary pile driver enclosure equipped with noise blankets rated to achieve sound level reductions of at least 10 dBA between the Project Site and the Federal Courthouse. The temporary noise barrier shall be used to block the line-of-sight between the construction equipment and the Federal Courthouse during the operation of vibratory pile driver. The noise barrier shall have a minimum sound transmission class (STC) of 25 and noise reduction coefficient (NRC) of 0.75.[58] Contractor shall keep documentation on-site prepared by a noise consultant verifying compliance with this measure.

MM-NOISE-5: The operation of a vibratory pile driver shall be prohibited within 60 feet of the Times Building, the Plant Building, and the Mirror Building and within 160 feet of the Federal Courthouse building. Instead, a drill rig shall be used within these areas.

MM-NOISE-6: To avoid or minimize potential construction vibration damage to structures and finish materials on the Times Building, the Plant Building, and the Mirror Building, the condition of structures and finish materials shall be documented by a qualified preservation consultant, prior to initiation of construction. Prior to construction, the Applicant shall retain the services of a qualified acoustical engineer to review the proposed construction equipment and develop and implement a vibration monitoring program capable of documenting the construction-related ground vibration levels at the Times, Plant, and Mirror Buildings. During construction, the contractor shall install and maintain at least one continuously operational automated vibrational monitor on the Times Building, the Plant Building, and the Mirror Building. The monitor(s) shall be capable of being programmed with two predetermined vibratory velocities levels: a first-level alarm equivalent to a 0.45 inches per second PPV at the face of the building and a regulatory alarm level equivalent to 0.5 inches per second at the face of the building. The monitoring system shall produce real-time specific alarms (for example, via text message and/or email to on-site personnel) when velocities exceed either of the predetermined levels.

In the event of a first-level alarm, feasible steps to reduce vibratory levels shall be undertaken, including but not limited to halting/staggering concurrent activities and utilizing lower-vibratory techniques. In the event of an exceedance of the regulatory level, work in the vicinity shall be halted and the Times Building, the Plant Building, and the Mirror Building visually inspected for damage. Results of the inspection shall be logged. In the event damage occurs to finish materials due to construction vibration, such materials shall be repaired in consultation with a qualified preservation consultant, and if warranted, in a manner that meets the Secretary of the Interior's Standards.

58 M. David Egan, Architectural Acoustics, Chapter 2 and Chapter 4.

As shown in **Table 17**, *Construction Noise Levels After Mitigation***,** implementation of MM-NOISE-1 would reduce daytime construction and nighttime off-hours concrete pour noise levels at least 5 dBA at the nearby noise sensitive receptor locations at R1 and R3 through R6. However, the Federal Courthouse located at 350 W 1st St, Los Angeles is taller than the prescribed noise barrier. Therefore, upper levels of the Federal Courthouse building would not have any noise reduction by MM-NOISE-1. Implementation of MM-NOISE-2 requires that construction equipment be equipped with noise mufflers. Absorptive mufflers are generally considered commercially available, state-of-the-art noise reduction for heavy duty equipment.[59] Implementation of MM-NOISE-3 would reduce construction noise levels at least 5 dBA at the Federal Courthouse (see Appendix I, Noise and Vibration Technical Report). Implementation of MM-NOISE-4 would reduce the operation of vibratory pile driver noise levels at least 10 dBA at the Federal Courthouse (location R1) and R3 through R6. However, the noise levels during construction would exceed the applicable noise standards. Therefore, construction of the Project would result in the on-site generation of construction noise levels in excess of standards established by the City, and these impacts would be significant with mitigation incorporated. **Implementation of MM-NOISE-1, MM-NOISE-2, MM-NOISE-3, and MM-NOISE-4 would not reduce temporary or periodic increases in ambient noise levels in the Project vicinity above levels existing without the Project to below the significance thresholds established by the City and these temporary impacts would be significant and unavoidable.**

There are no feasible mitigation measures to reduce the Project's noise impacts due to off-site truck trips during the nighttime along the truck routes. There are no feasible mitigation measures to reduce the Project's cumulative noise impacts due to off-site truck trips during the daytime or nighttime along the truck routes. **Therefore, temporary off-site Project construction noise impacts during the nighttime would be significant and unavoidable. Temporary off-site cumulative construction noise impacts during the daytime and nighttime would be significant and unavoidable.**

TABLE 17
CONSTRUCTION NOISE LEVELS AFTER MITIGATION

	Noise Levels, dBA									
	Location R1 [d]		Location R3		Location R4		Location R5 [d]		Location R6 [d]	
Estimated Construction Noise Levels [a]	**85 (without vibratory pile driver)**	**90 (with vibratory pile driver)**	**82 (without vibratory pile driver)**	**87 (with vibratory pile driver)**	**74 (without vibratory pile driver)**	**81 (with vibratory pile driver)**	**72 (without vibratory pile driver)**	**77 (with vibratory pile driver)**	**73 (without vibratory pile driver)**	**75 (with vibratory pile driver)**
Mitigation Measure MM-NOISE-1 [b]	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5
Mitigation Measure MM-NOISE-3	-5	-5	-3	-3	-4	-4	-2	-2	-3	-3

[59] United Muffler Corp, https://www.unitedmuffler.com/; Auto-jet Muffler Corp, http://mandrelbending-tubefabrication.com/OEM/catalogpages/construction_off_road.php. Accessed December 2018.

	Noise Levels, dBA									
	Location R1 [d]		**Location R3**		**Location R4**		**Location R5 [d]**		**Location R6 [d]**	
Mitigation Measure MM-NOISE-4 [c]		-10		-10		-10		-10		-10
Construction Noise Levels after Mitigation Measures [b]	**75 (ground level) / 80 (upper levels)**	**70 (ground level) / 75 (upper levels)**	**74**	**69**	**65**	**62**	**65 (ground level) / 70 (upper levels)**	**60 (ground level) / 65 (upper levels)**	**65 (ground level) / 70 (upper levels)**	**57 (ground level) / 62 (upper levels)**
Significance Threshold	**70.4**		**77.8**		**73.5**		**70.0**		**71.3**	
Exceeds Threshold?	**Yes**		**No**		**No**		**Yes**		**No**	

[a] The maximum construction noise levels with the use of a vibratory pile would be up to 90 dBA at R1, 87 dBA at R3, 81 dBA at R74, 77 dBA at R5, and 75 dBA at R6. The construction noise levels without the use of a vibratory pile would be up to 85 dBA at R1, 82 dBA at R3, 74 dBA at R74, 72 dBA at R5, and 73 dBA at R6. This distinction is being made in the analysis to evaluate the noise levels for construction activities where a vibratory would be used and activities where a vibratory would not be used.

[b] Noise barriers by MM-NOISE-1 would be 10-feet-tall. Therefore, sensitive receptors located 10 feet above the ground level would not have noise reductions by noise barriers. Receptor locations R3 and R4 are public parks. Therefore, no sensitive receptors 10 feet above the ground level would be expected at these locations.

[c] Mitigation Measure MM-NOISE-4 is for vibratory pile driver only.

[d] Receptor Locations R1, R5, and R6 have upper floors where noise barrier cannot provide noise reduction. Therefore, noise reductions by noise barrier would not be provided.

SOURCE: ESA, 2018.

With respect to vibration, implementation of MM-NOISE-5 would reduce vibration velocities at the Federal Courthouse to 69 VdB at 100 feet with the use of a drill rig instead of a vibratory pile driver, which would be below the threshold levels for human annoyance. With the implementation of MM-NOISE-6 for structural damage on the on-site buildings, vibration velocities in excess of the threshold would transmit an alarm to on-site personnel with authorization to halt work in the vicinity. Furthermore, in the event damage occurs to structures and finish materials of the on-site buildings due to construction vibration, such materials would be repaired in consultation with a qualified preservation consultant in a manner that meets the Secretary of the Interior's Standards. Thus, vibration impacts on human annoyance at the Federal Courthouse and on structural damage to the on-site buildings would be mitigated to less than significant.

There are no feasible mitigation measures for groundborne noise impacts due to off-site truck trips along the truck routes when trucks travel rough roads or uneven road surfaces. **Therefore, temporary groundborne noise impacts on human annoyance would be significant and unavoidable.**

7.2 Operational

As discussed above, the Project would result in less-than-significant impacts associated with operational noise Therefore, no operational noise mitigation measure would be required.

As discussed above, the Project would not result in significant impacts associated with operational vibration. Therefore, no operational vibration mitigation measures would be required.

SECTION 8
Summary of Results

8.1 Construction

Construction of the Project would have a potentially significant construction noise impact on the nearby sensitive receptors. Mitigation measures are identified to reduce construction noise levels to the nearby sensitive receptors. Implementation of MM-NOISE-1, MM-NOISE-2, MM-NOISE-3, and MM-NOISE-4 would not reduce temporary or periodic increases in ambient noise levels in the Project vicinity above levels existing without the Project to below the significance thresholds established by the City and these temporary impacts would be significant and unavoidable.

There are no feasible mitigation measures to reduce the Project's noise impacts due to off-site truck trips during the nighttime along the truck routes. There are no feasible mitigation measures to reduce the Project's cumulative noise impacts due to off-site truck trips during the daytime or nighttime along the truck routes. Therefore, temporary off-site Project construction noise impacts during the nighttime would be significant and unavoidable. Temporary off-site cumulative construction noise impacts during the daytime and nighttime would be significant and unavoidable.

With respect to vibration, implementation of MM-NOISE-5 would reduce vibration velocities at the Federal Courthouse to 69 VdB at 100 feet with the use of a drill rig instead of a vibratory pile driver, which would be below the threshold levels for human annoyance. With the implementation of MM-NOISE-6 for structural damage on the on-site buildings, vibration velocities in excess of the threshold would transmit an alarm to on-site personnel with authorization to halt work in the vicinity. Furthermore, in the event damage occurs to structures and finish materials of the on-site buildings due to construction vibration, such materials would be repaired in consultation with a qualified preservation consultant in a manner that meets the Secretary of the Interior's Standards. Thus, vibration impacts on human annoyance at the Federal Courthouse and on structural damage to the on-site buildings would be mitigated to less than significant.

There are no feasible mitigation measures for groundborne noise impacts due to off-site truck trips along the truck routes when trucks travel rough roads or uneven road surfaces. Therefore, temporary groundborne noise impacts on human annoyance would be significant and unavoidable.

8.2 Operational

The Project would result in less-than-significant impacts associated with operational noise and vibration.

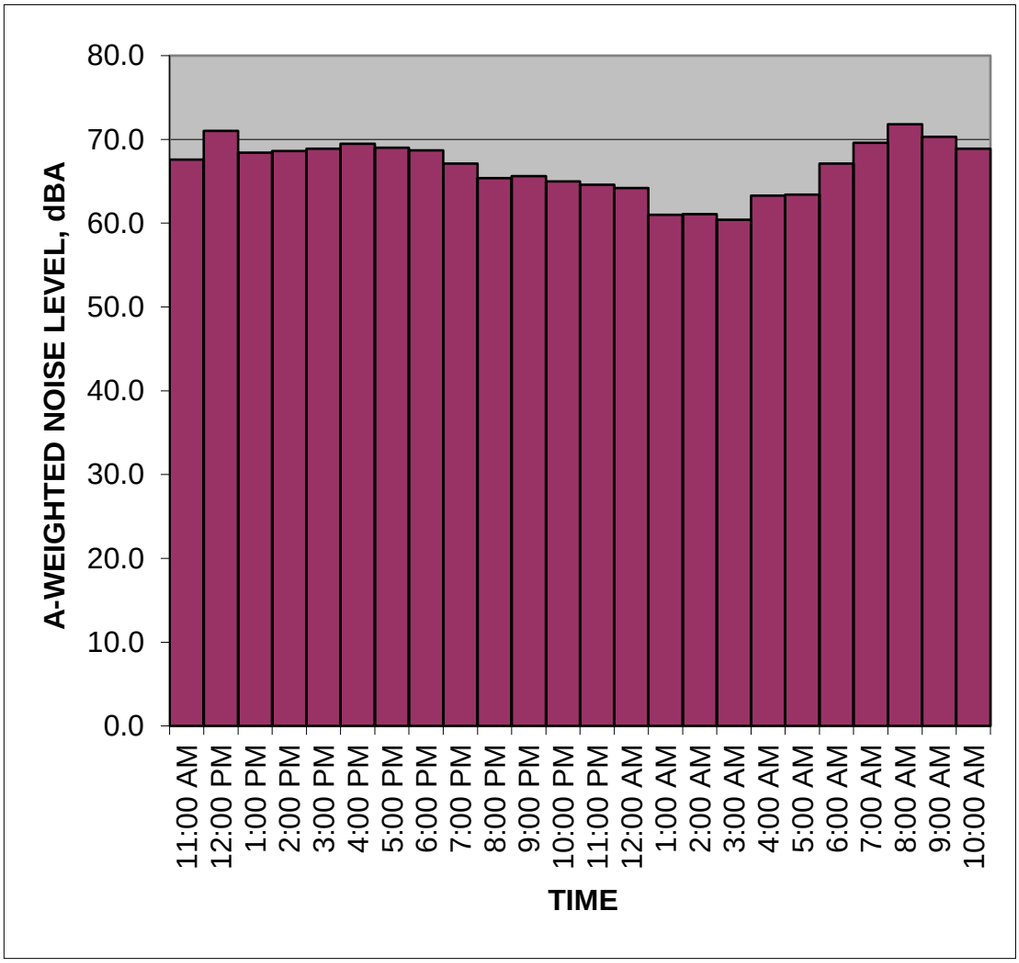
I-1
Ambient Noise Data

Measured Ambient Noise Levels

Project: LA Times
Location: R1
Sources: Ambient

Date: 8/8/2017

TIME	HNL, dB(A)
11:00 AM	67.6
12:00 PM	71.0
1:00 PM	68.4
2:00 PM	68.6
3:00 PM	68.9
4:00 PM	69.5
5:00 PM	69.0
6:00 PM	68.7
7:00 PM	67.1
8:00 PM	65.4
9:00 PM	65.6
10:00 PM	65.0
11:00 PM	64.6
12:00 AM	64.2
1:00 AM	61.0
2:00 AM	61.1
3:00 AM	60.4
4:00 AM	63.3
5:00 AM	63.4
6:00 AM	67.1
7:00 AM	69.6
8:00 AM	71.8
9:00 AM	70.3
10:00 AM	68.9
CNEL, dB(A):	**71.8**



NOTES:

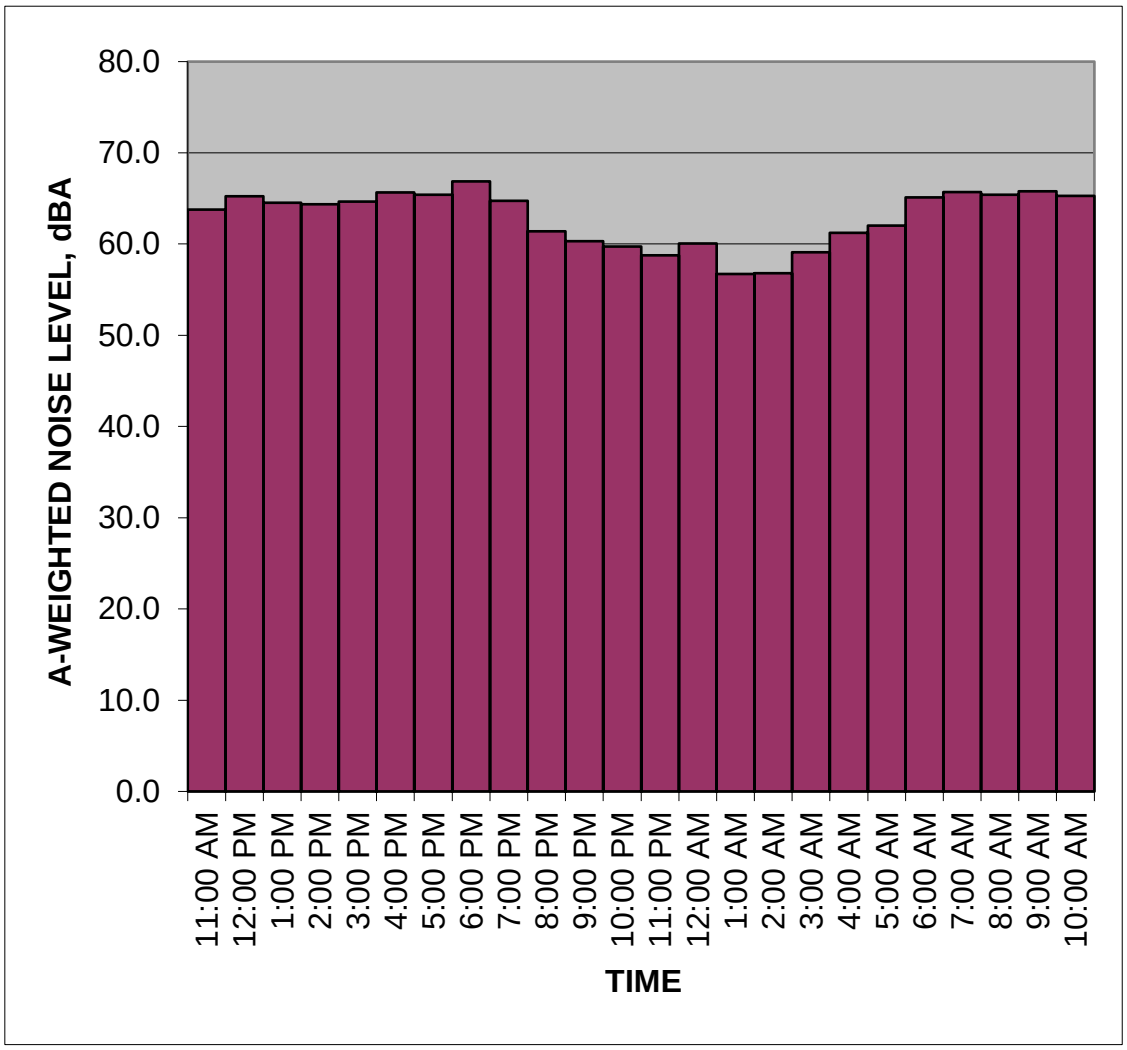
fieldcnel.xls

Measured Ambient Noise Levels

Project: LA Times
Location: R2
Sources: Ambient

Date: 8/8/2017

TIME	HNL, dB(A)
11:00 AM	63.8
12:00 PM	65.3
1:00 PM	64.5
2:00 PM	64.4
3:00 PM	64.7
4:00 PM	65.7
5:00 PM	65.4
6:00 PM	66.9
7:00 PM	64.7
8:00 PM	61.4
9:00 PM	60.3
10:00 PM	59.7
11:00 PM	58.8
12:00 AM	60.1
1:00 AM	56.7
2:00 AM	56.8
3:00 AM	59.1
4:00 AM	61.2
5:00 AM	62.0
6:00 AM	65.1
7:00 AM	65.7
8:00 AM	65.4
9:00 AM	65.8
10:00 AM	65.3
CNEL, dB(A):	**68.3**



NOTES:

fieldcnel.xls

Summary

File Name on Meter	LxT_Data.006
File Name on PC	SLM_0005055_LxT_Data_006.02.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R3
Job Description	
Note	

Measurement

Description		
Start	2017-08-09	11:31:50
Stop	2017-08-09	11:46:50
Duration	00:15:00.0	
Run Time	00:15:00.0	
Pause	00:00:00.0	
Pre Calibration	2017-08-08	10:39:00
Post Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	144.9	dB		
	A		**C**	**Z**
Under Range Peak	**101.1**		98.1	103.1 dB
Under Range Limit	**37.6**		35.6	43.6 dB
Noise Floor	24.7		25.3	32.7 dB

Results

L_{ASeq}	72.8	dB			
LASE	102.4	dB			
EAS	1.924	mPa^2h			
EAS8	61.564	mPa^2h			
EAS40	307.819	mPa^2h			
$L_{ASpeak\ (max)}$	2017-08-09	11:43:39	113.0	dB	
L_{ASmax}	2017-08-09	11:43:39	92.1	dB	
L_{ASmin}	2017-08-09	11:35:25	58.6	dB	
SEA	-99.9	dB			

LAS > 85.0 dB (Exceedance Counts / Duration)	3	8.9 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

L_{CSeq}	82.1	dB
L_{ASeq}	72.8	dB
L_{CSeq} - L_{ASeq}	9.2	dB
L_{AIeq}	77.3	dB
L_{Aeq}	72.8	dB
L_{AIeq} - L_{Aeq}	4.5	dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	72.8					
$L_{S(max)}$	92.1	2017/08/09 11:43:39				
$L_{S(min)}$	58.6	2017/08/09 11:35:25				
$L_{Peak(max)}$	113.0	2017/08/09 11:43:39				

# Overloads	0	
Overload Duration	0.0	s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2017-08-09	11:31:50				
2		2017-08-09	11:31:50	72.1	87.8	74.9	70.0
3		2017-08-09	11:32:00	69.5	93.0	78.3	61.3
4		2017-08-09	11:33:00	72.5	95.7	81.6	67.8
5		2017-08-09	11:34:00	69.3	90.7	75.3	61.4
6		2017-08-09	11:35:00	66.7	91.1	73.7	58.6
7		2017-08-09	11:36:00	75.0	99.3	83.6	67.8
8		2017-08-09	11:37:00	70.2	87.5	73.0	66.0
9		2017-08-09	11:38:00	73.1	105.0	89.0	62.8
10		2017-08-09	11:39:00	77.7	103.1	89.7	62.9
11		2017-08-09	11:40:00	70.8	90.8	74.8	65.1
12		2017-08-09	11:41:00	69.5	89.4	75.0	63.8
13		2017-08-09	11:42:00	72.9	98.3	83.1	66.7
14		2017-08-09	11:43:00	77.9	113.0	92.1	67.1
15		2017-08-09	11:44:00	67.0	87.8	73.2	60.7
16		2017-08-09	11:45:00	68.4	91.0	76.9	60.9
17		2017-08-09	11:46:00	70.7	105.3	82.4	62.3
18	Stop	2017-08-09	11:46:50				

Summary

File Name on Meter	LxT_Data.007
File Name on PC	SLM_0005055_LxT_Data_007.02.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R4
Job Description	
Note	

Measurement

Description		
Start	2017-08-09	11:48:28
Stop	2017-08-09	12:03:28
Duration	00:15:00.0	
Run Time	00:15:00.0	
Pause	00:00:00.0	
Pre Calibration	2017-08-08	10:39:00
Post Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	144.9 dB			
	A		**C**	**Z**
Under Range Peak	**101.1**		98.1	103.1 dB
Under Range Limit	**37.6**		35.6	43.6 dB
Noise Floor	24.7		25.3	32.7 dB

Results

LA_{eq}	68.5 dB			
LASE	98.1 dB			
EAS	712.935 µPa²h			
EAS8	22.814 mPa²h			
EAS40	114.070 mPa²h			
$LA_{peak\ (max)}$	2017-08-09	11:51:12	98.6 dB	
LA_{max}	2017-08-09	11:51:13	81.2 dB	
LA_{min}	2017-08-09	11:53:30	58.7 dB	
SEA	-99.9 dB			
LAS > 85.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LAS > 115.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{peak} > 135.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{peak} > 137.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{peak} > 140.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LC_{eq}	80.4 dB			
LA_{eq}	68.5 dB			
LC_{eq} - LA_{eq}	11.9 dB			
LAI_{eq}	69.9 dB			
LA_{eq}	68.5 dB			
LAI_{eq} - LA_{eq}	1.4 dB			

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	68.5					
$L_{S(max)}$	81.2	2017/08/09 11:51:13				
$L_{S(min)}$	58.7	2017/08/09 11:53:30				
$L_{Peak(max)}$	98.6	2017/08/09 11:51:12				

# Overloads	0	
Overload Duration	0.0	s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2017-08-09	11:48:28				
2		2017-08-09	11:48:28	69.4	90.0	76.1	63.6
3		2017-08-09	11:49:00	68.3	87.2	73.7	62.0
4		2017-08-09	11:50:00	67.6	85.9	72.5	60.3
5		2017-08-09	11:51:00	69.2	98.6	81.2	61.0
6		2017-08-09	11:52:00	68.7	87.2	74.8	62.2
7	R4	2017-08-09	11:53:00	65.0	83.4	70.4	58.7
8		2017-08-09	11:54:00	65.1	84.8	71.2	58.9
9		2017-08-09	11:55:00	68.9	91.8	75.1	59.9
10		2017-08-09	11:56:00	66.7	84.2	72.2	61.7
11		2017-08-09	11:57:00	68.0	87.5	75.3	61.4
12		2017-08-09	11:58:00	67.4	88.8	71.9	61.0
13		2017-08-09	11:59:00	65.8	84.9	71.7	60.3
14		2017-08-09	12:00:00	67.5	89.6	74.7	61.4
15		2017-08-09	12:01:00	71.1	89.8	74.8	63.0
16		2017-08-09	12:02:00	71.5	91.3	78.4	63.5
17		2017-08-09	12:03:00	71.7	90.9	78.2	65.4
18	Stop	2017-08-09	12:03:28				

Summary

File Name on Meter	LxT_Data.031
File Name on PC	SLM_0005055_LxT_Data_031.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R4
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 22:04:14
Stop	2018-10-08 22:19:14
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 21:50:40
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	144.5 dB			
	A	**C**	**Z**	
Under Range Peak	**100.7**	97.7	102.7	dB
Under Range Limit	**49.7**	47.7	55.7	dB
Noise Floor	36.6	37.2	44.9	dB

Results

L_{ASeq}	62.7	dB	
LASE	92.2	dB	
EAS	185.973	µPa²h	
EAS8	5.951	mPa²h	
EAS40	29.756	mPa²h	
$L_{ASpeak\ (max)}$	2018-10-08 22:11:10	92.1	dB
L_{ASmax}	2018-10-08 22:12:33	77.1	dB
L_{ASmin}	2018-10-08 22:10:53	52.0	dB
SEA	-99.9	dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0	s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0	s
L_{CSeq}	73.7	dB	
L_{ASeq}	62.7	dB	
L_{CSeq} - L_{ASeq}	11.0	dB	
L_{AIeq}	64.3	dB	
L_{Aeq}	62.7	dB	
L_{AIeq} - L_{Aeq}	1.6	dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	62.7					
$L_{S(max)}$	77.1	2018/10/08 22:12:33				
$L_{S(min)}$	52.0	2018/10/08 22:10:53				
$L_{Peak(max)}$	92.1	2018/10/08 22:11:10				

# Overloads	0	
Overload Duration	0.0	s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Fault	2018-10-08	21:47:53				
2	alibration Chang	2018-10-08	21:48:28				
3	alibration Chang	2018-10-08	21:50:40				
4	Run	2018-10-08	22:04:14				
5		2018-10-08	22:04:14	62.9	90.4	68.6	53.3
6		2018-10-08	22:05:14	60.7	87.6	71.9	52.0
7	R4	2018-10-08	22:06:14	59.1	78.9	65.1	52.2
8		2018-10-08	22:07:14	63.3	90.3	69.4	54.7
9		2018-10-08	22:08:14	61.2	85.4	68.8	54.1
10		2018-10-08	22:09:14	62.8	88.5	69.0	54.4
11		2018-10-08	22:10:14	62.6	92.1	71.9	52.0
12		2018-10-08	22:11:14	63.7	89.7	73.2	54.2
13		2018-10-08	22:12:14	65.9	90.4	77.1	53.3
14		2018-10-08	22:13:14	59.6	79.6	66.6	52.2
15		2018-10-08	22:14:14	61.1	81.6	67.2	52.2
16		2018-10-08	22:15:14	63.1	84.1	70.6	52.4
17		2018-10-08	22:16:14	62.5	82.7	70.5	56.2
18		2018-10-08	22:17:14	63.5	90.7	74.3	53.6
19		2018-10-08	22:18:14	63.6	84.9	72.0	54.4
20	Stop	2018-10-08	22:19:14				

Summary

File Name on Meter	LxT_Data.008
File Name on PC	SLM_0005055_LxT_Data_008.03.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R5
Job Description	
Note	

Measurement

Description		
Start	2017-08-09	12:08:06
Stop	2017-08-09	12:23:06
Duration	00:15:00.0	
Run Time	00:15:00.0	
Pause	00:00:00.0	
Pre Calibration	2017-08-08	10:39:00
Post Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	144.9	dB		
	A		**C**	**Z**
Under Range Peak	**101.1**		98.1	103.1 dB
Under Range Limit	**37.6**		35.6	43.6 dB
Noise Floor	24.7		25.3	32.7 dB

Results

LA_{eq}	65.0	dB		
LASE	94.6	dB		
EAS	317.671	µPa²h		
EAS8	10.165	mPa²h		
EAS40	50.827	mPa²h		
$LA_{peak\ (max)}$	2017-08-09	12:09:36	97.0	dB
LAS_{max}	2017-08-09	12:18:02	75.3	dB
LAS_{min}	2017-08-09	12:18:23	59.8	dB
SEA	-99.9	dB		
LAS > 85.0 dB (Exceedance Counts / Duration)	0		0.0	s
LAS > 115.0 dB (Exceedance Counts / Duration)	0		0.0	s
LA_{peak} > 135.0 dB (Exceedance Counts / Duration)	0		0.0	s
LA_{peak} > 137.0 dB (Exceedance Counts / Duration)	0		0.0	s
LA_{peak} > 140.0 dB (Exceedance Counts / Duration)	0		0.0	s
LC_{eq}	77.9	dB		
LA_{eq}	65.0	dB		
LC_{eq} - LA_{eq}	12.9	dB		
LAI_{eq}	67.4	dB		
LA_{eq}	65.0	dB		
LAI_{eq} - LA_{eq}	2.4	dB		

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	65.0					
$L_{S(max)}$	75.3	2017/08/09 12:18:02				
$L_{S(min)}$	59.8	2017/08/09 12:18:23				
$L_{Peak(max)}$	97.0	2017/08/09 12:09:36				

# Overloads	0	
Overload Duration	0.0	s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2017-08-09	12:08:06				
2		2017-08-09	12:08:06	65.1	84.0	69.8	61.9
3		2017-08-09	12:09:00	66.5	97.0	74.7	61.2
4		2017-08-09	12:10:00	64.7	84.1	70.2	61.6
5		2017-08-09	12:11:00	64.4	84.5	68.6	60.7
6		2017-08-09	12:12:00	65.1	83.5	68.9	62.5
7	R5	2017-08-09	12:13:00	64.6	88.8	68.2	61.5
8		2017-08-09	12:14:00	65.7	89.2	71.8	61.7
9		2017-08-09	12:15:00	65.8	90.7	72.7	60.7
10		2017-08-09	12:16:00	64.5	83.3	68.7	60.6
11		2017-08-09	12:17:00	64.5	82.1	68.4	59.9
12		2017-08-09	12:18:00	65.0	91.9	75.3	59.8
13		2017-08-09	12:19:00	65.6	87.1	73.1	60.3
14		2017-08-09	12:20:00	64.7	87.5	71.6	60.3
15		2017-08-09	12:21:00	63.9	82.8	67.5	61.1
16		2017-08-09	12:22:00	64.6	84.4	71.3	60.1
17		2017-08-09	12:23:00	63.7	79.0	65.1	62.8
18	Stop	2017-08-09	12:23:06				

Summary

File Name on Meter	LxT_Data.033
File Name on PC	SLM_0005055_LxT_Data_033.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R5
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 22:50:07
Stop	2018-10-08 23:05:07
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 21:50:38
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.5 dB

	A	C	Z
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.6	37.2	44.9 dB

Results

LA_{Seq}	63.4 dB	
LASE	92.9 dB	
EAS	216.848 µPa²h	
EAS8	6.939 mPa²h	
EAS40	34.696 mPa²h	
$LA_{Speak\ (max)}$	2018-10-08 22:57:02	91.4 dB
LA_{Smax}	2018-10-08 23:04:48	74.9 dB
LA_{Smin}	2018-10-08 23:03:37	59.9 dB
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

LC_{Seq}	71.5 dB
LA_{Seq}	63.4 dB
LC_{Seq} - LA_{Seq}	8.1 dB
LAI_{eq}	64.5 dB
LA_{eq}	63.4 dB
LAI_{eq} - LA_{eq}	1.2 dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	63.4					
$L_{S(max)}$	74.9	2018/10/08 23:04:48				
$L_{S(min)}$	59.9	2018/10/08 23:03:37				
$L_{Peak(max)}$	91.4	2018/10/08 22:57:02				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-08	22:50:07				
2		2018-10-08	22:50:07	62.3	78.4	65.2	60.6
3		2018-10-08	22:51:07	63.9	89.1	68.3	60.9
4		2018-10-08	22:52:07	63.7	83.3	69.3	61.2
5		2018-10-08	22:53:07	63.8	90.4	70.4	61.0
6		2018-10-08	22:54:07	64.1	89.7	67.5	60.9
7		2018-10-08	22:55:07	63.5	86.0	71.3	60.1
8		2018-10-08	22:56:07	61.6	91.4	66.2	60.1
9		2018-10-08	22:57:07	62.4	79.8	66.8	60.7
10		2018-10-08	22:58:07	62.6	79.9	64.9	61.2
11		2018-10-08	22:59:07	63.2	86.2	69.7	60.2
12		2018-10-08	23:00:07	61.8	85.4	65.1	60.5
13		2018-10-08	23:01:07	63.9	89.0	73.1	60.4
14		2018-10-08	23:02:07	61.2	78.8	64.9	60.3
15		2018-10-08	23:03:07	61.2	80.7	65.5	59.9
16		2018-10-08	23:04:07	67.1	88.5	74.9	60.8
17	Stop	2018-10-08	23:05:07				

Summary

File Name on Meter	LxT_Data.005
File Name on PC	SLM_0005055_LxT_Data_005.02.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R6
Job Description	
Note	

Measurement

Description		
Start	2017-08-09	11:11:36
Stop	2017-08-09	11:26:36
Duration	00:15:00.0	
Run Time	00:15:00.0	
Pause	00:00:00.0	
Pre Calibration	2017-08-08	10:39:00
Post Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1			
Microphone Correction	Off			
Integration Method	Exponential			
Overload	144.9 dB			
	A		**C**	**Z**
Under Range Peak	**101.1**		98.1	103.1 dB
Under Range Limit	**37.6**		35.6	43.6 dB
Noise Floor	24.7		25.3	32.7 dB

Results

LA_{Seq}	66.3 dB			
LASE	95.8 dB			
EAS	424.811 µPa²h			
EAS8	13.594 mPa²h			
EAS40	67.970 mPa²h			
$LA_{Speak\ (max)}$	2017-08-09	11:25:24	95.5 dB	
LA_{Smax}	2017-08-09	11:25:24	82.7 dB	
LA_{Smin}	2017-08-09	11:26:30	56.8 dB	
SEA	-99.9 dB			
LAS > 85.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LAS > 115.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0		0.0 s	
LC_{Seq}	79.0 dB			
LA_{Seq}	66.3 dB			
LC_{Seq} - LA_{Seq}	12.7 dB			
LAI_{eq}	67.7 dB			
LA_{eq}	66.3 dB			
LAI_{eq} - LA_{eq}	1.4 dB			

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	66.3					
$L_{S(max)}$	82.7	2017/08/09 11:25:24				
$L_{S(min)}$	56.8	2017/08/09 11:26:30				
$L_{Peak(max)}$	95.5	2017/08/09 11:25:24				

# Overloads	0	
Overload Duration	0.0	s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2017-08-09	11:11:35				
2		2017-08-09	11:11:36	66.4	85.2	71.7	62.3
3		2017-08-09	11:12:00	62.8	94.0	71.4	57.9
4		2017-08-09	11:13:00	65.6	86.6	71.4	58.0
5		2017-08-09	11:14:00	64.6	86.1	70.6	57.7
6		2017-08-09	11:15:00	63.4	83.0	69.2	57.8
7		2017-08-09	11:16:00	64.9	90.1	76.3	57.5
8		2017-08-09	11:17:00	62.9	83.6	70.0	57.1
9		2017-08-09	11:18:00	63.3	88.2	74.6	57.1
10		2017-08-09	11:19:00	67.2	84.7	74.6	62.5
11		2017-08-09	11:20:00	63.8	83.6	66.3	62.6
12		2017-08-09	11:21:00	63.7	84.8	68.5	62.5
13		2017-08-09	11:22:00	65.6	83.9	70.0	62.7
14		2017-08-09	11:23:00	67.2	88.0	70.5	63.4
15		2017-08-09	11:24:00	68.7	86.4	72.8	66.8
16		2017-08-09	11:25:00	72.4	95.5	82.7	59.8
17		2017-08-09	11:26:00	59.8	83.9	64.7	56.8
18	Stop	2017-08-09	11:26:36				

Summary

File Name on Meter	LxT_Data.032
File Name on PC	SLM_0005055_LxT_Data_032.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R6
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 22:27:49
Stop	2018-10-08 22:42:49
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 21:50:38
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.5 dB

	A	**C**	**Z**
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.6	37.2	44.9 dB

Results

LA_{Seq}	65.1 dB	
LASE	94.6 dB	
EAS	320.911 µPa²h	
EAS8	10.269 mPa²h	
EAS40	51.346 mPa²h	
$LA_{Speak\ (max)}$	2018-10-08 22:41:30	95.2 dB
LA_{Smax}	2018-10-08 22:33:45	79.1 dB
LA_{Smin}	2018-10-08 22:37:10	54.5 dB
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

LC_{Seq}	72.6 dB
LA_{Seq}	65.1 dB
LC_{Seq} - LA_{Seq}	7.5 dB
LAI_{eq}	66.6 dB
LA_{eq}	65.1 dB
LAI_{eq} - LA_{eq}	1.6 dB

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	65.1					
$L_{S(max)}$	79.1	2018/10/08 22:33:45				
$L_{S(min)}$	54.5	2018/10/08 22:37:10				
$L_{Peak(max)}$	95.2	2018/10/08 22:41:30				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-08	22:27:49				
2		2018-10-08	22:27:49	67.5	87.4	72.9	59.9
3		2018-10-08	22:28:49	63.3	84.4	68.2	59.3
4		2018-10-08	22:29:49	67.3	86.4	75.6	57.8
5		2018-10-08	22:30:49	62.8	82.2	67.6	58.8
6		2018-10-08	22:31:49	65.1	88.0	71.4	57.3
7		2018-10-08	22:32:49	68.3	93.9	79.1	58.3
8		2018-10-08	22:33:49	61.1	79.1	70.2	57.7
9		2018-10-08	22:34:49	64.7	87.4	72.3	56.0
10		2018-10-08	22:35:49	65.4	86.4	73.0	57.4
11		2018-10-08	22:36:49	61.1	79.1	65.2	54.5
12		2018-10-08	22:37:49	64.4	86.6	71.0	55.7
13		2018-10-08	22:38:49	63.6	92.8	68.4	59.4
14		2018-10-08	22:39:49	65.4	89.2	70.1	56.8
15		2018-10-08	22:40:49	65.4	95.2	74.3	58.6
16		2018-10-08	22:41:49	63.2	94.5	74.1	56.5
17	Stop	2018-10-08	22:42:49				

Summary

File Name on Meter	LxT_Data.029
File Name on PC	SLM_0005055_LxT_Data_029.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R7
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 13:48:01
Stop	2018-10-08 14:03:01
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 13:20:24
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.4 dB

	A	**C**	**Z**
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.5	37.2	44.8 dB

Results

L_{ASeq}	72.6 dB	
LASE	102.1 dB	
EAS	1.817 mPa²h	
EAS8	58.160 mPa²h	
EAS40	290.800 mPa²h	
$L_{ASpeak\ (max)}$	2018-10-08 13:51:42	105.1 dB
L_{ASmax}	2018-10-08 13:55:57	95.0 dB
L_{ASmin}	2018-10-08 13:56:52	58.6 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	6.7 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{CSeq}	80.2 dB	
L_{ASeq}	72.6 dB	
L_{CSeq} - L_{ASeq}	7.6 dB	
L_{AIeq}	75.4 dB	
L_{Aeq}	72.6 dB	
L_{AIeq} - L_{Aeq}	2.8 dB	

	A		**C**		**Z**	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	72.6					
$L_{S(max)}$	95.0	2018/10/08 13:55:57				
$L_{S(min)}$	58.6	2018/10/08 13:56:52				
$L_{Peak(max)}$	105.1	2018/10/08 13:51:42				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-08	13:48:01				
2		2018-10-08	13:48:01	69.2	90.9	76.8	61.2
3		2018-10-08	13:49:01	67.2	91.2	73.4	59.3
4		2018-10-08	13:50:01	72.2	94.3	80.3	61.3
5		2018-10-08	13:51:01	70.4	105.1	76.1	62.1
6		2018-10-08	13:52:01	66.6	88.4	74.1	60.0
7		2018-10-08	13:53:01	65.1	82.5	69.2	59.7
8		2018-10-08	13:54:01	69.3	90.1	77.1	62.0
9		2018-10-08	13:55:01	82.1	104.4	95.0	61.7
10		2018-10-08	13:56:01	69.3	88.5	81.1	58.6
11		2018-10-08	13:57:01	70.0	97.6	77.4	61.2
12		2018-10-08	13:58:01	67.5	92.5	73.7	60.8
13		2018-10-08	13:59:01	70.7	91.0	77.6	61.1
14		2018-10-08	14:00:01	68.7	89.4	76.0	61.6
15		2018-10-08	14:01:01	65.0	91.9	71.0	60.0
16		2018-10-08	14:02:01	68.1	92.8	72.4	62.1
17	Stop	2018-10-08	14:03:01				

Summary

File Name on Meter	LxT_Data.035
File Name on PC	SLM_0005055_LxT_Data_035.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R7
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 23:37:39
Stop	2018-10-08 23:52:39
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 21:50:38
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamp	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	144.5 dB		
	A	**C**	**Z**
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.6	37.2	44.9 dB

Results

L_{ASeq}	61.2 dB	
LASE	90.7 dB	
EAS	131.575 µPa²h	
EAS8	4.210 mPa²h	
EAS40	21.052 mPa²h	
$L_{ASpeak\ (max)}$	2018-10-08 23:49:00	89.7 dB
L_{ASmax}	2018-10-08 23:38:19	73.5 dB
L_{ASmin}	2018-10-08 23:39:55	53.8 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{CSeq}	70.9 dB	
L_{ASeq}	61.2 dB	
L_{CSeq} - L_{ASeq}	9.7 dB	
L_{AIeq}	62.3 dB	
L_{Aeq}	61.2 dB	
L_{AIeq} - L_{Aeq}	1.1 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	61.2					
$L_{S(max)}$	73.5	2018/10/08 23:38:19				
$L_{S(min)}$	53.8	2018/10/08 23:39:55				
$L_{Peak(max)}$	89.7	2018/10/08 23:49:00				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-08	23:37:39				
2		2018-10-08	23:37:39	65.7	86.7	73.5	58.1
3		2018-10-08	23:38:39	60.8	81.8	65.8	56.4
4		2018-10-08	23:39:39	59.9	86.4	69.6	53.8
5		2018-10-08	23:40:39	59.7	83.3	67.2	55.4
6		2018-10-08	23:41:39	60.0	86.0	67.2	55.1
7	R7	2018-10-08	23:42:39	60.1	80.7	68.2	55.8
8		2018-10-08	23:43:39	60.5	83.1	66.9	56.6
9		2018-10-08	23:44:39	59.5	83.2	67.2	55.0
10		2018-10-08	23:45:39	57.2	83.4	61.2	54.5
11		2018-10-08	23:46:39	59.2	80.5	63.7	55.7
12		2018-10-08	23:47:39	62.7	86.0	70.2	56.5
13		2018-10-08	23:48:39	63.2	89.7	69.0	57.0
14		2018-10-08	23:49:39	59.8	82.7	65.4	55.2
15		2018-10-08	23:50:39	62.1	80.8	67.4	58.6
16		2018-10-08	23:51:39	60.2	77.8	64.0	56.8
17	Stop	2018-10-08	23:52:39				

Summary

File Name on Meter	LxT_Data.037
File Name on PC	SLM_0005055_LxT_Data_037.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R8
Job Description	
Note	

Measurement

Description	
Start	2018-10-09 13:57:01
Stop	2018-10-09 14:12:01
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-09 13:24:56
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.4 dB

	A	C	Z
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.5	37.2	44.8 dB

Results

L_{ASeq}	69.8 dB	
LASE	99.4 dB	
EAS	965.545 µPa²h	
EAS8	30.897 mPa²h	
EAS40	154.487 mPa²h	
$L_{ASpeak\ (max)}$	2018-10-09 14:01:59	112.6 dB
L_{ASmax}	2018-10-09 14:01:59	85.9 dB
L_{ASmin}	2018-10-09 14:07:11	59.6 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	1	1.5 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{CSeq}	80.2 dB	
L_{ASeq}	69.8 dB	
L_{CSeq} - L_{ASeq}	10.3 dB	
L_{AIeq}	73.3 dB	
L_{Aeq}	69.9 dB	
L_{AIeq} - L_{Aeq}	3.5 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	69.9					
$L_{S(max)}$	85.9	2018/10/09 14:01:59				
$L_{S(min)}$	59.6	2018/10/09 14:07:11				
$L_{Peak(max)}$	112.6	2018/10/09 14:01:59				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-09	13:57:01				
2		2018-10-09	13:57:01	68.3	92.6	76.2	61.7
3		2018-10-09	13:58:01	67.4	90.2	72.9	61.7
4		2018-10-09	13:59:01	67.9	93.7	72.6	63.6
5		2018-10-09	14:00:01	68.1	89.3	71.0	60.8
6		2018-10-09	14:01:01	72.4	112.6	85.9	61.4
7		2018-10-09	14:02:01	72.8	102.5	83.8	62.8
8		2018-10-09	14:03:01	73.1	94.5	81.3	65.2
9		2018-10-09	14:04:01	67.3	94.9	73.0	62.9
10		2018-10-09	14:05:01	66.7	89.0	71.6	60.3
11		2018-10-09	14:06:01	68.1	90.2	73.3	60.4
12		2018-10-09	14:07:01	66.5	88.4	75.3	59.6
13		2018-10-09	14:08:01	69.9	93.2	75.4	62.0
14		2018-10-09	14:09:01	72.4	95.2	82.5	62.7
15		2018-10-09	14:10:01	68.9	92.4	75.4	63.7
16		2018-10-09	14:11:01	68.4	98.1	72.2	61.7
17	Stop	2018-10-09	14:12:01				

Summary

File Name on Meter	LxT_Data.034
File Name on PC	SLM_0005055_LxT_Data_034.00.ldbin
Serial Number	0005055
Model	SoundTrack LxT®
Firmware Version	2.302
User	
Location	R8
Job Description	
Note	

Measurement

Description	
Start	2018-10-08 23:12:06
Stop	2018-10-08 23:27:06
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2018-10-08 21:50:38
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.5 dB

	A	C	Z
Under Range Peak	**100.7**	97.7	102.7 dB
Under Range Limit	**49.7**	47.7	55.7 dB
Noise Floor	36.6	37.2	44.9 dB

Results

LA_{Seq}	56.8 dB	
LASE	86.3 dB	
EAS	47.912 µPa²h	
EAS8	1.533 mPa²h	
EAS40	7.666 mPa²h	
$LA_{Speak\ (max)}$	2018-10-08 23:15:08	82.6 dB
LAS_{max}	2018-10-08 23:13:46	62.7 dB
LAS_{min}	2018-10-08 23:24:22	54.2 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LC_{Seq}	71.4 dB	
LA_{Seq}	56.8 dB	
LC_{Seq} - LA_{Seq}	14.6 dB	
LAI_{eq}	58.3 dB	
LA_{eq}	56.8 dB	
LAI_{eq} - LA_{eq}	1.5 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	56.8					
$L_{S(max)}$	62.7	2018/10/08 23:13:46				
$L_{S(min)}$	54.2	2018/10/08 23:24:22				
$L_{Peak(max)}$	82.6	2018/10/08 23:15:08				

# Overloads	0
Overload Duration	0.0 s

Record #	Record Type	Date	Time	LASeq	LApeak	LASmax	LASmin
1	Run	2018-10-08	23:12:06				
2		2018-10-08	23:13:06	56.5	82.2	62.7	54.6
3		2018-10-08	23:14:06	56.4	76.4	60.3	54.5
4		2018-10-08	23:15:06	57.3	82.6	62.2	54.5
5		2018-10-08	23:16:06	55.3	75.3	57.1	54.2
6		2018-10-08	23:17:06	56.7	76.5	60.4	54.5
7		2018-10-08	23:18:06	57.4	78.4	61.1	55.3
8		2018-10-08	23:19:06	57.4	77.1	59.5	55.4
9		2018-10-08	23:20:06	56.5	78.1	61.7	54.4
10		2018-10-08	23:21:06	56.2	77.8	61.3	54.6
11		2018-10-08	23:22:06	57.9	74.4	61.7	54.9
12		2018-10-08	23:23:06	55.7	77.8	59.6	54.5
13		2018-10-08	23:24:06	58.2	77.1	61.0	54.2
14		2018-10-08	23:25:06	57.3	74.7	61.4	55.7
15		2018-10-08	23:26:06	55.9	77.6	58.3	54.2
16		2018-10-08	23:27:06	56.2	80.0	61.1	54.5
17	Stop	2018-10-08	23:28:06				

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Construction Noise Calculations

Table 1. CA/T equipment noise emissions and acoustical usage factors database.

CA/T Noise Emission Reference Levels and Usage Factors					
filename: EQUIPLST.xls					
revised: 7/26/05		Acoustical	Spec 721.560	Actual Measured	No. of Actual
	Impact	Use Factor	Lmax @ 50ft	Lmax @ 50ft	Data Samples
Equipment Description	Device ?	(%)	(dBA, slow)	(dBA, slow)	(Count)
				(samples averaged)	
All Other Equipment > 5 HP	No	50	85	-- N/A --	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-- N/A --	0
Blasting	Yes	-- N/A --	94	-- N/A --	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-- N/A --	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-- N/A --	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-- N/A --	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact Hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	40	55	75	1
Pneumatic Tools	No	50	85	85	90
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-- N/A --	0
Tractor	No	40	84	-- N/A --	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder / Torch	No	40	73	74	5

Project: LA Times

Construction Noise Impact on Sensitive Receptors

With Vibratory Pile Driver

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***81***					***79***					***73***		
Dumpers/Tenders	1	76	40%	80	72	68	71	0	130	68	64	67	0	150	61	57	60	5
Excavator	2	81	40%	80	80	76	79	0	130	76	72	75	0	150	69	65	68	5
Generator Sets	2	81	50%	180	73	70	73	0	230	71	68	71	0	250	65	62	65	5
Jackhammer	5	89	20%	180	85	78	81	0	230	83	76	79	0	250	77	70	73	5
Off-Highway Trucks	2	76	20%	180	68	61	64	0	230	66	59	62	0	250	60	53	56	5
Other Equipment	2	85	50%	280	73	70	73	0	330	72	69	72	0	350	66	63	66	5
Roller	2	80	20%	280	68	61	64	0	330	67	60	63	0	350	61	54	57	5
Rough Terrain Forklifts	2	70	50%	280	58	55	58	0	330	57	54	57	0	350	51	48	51	5
Rubber Tired Loader	2	79	50%	280	67	64	67	0	330	66	63	66	0	350	60	57	60	5
Sweeper/Scrubbers	1	82	10%	380	64	54	57	0	430	63	53	56	0	450	58	48	51	5
Tractor/Loader/Backhoe	2	80	25%	380	65	59	62	0	430	64	58	61	0	450	59	53	56	5
Renovation						***72***					***68***					***62***		
Air Compressor	1	78	40%	80	74	70	73	0	130	70	66	69	0	150	63	59	62	5
Dumpers/Tenders	1	76	40%	80	72	68	71	0	130	68	64	67	0	150	61	57	60	5
Forklift	5	75	10%	180	71	61	64	0	230	69	59	62	0	250	63	53	56	5
Mass Grading/Excavation						***77***					***75***					***69***		
Bore/Drill Rig Truck	4	79	20%	80	81	74	77	0	130	77	70	73	0	150	70	63	66	5
Compactor (ground)	5	83	20%	180	79	72	75	0	230	77	70	73	0	250	71	64	67	5
Dumpers/Tenders	2	76	40%	180	68	64	67	0	230	66	62	65	0	250	60	56	59	5
Excavator	2	81	40%	180	73	69	72	0	230	71	67	70	0	250	65	61	64	5
Forklift	2	75	10%	280	63	53	56	0	330	62	52	55	0	350	56	46	49	5
Rough Terrain Forklifts	2	70	50%	280	58	55	58	0	330	57	54	57	0	350	51	48	51	5
Rubber Tired Loader	2	79	50%	280	67	64	67	0	330	66	63	66	0	350	60	57	60	5
Sweeper/Scrubbers	1	82	10%	280	67	57	60	0	330	66	56	59	0	350	60	50	53	5
Tractor/Loader/Backhoe	2	80	25%	280	68	62	65	0	330	67	61	64	0	350	61	55	58	5
Foundation						***78***					***74***					***68***		
Cement and Mortar Mixers	5	79	40%	80	82	78	81	0	130	78	74	77	0	150	71	67	70	5
Cranes	3	81	16%	180	75	67	70	0	230	73	65	68	0	250	67	59	62	5
Forklift	5	75	10%	180	71	61	64	0	230	69	59	62	0	250	63	53	56	5
Building Construction/Concrete Pouring/Architectural Coating						***90***					***86***					***80***		
Air Compressor	4	78	40%	80	80	76	79	0	130	76	72	75	0	150	69	65	68	5
Vibratory Pile Driver	1	101	20%	85	96	89	92	0	130	93	86	89	0	150	86	79	82	5
Cement and Mortar Mixers	5	79	40%	180	75	71	74	0	230	73	69	72	0	250	67	63	66	5
Cranes	3	81	16%	180	75	67	70	0	230	73	65	68	0	250	67	59	62	5
Dumpers/Tenders	4	76	40%	280	67	63	66	0	230	69	65	68	0	250	63	59	62	5
Forklift	10	75	10%	280	70	60	63	0	230	72	62	65	0	250	66	56	59	5
Off-Highway Trucks	4	76	20%	280	67	60	63	0	330	66	59	62	0	350	60	53	56	5
Rough Terrain Forklifts	2	70	50%	280	58	55	58	0	330	57	54	57	0	350	51	48	51	5
Sweeper/Scrubbers	1	82	10%	280	67	57	60	0	330	66	56	59	0	350	60	50	53	5
Paving and Concrete						***81***					***79***					***73***		
Compactor (ground)	3	83	20%	80	84	77	80	0	130	79	72	75	0	150	73	66	69	5
Concrete/Industrial Saw	2	90	20%	180	82	75	78	0	230	80	73	76	0	250	74	67	70	5
Generator Sets	1	81	50%	180	70	67	70	0	230	68	65	68	0	250	62	59	62	5
Jackhammer	2	89	20%	180	81	74	77	0	230	79	72	75	0	250	73	66	69	5
Paver	2	77	50%	280	65	62	65	0	330	64	61	64	0	350	58	55	58	5
Paving Equipment	2	90	20%	280	78	71	74	0	330	77	70	73	0	350	71	64	67	5
Surfacing Equipment	2	85	50%	280	73	70	73	0	330	72	69	72	0	350	66	63	66	5
Tractor/Loader/Backhoe	1	80	25%	280	65	59	62	0	330	64	58	61	0	350	58	52	55	5
Architectural Coating (Included in Building Construction)																		
Concrete Pouring (Included in Foundation Phase)																		
Maximum Noise Level (Overlapping Phases)						***90***					***87***					***81***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

With Vibratory Pile Driver

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***70***					***69***		
Dumpers/Tenders	1	76	40%	250	57	53	56	5	300	55	51	54	5
Excavator	2	81	40%	250	65	61	64	5	300	63	59	62	5
Generator Sets	2	81	50%	350	62	59	62	5	400	61	58	61	5
Jackhammer	5	89	20%	350	74	67	70	5	400	73	66	69	5
Off-Highway Trucks	2	76	20%	350	57	50	53	5	400	56	49	52	5
Other Equipment	2	85	50%	450	64	61	64	5	500	63	60	63	5
Roller	2	80	20%	450	59	52	55	5	500	58	51	54	5
Rough Terrain Forklifts	2	70	50%	450	49	46	49	5	500	48	45	48	5
Rubber Tired Loader	2	79	50%	450	58	55	58	5	500	57	54	57	5
Sweeper/Scrubbers	1	82	10%	550	56	46	49	5	600	55	45	48	5
Tractor/Loader/Backhoe	2	80	25%	550	57	51	54	5	600	56	50	53	5
Renovation						***58***					***56***		
Air Compressor	1	78	40%	250	59	55	58	5	300	57	53	56	5
Dumpers/Tenders	1	76	40%	250	57	53	56	5	300	55	51	54	5
Forklift	5	75	10%	350	60	50	53	5	400	59	49	52	5
Mass Grading/Excavation						***66***					***64***		
Bore/Drill Rig Truck	4	79	20%	250	66	59	62	5	300	64	57	60	5
Compactor (ground)	5	83	20%	350	68	61	64	5	400	67	60	63	5
Dumpers/Tenders	2	76	40%	350	57	53	56	5	400	56	52	55	5
Excavator	2	81	40%	350	62	58	61	5	400	61	57	60	5
Forklift	2	75	10%	450	54	44	47	5	500	53	43	46	5
Rough Terrain Forklifts	2	70	50%	450	49	46	49	5	500	48	45	48	5
Rubber Tired Loader	2	79	50%	450	58	55	58	5	500	57	54	57	5
Sweeper/Scrubbers	1	82	10%	450	58	48	51	5	500	57	47	50	5
Tractor/Loader/Backhoe	2	80	25%	450	59	53	56	5	500	58	52	55	5
Foundation						***64***					***62***		
Cement and Mortar Mixers	5	79	40%	250	67	63	66	5	300	65	61	64	5
Cranes	3	81	16%	350	64	56	59	5	400	63	55	58	5
Forklift	5	75	10%	350	60	50	53	5	400	59	49	52	5
Building Construction/Concrete Pouring/Architectural Coating						***75***					***74***		
Air Compressor	4	78	40%	250	65	61	64	5	300	63	59	62	5
Vibratory Pile Driver	1	101	20%	250	82	75	78	5	300	80	73	76	5
Cement and Mortar Mixers	5	79	40%	350	64	60	63	5	400	63	59	62	5
Cranes	3	81	16%	350	64	56	59	5	400	63	55	58	5
Dumpers/Tenders	4	76	40%	350	60	56	59	5	400	59	55	58	5
Forklift	10	75	10%	350	63	53	56	5	400	62	52	55	5
Off-Highway Trucks	4	76	20%	450	58	51	54	5	500	57	50	53	5
Rough Terrain Forklifts	2	70	50%	450	49	46	49	5	500	48	45	48	5
Sweeper/Scrubbers	1	82	10%	450	58	48	51	5	500	57	47	50	5
Paving and Concrete						***70***					***69***		
Compactor (ground)	3	83	20%	250	69	62	65	5	300	67	60	63	5
Concrete/Industrial Saw	2	90	20%	350	71	64	67	5	400	70	63	66	5
Generator Sets	1	81	50%	350	59	56	59	5	400	58	55	58	5
Jackhammer	2	89	20%	350	70	63	66	5	400	69	62	65	5
Paver	2	77	50%	450	56	53	56	5	500	55	52	55	5
Paving Equipment	2	90	20%	450	69	62	65	5	500	68	61	64	5
Surfacing Equipment	2	85	50%	450	64	61	64	5	500	63	60	63	5
Tractor/Loader/Backhoe	1	80	25%	450	56	50	53	5	500	55	49	52	5
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***77***					***75***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

Without Vibratory Pile Driver

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***81***					***79***					***73***		
Dumpers/Tenders	1	76	40%	80	72	68	71	0	130	68	64	67	0	150	61	57	60	5
Excavator	2	81	40%	80	80	76	79	0	130	76	72	75	0	150	69	65	68	5
Generator Sets	2	81	50%	180	73	70	73	0	230	71	68	71	0	250	65	62	65	5
Jackhammer	5	89	20%	180	85	78	81	0	230	83	76	79	0	250	77	70	73	5
Off-Highway Trucks	2	76	20%	180	68	61	64	0	230	66	59	62	0	250	60	53	56	5
Other Equipment	2	85	50%	280	73	70	73	0	330	72	69	72	0	350	66	63	66	5
Roller	2	80	20%	280	68	61	64	0	330	67	60	63	0	350	61	54	57	5
Rough Terrain Forklifts	2	70	50%	280	58	55	58	0	330	57	54	57	0	350	51	48	51	5
Rubber Tired Loader	2	79	50%	280	67	64	67	0	330	66	63	66	0	350	60	57	60	5
Sweeper/Scrubbers	1	82	10%	380	64	54	57	0	430	63	53	56	0	450	58	48	51	5
Tractor/Loader/Backhoe	2	80	25%	380	65	59	62	0	430	64	58	61	0	450	59	53	56	5
Renovation						***72***					***68***					***62***		
Air Compressor	1	78	40%	80	74	70	73	0	130	70	66	69	0	150	63	59	62	5
Dumpers/Tenders	1	76	40%	80	72	68	71	0	130	68	64	67	0	150	61	57	60	5
Forklift	5	75	10%	180	71	61	64	0	230	69	59	62	0	250	63	53	56	5
Mass Grading/Excavation						***77***					***75***					***69***		
Bore/Drill Rig Truck	4	79	20%	80	81	74	77	0	130	77	70	73	0	150	70	63	66	5
Compactor (ground)	5	83	20%	180	79	72	75	0	230	77	70	73	0	250	71	64	67	5
Dumpers/Tenders	2	76	40%	180	68	64	67	0	230	66	62	65	0	250	60	56	59	5
Excavator	2	81	40%	180	73	69	72	0	230	71	67	70	0	250	65	61	64	5
Forklift	2	75	10%	280	63	53	56	0	330	62	52	55	0	350	56	46	49	5
Rough Terrain Forklifts	2	70	50%	280	58	55	58	0	330	57	54	57	0	350	51	48	51	5
Rubber Tired Loader	2	79	50%	280	67	64	67	0	330	66	63	66	0	350	60	57	60	5
Sweeper/Scrubbers	1	82	10%	280	67	57	60	0	330	66	56	59	0	350	60	50	53	5
Tractor/Loader/Backhoe	2	80	25%	280	68	62	65	0	330	67	61	64	0	350	61	55	58	5
Foundation						***78***					***74***					***68***		
Cement and Mortar Mixers	5	79	40%	80	82	78	81	0	130	78	74	77	0	150	71	67	70	5
Cranes	3	81	16%	180	75	67	70	0	230	73	65	68	0	250	67	59	62	5
Forklift	5	75	10%	180	71	61	64	0	230	69	59	62	0	250	63	53	56	5
Building Construction/Concrete Pouring/Architectural Coating						***78***					***75***					***69***		
Air Compressor	4	78	40%	80	80	76	79	0	130	76	72	75	0	150	69	65	68	5
Bore/Drill Rig Truck	1	79	20%	180	68	61	64	0	230	66	59	62	0	250	60	53	56	5
Cement and Mortar Mixers	5	79	40%	180	75	71	74	0	230	73	69	72	0	250	67	63	66	5
Cranes	3	81	16%	180	75	67	70	0	230	73	65	68	0	250	67	59	62	5
Dumpers/Tenders	4	76	40%	280	67	63	66	0	330	66	62	65	0	350	60	56	59	5
Forklift	10	75	10%	280	70	60	63	0	330	69	59	62	0	350	63	53	56	5
Off-Highway Trucks	4	76	20%	380	64	57	60	0	430	63	56	59	0	450	58	51	54	5
Rough Terrain Forklifts	2	70	50%	380	55	52	55	0	430	54	51	54	0	450	49	46	49	5
Sweeper/Scrubbers	1	82	10%	380	64	54	57	0	430	63	53	56	0	450	58	48	51	5
Paving and Concrete						***81***					***79***					***73***		
Compactor (ground)	3	83	20%	80	84	77	80	0	130	79	72	75	0	150	73	66	69	5
Concrete/Industrial Saw	2	90	20%	180	82	75	78	0	230	80	73	76	0	250	74	67	70	5
Generator Sets	1	81	50%	180	70	67	70	0	230	68	65	68	0	250	62	59	62	5
Jackhammer	2	89	20%	180	81	74	77	0	230	79	72	75	0	250	73	66	69	5
Paver	2	77	50%	280	65	62	65	0	330	64	61	64	0	350	58	55	58	5
Paving Equipment	2	90	20%	280	78	71	74	0	330	77	70	73	0	350	71	64	67	5
Surfacing Equipment	2	85	50%	280	73	70	73	0	330	72	69	72	0	350	66	63	66	5
Tractor/Loader/Backhoe	1	80	25%	280	65	59	62	0	330	64	58	61	0	350	58	52	55	5
Architectural Coating (Included in Building Construction)																		
Concrete Pouring (Included in Foundation Phase)																		
Maximum Noise Level (Overlapping Phases)						***85***					***82***					***74***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

Without Vibratory Pile Driver

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***70***					***69***		
Dumpers/Tenders	1	76	40%	250	57	53	56	5	300	55	51	54	5
Excavator	2	81	40%	250	65	61	64	5	300	63	59	62	5
Generator Sets	2	81	50%	350	62	59	62	5	400	61	58	61	5
Jackhammer	5	89	20%	350	74	67	70	5	400	73	66	69	5
Off-Highway Trucks	2	76	20%	350	57	50	53	5	400	56	49	52	5
Other Equipment	2	85	50%	450	64	61	64	5	500	63	60	63	5
Roller	2	80	20%	450	59	52	55	5	500	58	51	54	5
Rough Terrain Forklifts	2	70	50%	450	49	46	49	5	500	48	45	48	5
Rubber Tired Loader	2	79	50%	450	58	55	58	5	500	57	54	57	5
Sweeper/Scrubbers	1	82	10%	550	56	46	49	5	600	55	45	48	5
Tractor/Loader/Backhoe	2	80	25%	550	57	51	54	5	600	56	50	53	5
Renovation						***58***					***56***		
Air Compressor	1	78	40%	250	59	55	58	5	300	57	53	56	5
Dumpers/Tenders	1	76	40%	250	57	53	56	5	300	55	51	54	5
Forklift	5	75	10%	350	60	50	53	5	400	59	49	52	5
Mass Grading/Excavation						***66***					***64***		
Bore/Drill Rig Truck	4	79	20%	250	66	59	62	5	300	64	57	60	5
Compactor (ground)	5	83	20%	350	68	61	64	5	400	67	60	63	5
Dumpers/Tenders	2	76	40%	350	57	53	56	5	400	56	52	55	5
Excavator	2	81	40%	350	62	58	61	5	400	61	57	60	5
Forklift	2	75	10%	450	54	44	47	5	500	53	43	46	5
Rough Terrain Forklifts	2	70	50%	450	49	46	49	5	500	48	45	48	5
Rubber Tired Loader	2	79	50%	450	58	55	58	5	500	57	54	57	5
Sweeper/Scrubbers	1	82	10%	450	58	48	51	5	500	57	47	50	5
Tractor/Loader/Backhoe	2	80	25%	450	59	53	56	5	500	58	52	55	5
Foundation						***64***					***62***		
Cement and Mortar Mixers	5	79	40%	250	67	63	66	5	300	65	61	64	5
Cranes	3	81	16%	350	64	56	59	5	400	63	55	58	5
Forklift	5	75	10%	350	60	50	53	5	400	59	49	52	5
Building Construction/Concrete Pouring/Architectural Coating						***65***					***64***		
Air Compressor	4	78	40%	250	65	61	64	5	300	63	59	62	5
Bore/Drill Rig Truck	1	79	20%	350	57	50	53	5	400	56	49	52	5
Cement and Mortar Mixers	5	79	40%	350	64	60	63	5	400	63	59	62	5
Cranes	3	81	16%	350	64	56	59	5	400	63	55	58	5
Dumpers/Tenders	4	76	40%	450	58	54	57	5	500	57	53	56	5
Forklift	10	75	10%	450	61	51	54	5	500	60	50	53	5
Off-Highway Trucks	4	76	20%	550	56	49	52	5	600	55	48	51	5
Rough Terrain Forklifts	2	70	50%	550	47	44	47	5	600	46	43	46	5
Sweeper/Scrubbers	1	82	10%	550	56	46	49	5	600	55	45	48	5
Paving and Concrete						***70***					***69***		
Compactor (ground)	3	83	20%	250	69	62	65	5	300	67	60	63	5
Concrete/Industrial Saw	2	90	20%	350	71	64	67	5	400	70	63	66	5
Generator Sets	1	81	50%	350	59	56	59	5	400	58	55	58	5
Jackhammer	2	89	20%	350	70	63	66	5	400	69	62	65	5
Paver	2	77	50%	450	56	53	56	5	500	55	52	55	5
Paving Equipment	2	90	20%	450	69	62	65	5	500	68	61	64	5
Surfacing Equipment	2	85	50%	450	64	61	64	5	500	63	60	63	5
Tractor/Loader/Backhoe	1	80	25%	450	56	50	53	5	500	55	49	52	5
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***72***					***73***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: With Vibratory Pile Driver: Ground Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***71***					***71***					***64***		
Dumpers/Tenders	1	76	40%	80	62	58	61	10	130	60	56	59	8	150	52	48	51	14
Excavator	2	81	40%	80	70	66	69	10	130	68	64	67	8	150	60	56	59	14
Generator Sets	2	81	50%	180	63	60	63	10	230	63	60	63	8	250	56	53	56	14
Jackhammer	5	89	20%	180	75	68	71	10	230	75	68	71	8	250	68	61	64	14
Off-Highway Trucks	2	76	20%	180	58	51	54	10	230	58	51	54	8	250	51	44	47	14
Other Equipment	2	85	50%	280	63	60	63	10	330	64	61	64	8	350	57	54	57	14
Roller	2	80	20%	280	58	51	54	10	330	59	52	55	8	350	52	45	48	14
Rough Terrain Forklifts	2	70	50%	280	48	45	48	10	330	49	46	49	8	350	42	39	42	14
Rubber Tired Loader	2	79	50%	280	57	54	57	10	330	58	55	58	8	350	51	48	51	14
Sweeper/Scrubbers	1	82	10%	380	54	44	47	10	430	55	45	48	8	450	49	39	42	14
Tractor/Loader/Backhoe	2	80	25%	380	55	49	52	10	430	56	50	53	8	450	50	44	47	14
Renovation						***62***					***60***					***53***		
Air Compressor	1	78	40%	80	64	60	63	10	130	62	58	61	8	150	54	50	53	14
Dumpers/Tenders	1	76	40%	80	62	58	61	10	130	60	56	59	8	150	52	48	51	14
Forklift	5	75	10%	180	61	51	54	10	230	61	51	54	8	250	54	44	47	14
Mass Grading/Excavation						***67***					***67***					***60***		
Bore/Drill Rig Truck	4	79	20%	80	71	64	67	10	130	69	62	65	8	150	61	54	57	14
Compactor (ground)	5	83	20%	180	69	62	65	10	230	69	62	65	8	250	62	55	58	14
Dumpers/Tenders	2	76	40%	180	58	54	57	10	230	58	54	57	8	250	51	47	50	14
Excavator	2	81	40%	180	63	59	62	10	230	63	59	62	8	250	56	52	55	14
Forklift	2	75	10%	280	53	43	46	10	330	54	44	47	8	350	47	37	40	14
Rough Terrain Forklifts	2	70	50%	280	48	45	48	10	330	49	46	49	8	350	42	39	42	14
Rubber Tired Loader	2	79	50%	280	57	54	57	10	330	58	55	58	8	350	51	48	51	14
Sweeper/Scrubbers	1	82	10%	280	57	47	50	10	330	58	48	51	8	350	51	41	44	14
Tractor/Loader/Backhoe	2	80	25%	280	58	52	55	10	330	59	53	56	8	350	52	46	49	14
Foundation						***68***					***66***					***59***		
Cement and Mortar Mixers	5	79	40%	80	72	68	71	10	130	70	66	69	8	150	62	58	61	14
Cranes	3	81	16%	180	65	57	60	10	230	65	57	60	8	250	58	50	53	14
Forklift	5	75	10%	180	61	51	54	10	230	61	51	54	8	250	54	44	47	14
Building Construction/Concrete Pouring/Architectural Coating						***65***					***68***					***61***		
Air Compressor	4	78	40%	80	60	56	59	20	130	58	54	57	18	150	50	46	49	24
Vibratory Pile Driver	1	101	20%	160	71	64	67	20	130	75	68	71	18	150	67	60	63	24
Cement and Mortar Mixers	5	79	40%	180	55	51	54	20	230	55	51	54	18	250	48	44	47	24
Cranes	3	81	16%	180	55	47	50	20	230	55	47	50	18	250	48	40	43	24
Dumpers/Tenders	4	76	40%	280	47	43	46	20	230	51	47	50	18	250	44	40	43	24
Forklift	10	75	10%	280	50	40	43	20	230	54	44	47	18	250	47	37	40	24
Off-Highway Trucks	4	76	20%	280	47	40	43	20	330	48	41	44	18	350	41	34	37	24
Rough Terrain Forklifts	2	70	50%	280	38	35	38	20	330	39	36	39	18	350	32	29	32	24
Sweeper/Scrubbers	1	82	10%	280	47	37	40	20	330	48	38	41	18	350	41	31	34	24
Paving and Concrete						***67***					***66***					***60***		
Compactor (ground)	3	83	20%	80	74	67	70	10	130	71	64	67	8	150	64	57	60	14
Concrete/Industrial Saw	2	90	20%	180	72	65	68	10	230	72	65	68	8	250	65	58	61	14
Generator Sets	1	81	50%	180	60	57	60	10	230	60	57	60	8	250	53	50	53	14
Jackhammer	2	89	20%	180	71	64	67	10	230	71	64	67	8	250	64	57	60	14
Paver	2	77	50%	280	55	52	55	10	330	56	53	56	8	350	49	46	49	14
Paving Equipment	2	90	20%	280	68	61	64	10	330	69	62	65	8	350	62	55	58	14
Surfacing Equipment	2	85	50%	280	63	60	63	10	330	64	61	64	8	350	57	54	57	14
Tractor/Loader/Backhoe	1	80	25%	280	55	49	52	10	330	56	50	53	8	350	49	43	46	14
Architectural Coating (Included in Building Construction)																		
Concrete Pouring (Included in Foundation Phase)																		
Maximum Noise Level (Overlapping Phases)						***70***					***69***					***62***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: With Vibratory Pile Driver: Ground L

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***63***					***61***		
Dumpers/Tenders	1	76	40%	250	50	46	49	12	300	47	43	46	13
Excavator	2	81	40%	250	58	54	57	12	300	55	51	54	13
Generator Sets	2	81	50%	350	55	52	55	12	400	53	50	53	13
Jackhammer	5	89	20%	350	67	60	63	12	400	65	58	61	13
Off-Highway Trucks	2	76	20%	350	50	43	46	12	400	48	41	44	13
Other Equipment	2	85	50%	450	57	54	57	12	500	55	52	55	13
Roller	2	80	20%	450	52	45	48	12	500	50	43	46	13
Rough Terrain Forklifts	2	70	50%	450	42	39	42	12	500	40	37	40	13
Rubber Tired Loader	2	79	50%	450	51	48	51	12	500	49	46	49	13
Sweeper/Scrubbers	1	82	10%	550	49	39	42	12	600	47	37	40	13
Tractor/Loader/Backhoe	2	80	25%	550	50	44	47	12	600	48	42	45	13
Renovation						***51***					***48***		
Air Compressor	1	78	40%	250	52	48	51	12	300	49	45	48	13
Dumpers/Tenders	1	76	40%	250	50	46	49	12	300	47	43	46	13
Forklift	5	75	10%	350	53	43	46	12	400	51	41	44	13
Mass Grading/Excavation						***59***					***56***		
Bore/Drill Rig Truck	4	79	20%	250	59	52	55	12	300	56	49	52	13
Compactor (ground)	5	83	20%	350	61	54	57	12	400	59	52	55	13
Dumpers/Tenders	2	76	40%	350	50	46	49	12	400	48	44	47	13
Excavator	2	81	40%	350	55	51	54	12	400	53	49	52	13
Forklift	2	75	10%	450	47	37	40	12	500	45	35	38	13
Rough Terrain Forklifts	2	70	50%	450	42	39	42	12	500	40	37	40	13
Rubber Tired Loader	2	79	50%	450	51	48	51	12	500	49	46	49	13
Sweeper/Scrubbers	1	82	10%	450	51	41	44	12	500	49	39	42	13
Tractor/Loader/Backhoe	2	80	25%	450	52	46	49	12	500	50	44	47	13
Foundation						***57***					***54***		
Cement and Mortar Mixers	5	79	40%	250	60	56	59	12	300	57	53	56	13
Cranes	3	81	16%	350	57	49	52	12	400	55	47	50	13
Forklift	5	75	10%	350	53	43	46	12	400	51	41	44	13
Building Construction/Concrete Pouring/Architectural Coating						***58***					***56***		
Air Compressor	4	78	40%	250	48	44	47	22	300	45	41	44	23
Vibratory Pile Driver	1	101	20%	250	65	58	61	22	300	62	55	58	23
Cement and Mortar Mixers	5	79	40%	350	47	43	46	22	400	45	41	44	23
Cranes	3	81	16%	350	47	39	42	22	400	45	37	40	23
Dumpers/Tenders	4	76	40%	350	43	39	42	22	400	41	37	40	23
Forklift	10	75	10%	350	46	36	39	22	400	44	34	37	23
Off-Highway Trucks	4	76	20%	450	41	34	37	22	500	39	32	35	23
Rough Terrain Forklifts	2	70	50%	450	32	29	32	22	500	30	27	30	23
Sweeper/Scrubbers	1	82	10%	450	41	31	34	22	500	39	29	32	23
Paving and Concrete						***54***					***61***		
Compactor (ground)	3	83	20%	250	62	55	58	12	300	59	52	55	13
Concrete/Industrial Saw	2	90	20%	350	64	57	60	12	400	62	55	58	13
Generator Sets	1	81	50%	350	52	49	52	12	400	50	47	50	13
Jackhammer	2	89	20%	350	63	56	59	12	400	61	54	57	13
Paver	2	77	50%	450	49	46	49	12	500	47	44	47	13
Paving Equipment	2	90	20%	450	62	55	58	12	500	60	53	56	13
Surfacing Equipment	2	85	50%	450	57	54	57	12	500	55	52	55	13
Tractor/Loader/Backhoe	1	80	25%	450	49	43	46	12	500	47	41	44	13
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***60***					***62***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: With Vibratory Pile Driver: Upper Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**
Site Preparation/Demo						***76***		
Dumpers/Tenders	1	76	40%	80	67	63	66	5
Excavator	2	81	40%	80	75	71	74	5
Generator Sets	2	81	50%	180	68	65	68	5
Jackhammer	5	89	20%	180	80	73	76	5
Off-Highway Trucks	2	76	20%	180	63	56	59	5
Other Equipment	2	85	50%	280	68	65	68	5
Roller	2	80	20%	280	63	56	59	5
Rough Terrain Forklifts	2	70	50%	280	53	50	53	5
Rubber Tired Loader	2	79	50%	280	62	59	62	5
Sweeper/Scrubbers	1	82	10%	380	59	49	52	5
Tractor/Loader/Backhoe	2	80	25%	380	60	54	57	5
Renovation						***67***		
Air Compressor	1	78	40%	80	69	65	68	5
Dumpers/Tenders	1	76	40%	80	67	63	66	5
Forklift	5	75	10%	180	66	56	59	5
Mass Grading/Excavation						***72***		
Bore/Drill Rig Truck	4	79	20%	80	76	69	72	5
Compactor (ground)	5	83	20%	180	74	67	70	5
Dumpers/Tenders	2	76	40%	180	63	59	62	5
Excavator	2	81	40%	180	68	64	67	5
Forklift	2	75	10%	280	58	48	51	5
Rough Terrain Forklifts	2	70	50%	280	53	50	53	5
Rubber Tired Loader	2	79	50%	280	62	59	62	5
Sweeper/Scrubbers	1	82	10%	280	62	52	55	5
Tractor/Loader/Backhoe	2	80	25%	280	63	57	60	5
Foundation						***73***		
Cement and Mortar Mixers	5	79	40%	80	77	73	76	5
Cranes	3	81	16%	180	70	62	65	5
Forklift	5	75	10%	180	66	56	59	5
Building Construction/Concrete Pouring/Architectural Coating						***70***		
Air Compressor	4	78	40%	80	65	61	64	15
Vibratory Pile Driver	1	101	20%	160	76	69	72	15
Cement and Mortar Mixers	5	79	40%	180	60	56	59	15
Cranes	3	81	16%	180	60	52	55	15
Dumpers/Tenders	4	76	40%	280	52	48	51	15
Forklift	10	75	10%	280	55	45	48	15
Off-Highway Trucks	4	76	20%	280	52	45	48	15
Rough Terrain Forklifts	2	70	50%	280	43	40	43	15
Sweeper/Scrubbers	1	82	10%	280	52	42	45	15
Paving and Concrete						***67***		
Compactor (ground)	3	83	20%	80	79	72	75	5
Concrete/Industrial Saw	2	90	20%	180	77	70	73	5
Generator Sets	1	81	50%	180	65	62	65	5
Jackhammer	2	89	20%	180	76	69	72	5
Paver	2	77	50%	280	60	57	60	5
Paving Equipment	2	90	20%	280	73	66	69	5
Surfacing Equipment	2	85	50%	280	68	65	68	5
Tractor/Loader/Backhoe	1	80	25%	280	60	54	57	5
Architectural Coating (Included in Building Construction)								
Concrete Pouring (Included in Foundation Phase)								
Maximum Noise Level (Overlapping Phases)						***75***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: With Vibratory Pile Driver: Upper Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***68***					***66***		
Dumpers/Tenders	1	76	40%	250	55	51	54	7	300	52	48	51	8
Excavator	2	81	40%	250	63	59	62	7	300	60	56	59	8
Generator Sets	2	81	50%	350	60	57	60	7	400	58	55	58	8
Jackhammer	5	89	20%	350	72	65	68	7	400	70	63	66	8
Off-Highway Trucks	2	76	20%	350	55	48	51	7	400	53	46	49	8
Other Equipment	2	85	50%	450	62	59	62	7	500	60	57	60	8
Roller	2	80	20%	450	57	50	53	7	500	55	48	51	8
Rough Terrain Forklifts	2	70	50%	450	47	44	47	7	500	45	42	45	8
Rubber Tired Loader	2	79	50%	450	56	53	56	7	500	54	51	54	8
Sweeper/Scrubbers	1	82	10%	550	54	44	47	7	600	52	42	45	8
Tractor/Loader/Backhoe	2	80	25%	550	55	49	52	7	600	53	47	50	8
Renovation						***56***					***53***		
Air Compressor	1	78	40%	250	57	53	56	7	300	54	50	53	8
Dumpers/Tenders	1	76	40%	250	55	51	54	7	300	52	48	51	8
Forklift	5	75	10%	350	58	48	51	7	400	56	46	49	8
Mass Grading/Excavation						***64***					***61***		
Bore/Drill Rig Truck	4	79	20%	250	64	57	60	7	300	61	54	57	8
Compactor (ground)	5	83	20%	350	66	59	62	7	400	64	57	60	8
Dumpers/Tenders	2	76	40%	350	55	51	54	7	400	53	49	52	8
Excavator	2	81	40%	350	60	56	59	7	400	58	54	57	8
Forklift	2	75	10%	450	52	42	45	7	500	50	40	43	8
Rough Terrain Forklifts	2	70	50%	450	47	44	47	7	500	45	42	45	8
Rubber Tired Loader	2	79	50%	450	56	53	56	7	500	54	51	54	8
Sweeper/Scrubbers	1	82	10%	450	56	46	49	7	500	54	44	47	8
Tractor/Loader/Backhoe	2	80	25%	450	57	51	54	7	500	55	49	52	8
Foundation						***62***					***59***		
Cement and Mortar Mixers	5	79	40%	250	65	61	64	7	300	62	58	61	8
Cranes	3	81	16%	350	62	54	57	7	400	60	52	55	8
Forklift	5	75	10%	350	58	48	51	7	400	56	46	49	8
Building Construction/Concrete Pouring/Architectural Coating						***63***					***61***		
Air Compressor	4	78	40%	250	53	49	52	17	300	50	46	49	18
Vibratory Pile Driver	1	101	20%	250	70	63	66	17	300	67	60	63	18
Cement and Mortar Mixers	5	79	40%	350	52	48	51	17	400	50	46	49	18
Cranes	3	81	16%	350	52	44	47	17	400	50	42	45	18
Dumpers/Tenders	4	76	40%	350	48	44	47	17	400	46	42	45	18
Forklift	10	75	10%	350	51	41	44	17	400	49	39	42	18
Off-Highway Trucks	4	76	20%	450	46	39	42	17	500	44	37	40	18
Rough Terrain Forklifts	2	70	50%	450	37	34	37	17	500	35	32	35	18
Sweeper/Scrubbers	1	82	10%	450	46	36	39	17	500	44	34	37	18
Paving and Concrete						***54***					***66***		
Compactor (ground)	3	83	20%	250	67	60	63	7	300	64	57	60	8
Concrete/Industrial Saw	2	90	20%	350	69	62	65	7	400	67	60	63	8
Generator Sets	1	81	50%	350	57	54	57	7	400	55	52	55	8
Jackhammer	2	89	20%	350	68	61	64	7	400	66	59	62	8
Paver	2	77	50%	450	54	51	54	7	500	52	49	52	8
Paving Equipment	2	90	20%	450	67	60	63	7	500	65	58	61	8
Surfacing Equipment	2	85	50%	450	62	59	62	7	500	60	57	60	8
Tractor/Loader/Backhoe	1	80	25%	450	54	48	51	7	500	52	46	49	8
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***65***					***67***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: Without Vibratory Pile Driver: Ground Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R3					R4				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***71***					***71***					***64***		
Dumpers/Tenders	1	76	40%	80	62	58	61	10	130	60	56	59	8	150	52	48	51	14
Excavator	2	81	40%	80	70	66	69	10	130	68	64	67	8	150	60	56	59	14
Generator Sets	2	81	50%	180	63	60	63	10	230	63	60	63	8	250	56	53	56	14
Jackhammer	5	89	20%	180	75	68	71	10	230	75	68	71	8	250	68	61	64	14
Off-Highway Trucks	2	76	20%	180	58	51	54	10	230	58	51	54	8	250	51	44	47	14
Other Equipment	2	85	50%	280	63	60	63	10	330	64	61	64	8	350	57	54	57	14
Roller	2	80	20%	280	58	51	54	10	330	59	52	55	8	350	52	45	48	14
Rough Terrain Forklifts	2	70	50%	280	48	45	48	10	330	49	46	49	8	350	42	39	42	14
Rubber Tired Loader	2	79	50%	280	57	54	57	10	330	58	55	58	8	350	51	48	51	14
Sweeper/Scrubbers	1	82	10%	380	54	44	47	10	430	55	45	48	8	450	49	39	42	14
Tractor/Loader/Backhoe	2	80	25%	380	55	49	52	10	430	56	50	53	8	450	50	44	47	14
Renovation						***62***					***60***					***53***		
Air Compressor	1	78	40%	80	64	60	63	10	130	62	58	61	8	150	54	50	53	14
Dumpers/Tenders	1	76	40%	80	62	58	61	10	130	60	56	59	8	150	52	48	51	14
Forklift	5	75	10%	180	61	51	54	10	230	61	51	54	8	250	54	44	47	14
Mass Grading/Excavation						***67***					***67***					***60***		
Bore/Drill Rig Truck	4	79	20%	80	71	64	67	10	130	69	62	65	8	150	61	54	57	14
Compactor (ground)	5	83	20%	180	69	62	65	10	230	69	62	65	8	250	62	55	58	14
Dumpers/Tenders	2	76	40%	180	58	54	57	10	230	58	54	57	8	250	51	47	50	14
Excavator	2	81	40%	180	63	59	62	10	230	63	59	62	8	250	56	52	55	14
Forklift	2	75	10%	280	53	43	46	10	330	54	44	47	8	350	47	37	40	14
Rough Terrain Forklifts	2	70	50%	280	48	45	48	10	330	49	46	49	8	350	42	39	42	14
Rubber Tired Loader	2	79	50%	280	57	54	57	10	330	58	55	58	8	350	51	48	51	14
Sweeper/Scrubbers	1	82	10%	280	57	47	50	10	330	58	48	51	8	350	51	41	44	14
Tractor/Loader/Backhoe	2	80	25%	280	58	52	55	10	330	59	53	56	8	350	52	46	49	14
Foundation						***68***					***66***					***59***		
Cement and Mortar Mixers	5	79	40%	80	72	68	71	10	130	70	66	69	8	150	62	58	61	14
Cranes	3	81	16%	180	65	57	60	10	230	65	57	60	8	250	58	50	53	14
Forklift	5	75	10%	180	61	51	54	10	230	61	51	54	8	250	54	44	47	14
Building Construction/Concrete Pouring/Architectural Coating						***70***					***70***					***64***		
Air Compressor	4	78	40%	80	70	66	69	10	130	68	64	67	8	150	60	56	59	14
Bore/Drill Rig Truck	1	79	20%	80	65	58	61	10	130	63	56	59	8	150	55	48	51	14
Cement and Mortar Mixers	5	79	40%	100	70	66	69	10	100	72	68	71	8	100	66	62	65	14
Cranes	3	81	16%	180	65	57	60	10	230	65	57	60	8	250	58	50	53	14
Dumpers/Tenders	4	76	40%	180	61	57	60	10	230	61	57	60	8	250	54	50	53	14
Forklift	10	75	10%	180	64	54	57	10	230	64	54	57	8	250	57	47	50	14
Off-Highway Trucks	4	76	20%	280	57	50	53	10	330	58	51	54	8	350	51	44	47	14
Rough Terrain Forklifts	2	70	50%	280	48	45	48	10	330	49	46	49	8	350	42	39	42	14
Sweeper/Scrubbers	1	82	10%	280	57	47	50	10	330	58	48	51	8	350	51	41	44	14
Paving and Concrete						***71***					***71***					***64***		
Compactor (ground)	3	83	20%	80	74	67	70	10	130	71	64	67	8	150	64	57	60	14
Concrete/Industrial Saw	2	90	20%	180	72	65	68	10	230	72	65	68	8	250	65	58	61	14
Generator Sets	1	81	50%	180	60	57	60	10	230	60	57	60	8	250	53	50	53	14
Jackhammer	2	89	20%	180	71	64	67	10	230	71	64	67	8	250	64	57	60	14
Paver	2	77	50%	280	55	52	55	10	330	56	53	56	8	350	49	46	49	14
Paving Equipment	2	90	20%	280	68	61	64	10	330	69	62	65	8	350	62	55	58	14
Surfacing Equipment	2	85	50%	280	63	60	63	10	330	64	61	64	8	350	57	54	57	14
Tractor/Loader/Backhoe	1	80	25%	280	55	49	52	10	330	56	50	53	8	350	49	43	46	14
Architectural Coating (Included in Building Construction)																		
Concrete Pouring (Included in Foundation Phase)																		
Maximum Noise Level (Overlapping Phases)						***75***					***74***					***65***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: Without Vibratory Pile Driver: Ground Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***63***					***61***		
Dumpers/Tenders	1	76	40%	250	50	46	49	12	300	47	43	46	13
Excavator	2	81	40%	250	58	54	57	12	300	55	51	54	13
Generator Sets	2	81	50%	350	55	52	55	12	400	53	50	53	13
Jackhammer	5	89	20%	350	67	60	63	12	400	65	58	61	13
Off-Highway Trucks	2	76	20%	350	50	43	46	12	400	48	41	44	13
Other Equipment	2	85	50%	450	57	54	57	12	500	55	52	55	13
Roller	2	80	20%	450	52	45	48	12	500	50	43	46	13
Rough Terrain Forklifts	2	70	50%	450	42	39	42	12	500	40	37	40	13
Rubber Tired Loader	2	79	50%	450	51	48	51	12	500	49	46	49	13
Sweeper/Scrubbers	1	82	10%	550	49	39	42	12	600	47	37	40	13
Tractor/Loader/Backhoe	2	80	25%	550	50	44	47	12	600	48	42	45	13
Renovation						***51***					***48***		
Air Compressor	1	78	40%	250	52	48	51	12	300	49	45	48	13
Dumpers/Tenders	1	76	40%	250	50	46	49	12	300	47	43	46	13
Forklift	5	75	10%	350	53	43	46	12	400	51	41	44	13
Mass Grading/Excavation						***59***					***56***		
Bore/Drill Rig Truck	4	79	20%	250	59	52	55	12	300	56	49	52	13
Compactor (ground)	5	83	20%	350	61	54	57	12	400	59	52	55	13
Dumpers/Tenders	2	76	40%	350	50	46	49	12	400	48	44	47	13
Excavator	2	81	40%	350	55	51	54	12	400	53	49	52	13
Forklift	2	75	10%	450	47	37	40	12	500	45	35	38	13
Rough Terrain Forklifts	2	70	50%	450	42	39	42	12	500	40	37	40	13
Rubber Tired Loader	2	79	50%	450	51	48	51	12	500	49	46	49	13
Sweeper/Scrubbers	1	82	10%	450	51	41	44	12	500	49	39	42	13
Tractor/Loader/Backhoe	2	80	25%	450	52	46	49	12	500	50	44	47	13
Foundation						***57***					***54***		
Cement and Mortar Mixers	5	79	40%	250	60	56	59	12	300	57	53	56	13
Cranes	3	81	16%	350	57	49	52	12	400	55	47	50	13
Forklift	5	75	10%	350	53	43	46	12	400	51	41	44	13
Building Construction/Concrete Pouring/Architectural Coating						***65***					***64***		
Air Compressor	4	78	40%	250	58	54	57	12	300	55	51	54	13
Bore/Drill Rig Truck	1	79	20%	250	53	46	49	12	300	50	43	46	13
Cement and Mortar Mixers	5	79	40%	100	68	64	67	12	100	67	63	66	13
Cranes	3	81	16%	350	57	49	52	12	400	55	47	50	13
Dumpers/Tenders	4	76	40%	350	53	49	52	12	400	51	47	50	13
Forklift	10	75	10%	350	56	46	49	12	400	54	44	47	13
Off-Highway Trucks	4	76	20%	450	51	44	47	12	500	49	42	45	13
Rough Terrain Forklifts	2	70	50%	450	42	39	42	12	500	40	37	40	13
Sweeper/Scrubbers	1	82	10%	450	51	41	44	12	500	49	39	42	13
Paving and Concrete						***63***					***61***		
Compactor (ground)	3	83	20%	250	62	55	58	12	300	59	52	55	13
Concrete/Industrial Saw	2	90	20%	350	64	57	60	12	400	62	55	58	13
Generator Sets	1	81	50%	350	52	49	52	12	400	50	47	50	13
Jackhammer	2	89	20%	350	63	56	59	12	400	61	54	57	13
Paver	2	77	50%	450	49	46	49	12	500	47	44	47	13
Paving Equipment	2	90	20%	450	62	55	58	12	500	60	53	56	13
Surfacing Equipment	2	85	50%	450	57	54	57	12	500	55	52	55	13
Tractor/Loader/Backhoe	1	80	25%	450	49	43	46	12	500	47	41	44	13
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***65***					***65***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: Without Vibratory Pile Driver: Upper Level

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM**
Site Preparation/Demo						***76***		
Dumpers/Tenders	1	76	40%	80	67	63	66	5
Excavator	2	81	40%	80	75	71	74	5
Generator Sets	2	81	50%	180	68	65	68	5
Jackhammer	5	89	20%	180	80	73	76	5
Off-Highway Trucks	2	76	20%	180	63	56	59	5
Other Equipment	2	85	50%	280	68	65	68	5
Roller	2	80	20%	280	63	56	59	5
Rough Terrain Forklifts	2	70	50%	280	53	50	53	5
Rubber Tired Loader	2	79	50%	280	62	59	62	5
Sweeper/Scrubbers	1	82	10%	380	59	49	52	5
Tractor/Loader/Backhoe	2	80	25%	380	60	54	57	5
Renovation						***67***		
Air Compressor	1	78	40%	80	69	65	68	5
Dumpers/Tenders	1	76	40%	80	67	63	66	5
Forklift	5	75	10%	180	66	56	59	5
Mass Grading/Excavation						***72***		
Bore/Drill Rig Truck	4	79	20%	80	76	69	72	5
Compactor (ground)	5	83	20%	180	74	67	70	5
Dumpers/Tenders	2	76	40%	180	63	59	62	5
Excavator	2	81	40%	180	68	64	67	5
Forklift	2	75	10%	280	58	48	51	5
Rough Terrain Forklifts	2	70	50%	280	53	50	53	5
Rubber Tired Loader	2	79	50%	280	62	59	62	5
Sweeper/Scrubbers	1	82	10%	280	62	52	55	5
Tractor/Loader/Backhoe	2	80	25%	280	63	57	60	5
Foundation						***73***		
Cement and Mortar Mixers	5	79	40%	80	77	73	76	5
Cranes	3	81	16%	180	70	62	65	5
Forklift	5	75	10%	180	66	56	59	5
Building Construction/Concrete Pouring/Architectural Coating						***75***		
Air Compressor	4	78	40%	80	75	71	74	5
Bore/Drill Rig Truck	1	79	20%	80	70	63	66	5
Cement and Mortar Mixers	5	79	40%	100	75	71	74	5
Cranes	3	81	16%	180	70	62	65	5
Dumpers/Tenders	4	76	40%	180	66	62	65	5
Forklift	10	75	10%	180	69	59	62	5
Off-Highway Trucks	4	76	20%	280	62	55	58	5
Rough Terrain Forklifts	2	70	50%	280	53	50	53	5
Sweeper/Scrubbers	1	82	10%	280	62	52	55	5
Paving and Concrete						***76***		
Compactor (ground)	3	83	20%	80	79	72	75	5
Concrete/Industrial Saw	2	90	20%	180	77	70	73	5
Generator Sets	1	81	50%	180	65	62	65	5
Jackhammer	2	89	20%	180	76	69	72	5
Paver	2	77	50%	280	60	57	60	5
Paving Equipment	2	90	20%	280	73	66	69	5
Surfacing Equipment	2	85	50%	280	68	65	68	5
Tractor/Loader/Backhoe	1	80	25%	280	60	54	57	5
Architectural Coating (Included in Building Construction)								
Concrete Pouring (Included in Foundation Phase)								
Maximum Noise Level (Overlapping Phases)						***80***		

Project: LA Times

Construction Noise Impact on Sensitive Receptors

After Mitigation Meausres: Without Vibratory Pile Driver: Upper

Parameters

Construction Hours:	14	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R5					R6				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Noise Reduction By MM and Existing Buildings**
Site Preparation/Demo						***68***					***66***		
Dumpers/Tenders	1	76	40%	250	55	51	54	7	300	52	48	51	8
Excavator	2	81	40%	250	63	59	62	7	300	60	56	59	8
Generator Sets	2	81	50%	350	60	57	60	7	400	58	55	58	8
Jackhammer	5	89	20%	350	72	65	68	7	400	70	63	66	8
Off-Highway Trucks	2	76	20%	350	55	48	51	7	400	53	46	49	8
Other Equipment	2	85	50%	450	62	59	62	7	500	60	57	60	8
Roller	2	80	20%	450	57	50	53	7	500	55	48	51	8
Rough Terrain Forklifts	2	70	50%	450	47	44	47	7	500	45	42	45	8
Rubber Tired Loader	2	79	50%	450	56	53	56	7	500	54	51	54	8
Sweeper/Scrubbers	1	82	10%	550	54	44	47	7	600	52	42	45	8
Tractor/Loader/Backhoe	2	80	25%	550	55	49	52	7	600	53	47	50	8
Renovation						***56***					***53***		
Air Compressor	1	78	40%	250	57	53	56	7	300	54	50	53	8
Dumpers/Tenders	1	76	40%	250	55	51	54	7	300	52	48	51	8
Forklift	5	75	10%	350	58	48	51	7	400	56	46	49	8
Mass Grading/Excavation						***64***					***61***		
Bore/Drill Rig Truck	4	79	20%	250	64	57	60	7	300	61	54	57	8
Compactor (ground)	5	83	20%	350	66	59	62	7	400	64	57	60	8
Dumpers/Tenders	2	76	40%	350	55	51	54	7	400	53	49	52	8
Excavator	2	81	40%	350	60	56	59	7	400	58	54	57	8
Forklift	2	75	10%	450	52	42	45	7	500	50	40	43	8
Rough Terrain Forklifts	2	70	50%	450	47	44	47	7	500	45	42	45	8
Rubber Tired Loader	2	79	50%	450	56	53	56	7	500	54	51	54	8
Sweeper/Scrubbers	1	82	10%	450	56	46	49	7	500	54	44	47	8
Tractor/Loader/Backhoe	2	80	25%	450	57	51	54	7	500	55	49	52	8
Foundation						***62***					***59***		
Cement and Mortar Mixers	5	79	40%	250	65	61	64	7	300	62	58	61	8
Cranes	3	81	16%	350	62	54	57	7	400	60	52	55	8
Forklift	5	75	10%	350	58	48	51	7	400	56	46	49	8
Building Construction/Concrete Pouring/Architectural Coating						***70***					***69***		
Air Compressor	4	78	40%	250	63	59	62	7	300	60	56	59	8
Bore/Drill Rig Truck	1	79	20%	250	58	51	54	7	300	55	48	51	8
Cement and Mortar Mixers	5	79	40%	100	73	69	72	7	100	72	68	71	8
Cranes	3	81	16%	350	62	54	57	7	400	60	52	55	8
Dumpers/Tenders	4	76	40%	350	58	54	57	7	400	56	52	55	8
Forklift	10	75	10%	350	61	51	54	7	400	59	49	52	8
Off-Highway Trucks	4	76	20%	450	56	49	52	7	500	54	47	50	8
Rough Terrain Forklifts	2	70	50%	450	47	44	47	7	500	45	42	45	8
Sweeper/Scrubbers	1	82	10%	450	56	46	49	7	500	54	44	47	8
Paving and Concrete						***68***					***66***		
Compactor (ground)	3	83	20%	250	67	60	63	7	300	64	57	60	8
Concrete/Industrial Saw	2	90	20%	350	69	62	65	7	400	67	60	63	8
Generator Sets	1	81	50%	350	57	54	57	7	400	55	52	55	8
Jackhammer	2	89	20%	350	68	61	64	7	400	66	59	62	8
Paver	2	77	50%	450	54	51	54	7	500	52	49	52	8
Paving Equipment	2	90	20%	450	67	60	63	7	500	65	58	61	8
Surfacing Equipment	2	85	50%	450	62	59	62	7	500	60	57	60	8
Tractor/Loader/Backhoe	1	80	25%	450	54	48	51	7	500	52	46	49	8
Architectural Coating (Included in Building Construction)													
Concrete Pouring (Included in Foundation Phase)													
Maximum Noise Level (Overlapping Phases)						***70***					***70***		

ESA					**15 February 2019**						
Shirayama					**TNM 2.5**						
INPUT: ROADWAYS							**Average pavement type shall be used unless**				
PROJECT/CONTRACT:	**LA Times EIR**						**a State highway agency substantiates the use**				
RUN:	**LA Times Construction TNM**						**of a different type with the approval of FHWA**				
Roadway		**Points**									
Name	**Width**	**Name**	**No.**	**Coordinates (pavement)**			**Flow Control**			**Segment**	
				X	**Y**	**Z**	**Control Device**	**Speed Constraint**	**Percent Vehicles Affected**	**Pvmt Type**	**On Struct?**
	ft			ft	ft	ft		mph	%		
Enter_LA_SB	24.0	point186	186	6,489,690.0	1,843,001.4	0.00	Signal	0.00	100	Average	
		point185	185	6,489,630.0	1,843,011.9	0.00				Average	
		point184	184	6,489,576.5	1,843,020.9	0.00				Average	
		point183	183	6,489,549.0	1,843,024.4	0.00				Average	
		point182	182	6,489,526.5	1,843,020.1	0.00				Average	
		point181	181	6,489,504.5	1,843,012.5	0.00				Average	
		point180	180	6,489,488.5	1,843,002.1	0.00				Average	
		point179	179	6,489,470.5	1,842,984.8	0.00				Average	
		point178	178	6,489,458.0	1,842,961.9	0.00				Average	
		point177	177	6,489,439.0	1,842,931.2	0.00				Average	
		point176	176	6,489,374.0	1,842,832.6	0.00				Average	
		point175	175	6,489,237.0	1,842,625.8	0.00				Average	
		point174	174	6,489,112.5	1,842,467.4	0.00					
Exit_RT_to_1st_EB	24.0	point197	197	6,487,264.5	1,841,931.0	0.00	Signal	0.00	100	Average	
		point198	198	6,487,271.0	1,841,939.8	0.00				Average	
		point199	199	6,487,278.5	1,841,946.6	0.00				Average	
		point200	200	6,487,285.0	1,841,949.0	0.00				Average	
		point201	201	6,487,293.0	1,841,951.0	0.00				Average	
		point202	202	6,487,300.0	1,841,950.6	0.00				Average	
		point203	203	6,487,306.5	1,841,949.9	0.00				Average	
		point204	204	6,487,312.0	1,841,947.9	0.00				Average	
		point205	205	6,487,316.0	1,841,946.2	0.00				Average	
		point206	206	6,487,322.5	1,841,943.8	0.00				Average	
		point207	207	6,487,331.0	1,841,939.8	0.00					
Exit_LT_1st_to_Main	24.0	point208	208	6,487,888.0	1,841,502.6	0.00	Signal	0.00	100	Average	

		point209	209	6,487,898.0	1,841,494.8	0.00				Average	
		point210	210	6,487,907.0	1,841,490.6	0.00				Average	
		point211	211	6,487,918.0	1,841,489.1	0.00				Average	
		point212	212	6,487,928.5	1,841,488.6	0.00				Average	
		point213	213	6,487,937.5	1,841,490.2	0.00				Average	
		point214	214	6,487,946.0	1,841,494.8	0.00				Average	
		point215	215	6,487,953.0	1,841,501.6	0.00				Average	
		point216	216	6,487,963.5	1,841,513.8	0.00				Average	
		point217	217	6,487,976.5	1,841,532.6	0.00					
Exit_Main_NB	48.0	point218	218	6,487,976.5	1,841,532.6	0.00				Average	
		point158	158	6,488,241.0	1,841,872.1	0.00					
Exit_1st_EB_btw_Broadway_Spring	24.0	point221	221	6,487,331.0	1,841,939.8	0.00				Average	
		point146	146	6,487,557.5	1,841,761.4	0.00					
Exit_Broadway_NB	36.0	point236	236	6,487,129.0	1,841,750.4	0.00	Stop	0.00	100	Average	
		point135	135	6,487,264.5	1,841,931.0	0.00					
Enter_Broadway_NB	24.0	point237	237	6,486,986.5	1,841,569.2	0.00				Average	
		point136	136	6,487,129.0	1,841,750.4	0.00					
Exit_1st_EB_btw_Spring_Main	24.0	point249	249	6,487,557.5	1,841,761.4	0.00	Signal	0.00	100	Average	
		point145	145	6,487,649.5	1,841,694.1	0.00				Average	
		point144	144	6,487,888.0	1,841,502.6	0.00					
Exit_Main_NB-2	48.0	point250	250	6,488,241.0	1,841,872.1	0.00	Signal	0.00	100	Average	
		point157	157	6,488,426.5	1,842,108.2	0.00					
Exit_Main_NB-2-2	48.0	point251	251	6,488,426.5	1,842,108.2	0.00	Signal	0.00	100	Average	
		point156	156	6,488,494.0	1,842,196.5	0.00				Average	
		point155	155	6,488,612.0	1,842,349.2	0.00					
Exit_Main_NB-2-2-2	48.0	point252	252	6,488,612.0	1,842,349.2	0.00	Signal	0.00	100	Average	
		point154	154	6,488,804.5	1,842,601.4	0.00					
Exit_Main_NB-2-2-2-2	48.0	point253	253	6,488,804.5	1,842,601.4	0.00	Signal	0.00	100	Average	
		point153	153	6,488,845.5	1,842,662.4	0.00				Average	
		point152	152	6,488,928.0	1,842,768.6	0.00				Average	
		point151	151	6,488,969.0	1,842,820.6	0.00				Average	
		point150	150	6,489,294.0	1,843,246.5	0.00					
Enter_LA_SB-2	24.0	point254	254	6,489,112.5	1,842,467.4	0.00	Signal	0.00	100	Average	
		point173	173	6,489,055.0	1,842,386.9	0.00				Average	
		point172	172	6,488,901.0	1,842,204.2	0.00					
Enter_LA_SB-2-2	24.0	point255	255	6,488,901.0	1,842,204.2	0.00	Signal	0.00	100	Average	
		point171	171	6,488,726.0	1,841,969.5	0.00					
Enter_LA_SB-2-2-2	24.0	point256	256	6,488,726.0	1,841,969.5	0.00	Signal	0.00	100	Average	
		point170	170	6,488,658.5	1,841,879.2	0.00				Average	

		point169	169	6,488,487.0	1,841,627.9	0.00					
Enter_LA_SB-2-2-2-2	24.0	point257	257	6,488,487.0	1,841,627.9	0.00	Signal	0.00	100	Average	
		point168	168	6,488,269.0	1,841,289.2	0.00					
Enter_LA_SB-2-2-2-2-2	24.0	point258	258	6,488,269.0	1,841,289.2	0.00	Signal	0.00	100	Average	
		point167	167	6,488,193.5	1,841,178.5	0.00				Average	
		point166	166	6,487,964.5	1,840,815.6	0.00					
Exit_Broadway_NB_to_1st_WB	24.0	point272	272	6,487,264.5	1,841,931.0	0.00	Signal	0.00	100	Average	
		point273	273	6,487,271.5	1,841,941.2	0.00				Average	
		point274	274	6,487,277.5	1,841,951.0	0.00				Average	
		point275	275	6,487,280.0	1,841,964.6	0.00				Average	
		point276	276	6,487,282.5	1,841,983.6	0.00				Average	
		point277	277	6,487,282.0	1,842,002.1	0.00				Average	
		point278	278	6,487,279.5	1,842,015.8	0.00				Average	
		point279	279	6,487,272.0	1,842,027.5	0.00				Average	
		point280	280	6,487,260.0	1,842,038.4	0.00					
Exit_1st_WB	24.0	point281	281	6,487,260.0	1,842,038.4	0.00				Average	
		point262	262	6,487,026.5	1,842,225.9	0.00				Average	
		point261	261	6,486,382.5	1,842,717.4	0.00					
Enter_2nd-2	12.0	point294	294	6,487,906.5	1,840,813.9	0.00				Average	
		point290	290	6,487,642.0	1,841,015.6	0.00					
Enter_2nd-2-2	12.0	point295	295	6,487,642.0	1,841,015.6	0.00	Signal	0.00	100	Average	
		point289	289	6,487,563.0	1,841,075.1	0.00				Average	
		point288	288	6,487,309.5	1,841,272.8	0.00					
Enter_2nd-2-2-2	12.0	point296	296	6,487,309.5	1,841,272.8	0.00	Signal	0.00	100	Average	
		point287	287	6,487,232.5	1,841,327.6	0.00				Average	
		point286	286	6,486,990.0	1,841,519.6	0.00					
Roadway54	12.0	point299	299	6,486,990.0	1,841,519.6	0.00	Signal	0.00	100	Average	
		point300	300	6,486,983.0	1,841,526.2	0.00				Average	
		point301	301	6,486,978.5	1,841,535.1	0.00				Average	
		point302	302	6,486,976.5	1,841,544.2	0.00				Average	
		point303	303	6,486,977.5	1,841,553.8	0.00				Average	
		point304	304	6,486,981.0	1,841,563.2	0.00				Average	
		point305	305	6,486,986.5	1,841,569.2	0.00					
Roadway55	12.0	point306	306	6,487,964.5	1,840,815.6	0.00	Signal	0.00	100	Average	
		point307	307	6,487,960.5	1,840,810.6	0.00				Average	
		point308	308	6,487,954.0	1,840,806.1	0.00				Average	
		point309	309	6,487,946.5	1,840,803.6	0.00				Average	
		point310	310	6,487,938.5	1,840,803.6	0.00				Average	
		point311	311	6,487,929.0	1,840,804.8	0.00				Average	

		point312	312	6,487,919.5	1,840,807.2	0.00				Average	
		point313	313	6,487,910.5	1,840,810.2	0.00				Average	
		point315	315	6,487,906.5	1,840,813.9	0.00					

ESA				**15 February 2019**								
Shirayama				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**LA Times EIR**											
RUN:	**LA Times Construction TNM**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Enter_LA_SB	point186	186	81	25	0	0	39	25	0	0	0	0
	point185	185	81	25	0	0	39	25	0	0	0	0
	point184	184	81	25	0	0	39	25	0	0	0	0
	point183	183	81	25	0	0	39	25	0	0	0	0
	point182	182	81	25	0	0	39	25	0	0	0	0
	point181	181	81	25	0	0	39	25	0	0	0	0
	point180	180	81	25	0	0	39	25	0	0	0	0
	point179	179	81	25	0	0	39	25	0	0	0	0
	point178	178	81	25	0	0	39	25	0	0	0	0
	point177	177	81	25	0	0	39	25	0	0	0	0
	point176	176	81	25	0	0	39	25	0	0	0	0
	point175	175	81	25	0	0	39	25	0	0	0	0
	point174	174										
Exit_RT_to_1st_EB	point197	197	81	25	0	0	39	25	0	0	0	0
	point198	198	81	25	0	0	39	25	0	0	0	0
	point199	199	81	25	0	0	39	25	0	0	0	0
	point200	200	81	25	0	0	39	25	0	0	0	0
	point201	201	81	25	0	0	39	25	0	0	0	0
	point202	202	81	25	0	0	39	25	0	0	0	0
	point203	203	81	25	0	0	39	25	0	0	0	0
	point204	204	81	25	0	0	39	25	0	0	0	0
	point205	205	81	25	0	0	39	25	0	0	0	0
	point206	206	81	25	0	0	39	25	0	0	0	0

	point207	207										
Exit_LT_1st_to_Main	point208	208	81	25	0	0	39	25	0	0	0	0
	point209	209	81	25	0	0	39	25	0	0	0	0
	point210	210	81	25	0	0	39	25	0	0	0	0
	point211	211	81	25	0	0	39	25	0	0	0	0
	point212	212	81	25	0	0	39	25	0	0	0	0
	point213	213	81	25	0	0	39	25	0	0	0	0
	point214	214	81	25	0	0	39	25	0	0	0	0
	point215	215	81	25	0	0	39	25	0	0	0	0
	point216	216	81	25	0	0	39	25	0	0	0	0
	point217	217										
Exit_Main_NB	point218	218	81	25	0	0	39	25	0	0	0	0
	point158	158										
Exit_1st_EB_btw_Broadway_Spring	point221	221	81	25	0	0	39	25	0	0	0	0
	point146	146										
Exit_Broadway_NB	point236	236	81	25	0	0	39	25	0	0	0	0
	point135	135										
Enter_Broadway_NB	point237	237	81	25	0	0	39	25	0	0	0	0
	point136	136										
Exit_1st_EB_btw_Spring_Main	point249	249	81	25	0	0	39	25	0	0	0	0
	point145	145	81	25	0	0	39	25	0	0	0	0
	point144	144										
Exit_Main_NB-2	point250	250	81	25	0	0	39	25	0	0	0	0
	point157	157										
Exit_Main_NB-2-2	point251	251	81	25	0	0	39	25	0	0	0	0
	point156	156	81	25	0	0	39	25	0	0	0	0
	point155	155										
Exit_Main_NB-2-2-2	point252	252	81	25	0	0	39	25	0	0	0	0
	point154	154										
Exit_Main_NB-2-2-2-2	point253	253	81	25	0	0	39	25	0	0	0	0
	point153	153	81	25	0	0	39	25	0	0	0	0
	point152	152	81	25	0	0	39	25	0	0	0	0
	point151	151	81	25	0	0	39	25	0	0	0	0
	point150	150										
Enter_LA_SB-2	point254	254	81	25	0	0	39	25	0	0	0	0
	point173	173	81	25	0	0	39	25	0	0	0	0

	point172	172										
Enter_LA_SB-2-2	point255	255	81	25	0	0	39	25	0	0	0	0
	point171	171										
Enter_LA_SB-2-2-2	point256	256	81	25	0	0	39	25	0	0	0	0
	point170	170	81	25	0	0	39	25	0	0	0	0
	point169	169										
Enter_LA_SB-2-2-2-2	point257	257	81	25	0	0	39	25	0	0	0	0
	point168	168										
Enter_LA_SB-2-2-2-2-2	point258	258	81	25	0	0	39	25	0	0	0	0
	point167	167	81	25	0	0	39	25	0	0	0	0
	point166	166										
Exit_Broadway_NB_to_1st_WB	point272	272	81	25	0	0	0	0	0	0	0	0
	point273	273	81	25	0	0	0	0	0	0	0	0
	point274	274	81	25	0	0	0	0	0	0	0	0
	point275	275	81	25	0	0	0	0	0	0	0	0
	point276	276	81	25	0	0	0	0	0	0	0	0
	point277	277	81	25	0	0	0	0	0	0	0	0
	point278	278	81	25	0	0	0	0	0	0	0	0
	point279	279	81	25	0	0	0	0	0	0	0	0
	point280	280										
Exit_1st_WB	point281	281	81	25	0	0	0	0	0	0	0	0
	point262	262	81	25	0	0	0	0	0	0	0	0
	point261	261										
Enter_2nd-2	point294	294	81	25	0	0	39	25	0	0	0	0
	point290	290										
Enter_2nd-2-2	point295	295	81	25	0	0	39	25	0	0	0	0
	point289	289	81	25	0	0	39	25	0	0	0	0
	point288	288										
Enter_2nd-2-2-2	point296	296	81	25	0	0	39	25	0	0	0	0
	point287	287	81	25	0	0	39	25	0	0	0	0
	point286	286										
Roadway54	point299	299	81	25	0	0	39	25	0	0	0	0
	point300	300	81	25	0	0	39	25	0	0	0	0
	point301	301	81	25	0	0	39	25	0	0	0	0
	point302	302	81	25	0	0	39	25	0	0	0	0
	point303	303	81	25	0	0	39	25	0	0	0	0

	point304	304	81	25	0	0	39	25	0	0	0	0
	point305	305										
Roadway55	point306	306	81	25	0	0	39	25	0	0	0	0
	point307	307	81	25	0	0	39	25	0	0	0	0
	point308	308	81	25	0	0	39	25	0	0	0	0
	point309	309	81	25	0	0	39	25	0	0	0	0
	point310	310	81	25	0	0	39	25	0	0	0	0
	point311	311	81	25	0	0	39	25	0	0	0	0
	point312	312	81	25	0	0	39	25	0	0	0	0
	point313	313	81	25	0	0	39	25	0	0	0	0
	point315	315										

ESA **15 February 2019**
Shirayama **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **LA Times EIR**
RUN: **LA Times Construction TNM**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
City Hall Park	1	1	6,487,820.5	1,841,639.1	0.00	4.92	0.00	66	10.0	8.0	Y
LA Law Library	2	1	6,487,166.5	1,842,209.9	0.00	4.92	0.00	66	10.0	8.0	Y
2nd Street - Multi-family residential	3	1	6,487,487.5	1,841,081.0	0.00	4.92	0.00	66	10.0	8.0	Y
2nd Street/Los Angeles Street - Multi-Far	4	1	6,487,950.5	1,840,674.5	0.00	4.92	0.00	66	10.0	8.0	Y
Broadway - Federal Courthouse	5	1	6,487,100.0	1,841,881.5	0.00	4.92	0.00	66	10.0	8.0	Y
Broadway/1st Street - LA Law Library	6	1	6,487,285.5	1,842,105.5	0.00	4.92	0.00	66	10.0	8.0	Y
Main Street - City Hall Park	7	1	6,488,001.5	1,841,638.8	0.00	4.92	0.00	66	10.0	8.0	Y
Main Street - Federal Courthouse	8	1	6,488,579.5	1,842,432.9	0.00	4.92	0.00	66	10.0	8.0	Y

ESA 15 February 2019
Shirayama TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LA Times EIR
RUN: LA Times Construction TNM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
City Hall Park	1	1	0.0	67.3	66	67.3	10	Snd Lvl	67.3	0.0	8	-8.0
LA Law Library	2	1	0.0	60.3	66	60.3	10	----	60.3	0.0	8	-8.0
2nd Street - Multi-family residential	3	1	0.0	68.8	66	68.8	10	Snd Lvl	68.8	0.0	8	-8.0
2nd Street/Los Angeles Street - Multi-Fam	4	1	0.0	63.3	66	63.3	10	----	63.3	0.0	8	-8.0
Broadway - Federal Courthouse	5	1	0.0	66.0	66	66.0	10	Snd Lvl	66.0	0.0	8	-8.0
Broadway/1st Street - LA Law Library	6	1	0.0	63.2	66	63.2	10	----	63.2	0.0	8	-8.0
Main Street - City Hall Park	7	1	0.0	66.3	66	66.3	10	Snd Lvl	66.3	0.0	8	-8.0
Main Street - Federal Courthouse	8	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	5	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

ESA				**15 February 2019**								
Shirayama				**TNM 2.5**								
INPUT: TRAFFIC FOR LAeq1h Volumes												
PROJECT/CONTRACT:	**LA Times EIR**											
RUN:	**LA Times Construction TNM**											
Roadway	**Points**											
Name	**Name**	**No.**	**Segment**									
			Autos		**MTrucks**		**HTrucks**		**Buses**		**Motorcycles**	
			V	**S**	**V**	**S**	**V**	**S**	**V**	**S**	**V**	**S**
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Enter_LA_SB	point186	186	81	25	0	0	39	25	0	0	0	0
	point185	185	81	25	0	0	39	25	0	0	0	0
	point184	184	81	25	0	0	39	25	0	0	0	0
	point183	183	81	25	0	0	39	25	0	0	0	0
	point182	182	81	25	0	0	39	25	0	0	0	0
	point181	181	81	25	0	0	39	25	0	0	0	0
	point180	180	81	25	0	0	39	25	0	0	0	0
	point179	179	81	25	0	0	39	25	0	0	0	0
	point178	178	81	25	0	0	39	25	0	0	0	0
	point177	177	81	25	0	0	39	25	0	0	0	0
	point176	176	81	25	0	0	39	25	0	0	0	0
	point175	175	81	25	0	0	39	25	0	0	0	0
	point174	174										
Exit_RT_to_1st_EB	point197	197	81	25	0	0	39	25	0	0	0	0
	point198	198	81	25	0	0	39	25	0	0	0	0
	point199	199	81	25	0	0	39	25	0	0	0	0
	point200	200	81	25	0	0	39	25	0	0	0	0
	point201	201	81	25	0	0	39	25	0	0	0	0
	point202	202	81	25	0	0	39	25	0	0	0	0
	point203	203	81	25	0	0	39	25	0	0	0	0
	point204	204	81	25	0	0	39	25	0	0	0	0
	point205	205	81	25	0	0	39	25	0	0	0	0
	point206	206	81	25	0	0	39	25	0	0	0	0

	point207	207										
Exit_LT_1st_to_Main	point208	208	81	25	0	0	39	25	0	0	0	0
	point209	209	81	25	0	0	39	25	0	0	0	0
	point210	210	81	25	0	0	39	25	0	0	0	0
	point211	211	81	25	0	0	39	25	0	0	0	0
	point212	212	81	25	0	0	39	25	0	0	0	0
	point213	213	81	25	0	0	39	25	0	0	0	0
	point214	214	81	25	0	0	39	25	0	0	0	0
	point215	215	81	25	0	0	39	25	0	0	0	0
	point216	216	81	25	0	0	39	25	0	0	0	0
	point217	217										
Exit_Main_NB	point218	218	81	25	0	0	39	25	0	0	0	0
	point158	158										
Exit_1st_EB_btw_Broadway_Spring	point221	221	81	25	0	0	39	25	0	0	0	0
	point146	146										
Exit_Broadway_NB	point236	236	81	25	0	0	39	25	0	0	0	0
	point135	135										
Enter_Broadway_NB	point237	237	81	25	0	0	39	25	0	0	0	0
	point136	136										
Exit_1st_EB_btw_Spring_Main	point249	249	81	25	0	0	39	25	0	0	0	0
	point145	145	81	25	0	0	39	25	0	0	0	0
	point144	144										
Exit_Main_NB-2	point250	250	81	25	0	0	39	25	0	0	0	0
	point157	157										
Exit_Main_NB-2-2	point251	251	81	25	0	0	39	25	0	0	0	0
	point156	156	81	25	0	0	39	25	0	0	0	0
	point155	155										
Exit_Main_NB-2-2-2	point252	252	81	25	0	0	39	25	0	0	0	0
	point154	154										
Exit_Main_NB-2-2-2-2	point253	253	81	25	0	0	39	25	0	0	0	0
	point153	153	81	25	0	0	39	25	0	0	0	0
	point152	152	81	25	0	0	39	25	0	0	0	0
	point151	151	81	25	0	0	39	25	0	0	0	0
	point150	150										
Enter_LA_SB-2	point254	254	81	25	0	0	39	25	0	0	0	0
	point173	173	81	25	0	0	39	25	0	0	0	0

	point172	172										
Enter_LA_SB-2-2	point255	255	81	25	0	0	39	25	0	0	0	0
	point171	171										
Enter_LA_SB-2-2-2	point256	256	81	25	0	0	39	25	0	0	0	0
	point170	170	81	25	0	0	39	25	0	0	0	0
	point169	169										
Enter_LA_SB-2-2-2-2	point257	257	81	25	0	0	39	25	0	0	0	0
	point168	168										
Enter_LA_SB-2-2-2-2-2	point258	258	81	25	0	0	39	25	0	0	0	0
	point167	167	81	25	0	0	39	25	0	0	0	0
	point166	166										
Exit_Broadway_NB_to_1st_WB	point272	272	81	25	0	0	0	0	0	0	0	0
	point273	273	81	25	0	0	0	0	0	0	0	0
	point274	274	81	25	0	0	0	0	0	0	0	0
	point275	275	81	25	0	0	0	0	0	0	0	0
	point276	276	81	25	0	0	0	0	0	0	0	0
	point277	277	81	25	0	0	0	0	0	0	0	0
	point278	278	81	25	0	0	0	0	0	0	0	0
	point279	279	81	25	0	0	0	0	0	0	0	0
	point280	280										
Exit_1st_WB	point281	281	81	25	0	0	0	0	0	0	0	0
	point262	262	81	25	0	0	0	0	0	0	0	0
	point261	261										
Enter_2nd-2	point294	294	81	25	0	0	53	25	0	0	0	0
	point290	290										
Enter_2nd-2-2	point295	295	81	25	0	0	53	25	0	0	0	0
	point289	289	81	25	0	0	53	25	0	0	0	0
	point288	288										
Enter_2nd-2-2-2	point296	296	81	25	0	0	53	25	0	0	0	0
	point287	287	81	25	0	0	53	25	0	0	0	0
	point286	286										
Roadway54	point299	299	81	25	0	0	53	25	0	0	0	0
	point300	300	81	25	0	0	53	25	0	0	0	0
	point301	301	81	25	0	0	53	25	0	0	0	0
	point302	302	81	25	0	0	53	25	0	0	0	0
	point303	303	81	25	0	0	53	25	0	0	0	0

	point304	304	81	25	0	0	53	25	0	0	0	0
	point305	305										
Roadway55	point306	306	81	25	0	0	53	25	0	0	0	0
	point307	307	81	25	0	0	53	25	0	0	0	0
	point308	308	81	25	0	0	53	25	0	0	0	0
	point309	309	81	25	0	0	53	25	0	0	0	0
	point310	310	81	25	0	0	53	25	0	0	0	0
	point311	311	81	25	0	0	53	25	0	0	0	0
	point312	312	81	25	0	0	53	25	0	0	0	0
	point313	313	81	25	0	0	53	25	0	0	0	0
	point315	315										

ESA 15 February 2019
Shirayama TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: LA Times EIR
RUN: LA Times Construction TNM
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

Receiver Name	No.	#DUs	Existing LAeq1h	No Barrier LAeq1h Calculated	Crit'n	Increase over existing Calculated	Crit'n Sub'l Inc	Type Impact	With Barrier Calculated LAeq1h	Noise Reduction Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
City Hall Park	1	1	0.0	67.4	66	67.4	10	Snd Lvl	67.4	0.0	8	-8.0
LA Law Library	2	1	0.0	60.5	66	60.5	10	----	60.5	0.0	8	-8.0
2nd Street - Multi-family residential	3	1	0.0	70.0	66	70.0	10	Snd Lvl	70.0	0.0	8	-8.0
2nd Street/Los Angeles Street - Multi-Fam	4	1	0.0	64.1	66	64.1	10	----	64.1	0.0	8	-8.0
Broadway - Federal Courthouse	5	1	0.0	66.2	66	66.2	10	Snd Lvl	66.2	0.0	8	-8.0
Broadway/1st Street - LA Law Library	6	1	0.0	63.3	66	63.3	10	----	63.3	0.0	8	-8.0
Main Street - City Hall Park	7	1	0.0	66.3	66	66.3	10	Snd Lvl	66.3	0.0	8	-8.0
Main Street - Federal Courthouse	8	1	0.0	68.2	66	68.2	10	Snd Lvl	68.2	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction Min	Avg	Max
		dB	dB	dB
All Selected	8	0.0	0.0	0.0
All Impacted	5	0.0	0.0	0.0
All that meet NR Goal	0	0.0	0.0	0.0

I-3

Off-Site Traffic Noise Calculations

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Times Mirror Square
Analysis Scenario: Existing
Source of Traffic Volumes: Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
W. Sunset Boulevard/E. Cesar Chavez Avenue										
West of N. Figueroa Street	Hard	50	40	40	40	2370	49	24	70.3	70.6
East of N. Figueroa St	Hard	50	40	40	40	2240	46	23	70.1	70.4
W. Aliso Street										
Between N. Broadway and N. Spring Street	Hard	40	40	40	40	649	13	7	65.7	66.0
W. Temple Street										
Between N. Hill Street and N. Broadway	Hard	45	40	40	40	1927	40	20	69.9	70.2
Between N. Broadway and N. Spring Street	Hard	45	40	40	40	1871	39	19	69.7	70.0
Between N. Spring Street and N. Main Street	Hard	45	40	40	40	1878	39	19	69.8	70.1
W. 1st Street										
Between S. Grand Avenue and S. Olive Street	Hard	60	45	45	45	2156	44	22	70.6	70.9
Between S. Olive Street and S. Hill Street	Hard	50	40	40	40	2232	46	23	70.1	70.4
Between S. Hill Street and S. Broadway	Hard	50	40	40	40	2211	46	23	70.0	70.3
Between S. Broadway and S. Spring Street	Hard	50	40	40	40	2274	47	23	70.1	70.4
Between S. Spring Street and S. Main Street	Hard	55	40	40	40	1983	41	20	69.1	69.4
Between S. Main Street and S. Los Angeles Street	Hard	60	45	45	45	1801	37	19	69.8	70.1
W. 2nd Street										
Between S. Beaudry Avenue and S. Figueroa Street	Hard	35	35	35	35	1309	27	13	67.7	68.0
Between S. Figueroa Street and S. Hill Street	Hard	35	35	35	35	986	20	10	66.5	66.8
Between S. Hill Street and S. Broadway	Hard	35	35	35	35	1119	23	12	67.0	67.3
Between S. Broadway and S. Spring Street	Hard	35	35	35	35	1223	25	13	67.4	67.7
Between S. Spring Street and S. Main Street	Hard	35	35	35	35	1024	21	11	66.7	67.0
Between S. Main Street and S. Los Angeles Street	Hard	35	35	35	35	1018	21	10	66.6	66.9
W. 3rd Street										
Between S. Figueroa Street and S. Hill Street	Hard	25	35	35	35	1963	40	20	70.9	71.2
Between S. Hill Street and S. Broadway	Hard	30	35	35	35	1436	30	15	68.8	69.1
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1296	27	13	68.3	68.6
Between S. Spring Street and S. Main Street	Hard	30	35	35	35	1563	32	16	69.1	69.4
W. 4th Street										
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1294	27	13	68.3	68.6
S. Beaudry Avenue										
North of W. 2nd Street	Hard	40	40	40	40	1581	33	16	69.5	69.8
South of W. 2nd Street	Hard	40	40	40	40	1839	38	19	70.2	70.5
N./S. Figueroa Street										
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	Hard	60	45	45	45	2176	45	22	70.6	70.9
Between W. 2nd Street and W. 3rd Street	Hard	60	45	45	45	2191	45	23	70.6	70.9
N./S. Grand Avenue										
North of W. 1st Street	Hard	60	45	45	45	1808	37	19	69.8	70.1
South of W. 1st Street	Hard	60	45	45	45	1488	31	15	69.0	69.3
S. Olive Street										
South of W. 1st Street	Hard	50	40	40	40	1123	23	12	67.1	67.4
N./S. Hill Street										
Between W. Temple Street and W. 1st Street	Hard	45	40	40	40	1889	39	19	69.8	70.1
Between W. 1st Street and W. 2nd Street	Hard	45	40	40	40	1588	33	16	69.0	69.3
Between W. 2nd Street and W. 3rd Street	Hard	45	40	40	40	1734	36	18	69.4	69.7
N./S. Broadway										
Between W. Aliso Street and W. Temple Street	Hard	50	40	40	40	1774	37	18	69.1	69.4
Between W. Temple Street and W. 1st Street	Hard	50	40	40	40	1504	31	16	68.4	68.7
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1165	24	12	67.2	67.5
Between W. 2nd Street and W. 3rd Street	Hard	50	40	40	40	1255	26	13	67.6	67.9
Between W. 3rd Street and W. 4th Street	Hard	50	40	40	40	1220	25	13	67.4	67.7
N./S. Spring Street										
Between W. Aliso Street and W. Temple Street	Hard	40	40	40	40	1301	27	13	68.7	69.0
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1166	24	12	68.2	68.5
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1082	22	11	67.9	68.2
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1459	30	15	69.2	69.5
Between W. 3rd Street and W. 4th Street	Hard	40	40	40	40	1055	22	11	67.8	68.1
N./S. Main Street										
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1736	36	18	69.9	70.2
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1452	30	15	69.2	69.5
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1440	30	15	69.1	69.4
S. Los Angeles Street										
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1567	32	16	68.5	68.8

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Times Mirror Square
Analysis Scenario: Existing Plus Project
Source of Traffic Volumes: Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
W. Sunset Boulevard/E. Cesar Chavez Avenue										
West of N. Figueroa Street	Hard	50	40	40	40	2398	49	25	70.4	70.7
East of N. Figueroa St	Hard	50	40	40	40	2251	46	23	70.1	70.4
W. Aliso Street										
Between N. Broadway and N. Spring Street	Hard	40	40	40	40	651	13	7	65.7	66.0
W. Temple Street										
Between N. Hill Street and N. Broadway	Hard	45	40	40	40	1939	40	20	69.9	70.2
Between N. Broadway and N. Spring Street	Hard	45	40	40	40	1878	39	19	69.8	70.1
Between N. Spring Street and N. Main Street	Hard	45	40	40	40	1893	39	20	69.8	70.1
W. 1st Street										
Between S. Grand Avenue and S. Olive Street	Hard	60	45	45	45	2186	45	23	70.6	70.9
Between S. Olive Street and S. Hill Street	Hard	50	40	40	40	2266	47	23	70.1	70.4
Between S. Hill Street and S. Broadway	Hard	50	40	40	40	2249	46	23	70.1	70.4
Between S. Broadway and S. Spring Street	Hard	50	40	40	40	2284	47	24	70.2	70.5
Between S. Spring Street and S. Main Street	Hard	55	40	40	40	2000	41	21	69.2	69.5
Between S. Main Street and S. Los Angeles Street	Hard	60	45	45	45	1819	38	19	69.8	70.1
W. 2nd Street										
Between S. Beaudry Avenue and S. Figueroa Street	Hard	35	35	35	35	1332	27	14	67.8	68.1
Between S. Figueroa Street and S. Hill Street	Hard	35	35	35	35	1019	21	11	66.6	66.9
Between S. Hill Street and S. Broadway	Hard	35	35	35	35	1169	24	12	67.2	67.5
Between S. Broadway and S. Spring Street	Hard	35	35	35	35	1368	28	14	67.9	68.2
Between S. Spring Street and S. Main Street	Hard	35	35	35	35	1053	22	11	66.8	67.1
Between S. Main Street and S. Los Angeles Street	Hard	35	35	35	35	1027	21	11	66.7	67.0
W. 3rd Street										
Between S. Figueroa Street and S. Hill Street	Hard	25	35	35	35	1989	41	21	71.0	71.3
Between S. Hill Street and S. Broadway	Hard	30	35	35	35	1476	30	15	68.9	69.2
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1299	27	13	68.3	68.6
Between S. Spring Street and S. Main Street	Hard	30	35	35	35	1563	32	16	69.1	69.4
W. 4th Street										
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1294	27	13	68.3	68.6
S. Beaudry Avenue										
North of W. 2nd Street	Hard	40	40	40	40	1581	33	16	69.5	69.8
South of W. 2nd Street	Hard	40	40	40	40	1840	38	19	70.2	70.5
N./S. Figueroa Street										
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	Hard	60	45	45	45	2188	45	23	70.6	70.9
Between W. 2nd Street and W. 3rd Street	Hard	60	45	45	45	2191	45	23	70.6	70.9
N./S. Grand Avenue										
North of W. 1st Street	Hard	60	45	45	45	1819	38	19	69.8	70.1
South of W. 1st Street	Hard	60	45	45	45	1488	31	15	69.0	69.3
S. Olive Street										
South of W. 1st Street	Hard	50	40	40	40	1127	23	12	67.1	67.4
N./S. Hill Street										
Between W. Temple Street and W. 1st Street	Hard	45	40	40	40	1894	39	20	69.8	70.1
Between W. 1st Street and W. 2nd Street	Hard	45	40	40	40	1589	33	16	69.0	69.3
Between W. 2nd Street and W. 3rd Street	Hard	45	40	40	40	1735	36	18	69.4	69.7
N./S. Broadway										
Between W. Aliso Street and W. Temple Street	Hard	50	40	40	40	1807	37	19	69.1	69.4
Between W. Temple Street and W. 1st Street	Hard	50	40	40	40	1556	32	16	68.5	68.8
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1312	27	14	67.8	68.1
Between W. 2nd Street and W. 3rd Street	Hard	50	40	40	40	1301	27	13	67.7	68.0
Between W. 3rd Street and W. 4th Street	Hard	50	40	40	40	1263	26	13	67.6	67.9
N./S. Spring Street										
Between W. Aliso Street and W. Temple Street	Hard	40	40	40	40	1302	27	13	68.7	69.0
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1167	24	12	68.2	68.5
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1110	23	11	68.0	68.3
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1499	31	15	69.3	69.6
Between W. 3rd Street and W. 4th Street	Hard	40	40	40	40	1092	23	11	67.9	68.2
N./S. Main Street										
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1737	36	18	69.9	70.2
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1452	30	15	69.2	69.5
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1460	30	15	69.2	69.5
S. Los Angeles Street										
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1567	32	16	68.5	68.8

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Times Mirror Square
Analysis Scenario: Future
Source of Traffic Volumes: Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
W. Sunset Boulevard/E. Cesar Chavez Avenue										
West of N. Figueroa Street	Hard	50	40	40	40	2670	55	28	70.8	71.1
East of N. Figueroa St	Hard	50	40	40	40	2451	51	25	70.5	70.8
W. Aliso Street										
Between N. Broadway and N. Spring Street	Hard	40	40	40	40	745	15	8	66.3	66.6
W. Temple Street										
Between N. Hill Street and N. Broadway	Hard	45	40	40	40	2441	50	25	70.9	71.2
Between N. Broadway and N. Spring Street	Hard	45	40	40	40	2478	51	26	71.0	71.3
Between N. Spring Street and N. Main Street	Hard	45	40	40	40	2505	52	26	71.0	71.3
W. 1st Street										
Between S. Grand Avenue and S. Olive Street	Hard	60	45	45	45	3693	76	38	72.9	73.2
Between S. Olive Street and S. Hill Street	Hard	50	40	40	40	3724	77	38	72.3	72.6
Between S. Hill Street and S. Broadway	Hard	50	40	40	40	3508	72	36	72.0	72.3
Between S. Broadway and S. Spring Street	Hard	50	40	40	40	3400	70	35	71.9	72.2
Between S. Spring Street and S. Main Street	Hard	55	40	40	40	3060	63	32	71.0	71.3
Between S. Main Street and S. Los Angeles Street	Hard	60	45	45	45	2843	59	29	71.8	72.1
W. 2nd Street										
Between S. Beaudry Avenue and S. Figueroa Street	Hard	35	35	35	35	1700	35	18	68.9	69.2
Between S. Figueroa Street and S. Hill Street	Hard	35	35	35	35	1411	29	15	68.0	68.3
Between S. Hill Street and S. Broadway	Hard	35	35	35	35	1500	31	15	68.3	68.6
Between S. Broadway and S. Spring Street	Hard	35	35	35	35	1572	32	16	68.5	68.8
Between S. Spring Street and S. Main Street	Hard	35	35	35	35	1468	30	15	68.2	68.5
Between S. Main Street and S. Los Angeles Street	Hard	35	35	35	35	1449	30	15	68.2	68.5
W. 3rd Street										
Between S. Figueroa Street and S. Hill Street	Hard	25	35	35	35	2387	49	25	71.8	72.1
Between S. Hill Street and S. Broadway	Hard	30	35	35	35	1864	38	19	69.9	70.2
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1718	35	18	69.6	69.9
Between S. Spring Street and S. Main Street	Hard	30	35	35	35	2032	42	21	70.3	70.6
W. 4th Street										
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1790	37	18	69.7	70.0
S. Beaudry Avenue										
North of W. 2nd Street	Hard	40	40	40	40	1678	35	17	69.8	70.1
South of W. 2nd Street	Hard	40	40	40	40	1975	41	20	70.5	70.8
N./S. Figueroa Street										
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	Hard	60	45	45	45	2401	50	25	71.0	71.3
Between W. 2nd Street and W. 3rd Street	Hard	60	45	45	45	2379	49	25	71.0	71.3
N./S. Grand Avenue										
North of W. 1st Street	Hard	60	45	45	45	2240	46	23	70.7	71.0
South of W. 1st Street	Hard	60	45	45	45	2929	60	30	71.9	72.2
S. Olive Street										
South of W. 1st Street	Hard	50	40	40	40	1271	26	13	67.6	67.9
N./S. Hill Street										
Between W. Temple Street and W. 1st Street	Hard	45	40	40	40	2322	48	24	70.7	71.0
Between W. 1st Street and W. 2nd Street	Hard	45	40	40	40	2265	47	23	70.6	70.9
Between W. 2nd Street and W. 3rd Street	Hard	45	40	40	40	2363	49	24	70.8	71.1
N./S. Broadway										
Between W. Aliso Street and W. Temple Street	Hard	50	40	40	40	2454	51	25	70.5	70.8
Between W. Temple Street and W. 1st Street	Hard	50	40	40	40	2071	43	21	69.7	70.0
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1711	35	18	68.9	69.2
Between W. 2nd Street and W. 3rd Street	Hard	50	40	40	40	1927	40	20	69.4	69.7
Between W. 3rd Street and W. 4th Street	Hard	50	40	40	40	1940	40	20	69.4	69.7
N./S. Spring Street										
Between W. Aliso Street and W. Temple Street	Hard	40	40	40	40	1652	34	17	69.7	70.0
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1438	30	15	69.1	69.4
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1368	28	14	68.9	69.2
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	2011	41	21	70.6	70.9
Between W. 3rd Street and W. 4th Street	Hard	40	40	40	40	1395	29	14	69.0	69.3
N./S. Main Street										
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	2016	42	21	70.6	70.9
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1795	37	19	70.1	70.4
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1892	39	20	70.3	70.6
S. Los Angeles Street										
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	2240	46	23	70.1	70.4

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Times Mirror Square
Analysis Scenario: Future Plus Project
Source of Traffic Volumes: Fehr & Peers, Times Mirror Square Project Transportation Impact Analysis, 2018

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
W. Sunset Boulevard/E. Cesar Chavez Avenue										
West of N. Figueroa Street	Hard	50	40	40	40	2699	56	28	70.9	71.2
East of N. Figueroa St	Hard	50	40	40	40	2463	51	25	70.5	70.8
W. Aliso Street										
Between N. Broadway and N. Spring Street	Hard	40	40	40	40	747	15	8	66.3	66.6
W. Temple Street										
Between N. Hill Street and N. Broadway	Hard	45	40	40	40	2452	51	25	70.9	71.2
Between N. Broadway and N. Spring Street	Hard	45	40	40	40	2485	51	26	71.0	71.3
Between N. Spring Street and N. Main Street	Hard	45	40	40	40	2520	52	26	71.0	71.3
W. 1st Street										
Between S. Grand Avenue and S. Olive Street	Hard	60	45	45	45	3723	77	38	72.9	73.2
Between S. Olive Street and S. Hill Street	Hard	50	40	40	40	3758	77	39	72.3	72.6
Between S. Hill Street and S. Broadway	Hard	50	40	40	40	3547	73	37	72.1	72.4
Between S. Broadway and S. Spring Street	Hard	50	40	40	40	3396	70	35	71.9	72.2
Between S. Spring Street and S. Main Street	Hard	55	40	40	40	3078	63	32	71.0	71.3
Between S. Main Street and S. Los Angeles Street	Hard	60	45	45	45	2861	59	29	71.8	72.1
W. 2nd Street										
Between S. Beaudry Avenue and S. Figueroa Street	Hard	35	35	35	35	1724	36	18	68.9	69.2
Between S. Figueroa Street and S. Hill Street	Hard	35	35	35	35	1445	30	15	68.1	68.4
Between S. Hill Street and S. Broadway	Hard	35	35	35	35	1549	32	16	68.4	68.7
Between S. Broadway and S. Spring Street	Hard	35	35	35	35	1741	36	18	68.9	69.2
Between S. Spring Street and S. Main Street	Hard	35	35	35	35	1497	31	15	68.3	68.6
Between S. Main Street and S. Los Angeles Street	Hard	35	35	35	35	1459	30	15	68.2	68.5
W. 3rd Street										
Between S. Figueroa Street and S. Hill Street	Hard	25	35	35	35	2412	50	25	71.8	72.1
Between S. Hill Street and S. Broadway	Hard	30	35	35	35	1905	39	20	70.0	70.3
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1685	35	17	69.5	69.8
Between S. Spring Street and S. Main Street	Hard	30	35	35	35	2032	42	21	70.3	70.6
W. 4th Street										
Between S. Broadway and S. Spring Street	Hard	30	35	35	35	1790	37	18	69.7	70.0
S. Beaudry Avenue										
North of W. 2nd Street	Hard	40	40	40	40	1678	35	17	69.8	70.1
South of W. 2nd Street	Hard	40	40	40	40	1976	41	20	70.5	70.8
N./S. Figueroa Street										
Between W. Sunset Blvd/E. Cesar Chavez Ave and W. 2nd St	Hard	60	45	45	45	2413	50	25	71.1	71.4
Between W. 2nd Street and W. 3rd Street	Hard	60	45	45	45	2379	49	25	71.0	71.3
N./S. Grand Avenue										
North of W. 1st Street	Hard	60	45	45	45	2250	46	23	70.8	71.1
South of W. 1st Street	Hard	60	45	45	45	2929	60	30	71.9	72.2
S. Olive Street										
South of W. 1st Street	Hard	50	40	40	40	1275	26	13	67.6	67.9
N./S. Hill Street										
Between W. Temple Street and W. 1st Street	Hard	45	40	40	40	2328	48	24	70.7	71.0
Between W. 1st Street and W. 2nd Street	Hard	45	40	40	40	2266	47	23	70.6	70.9
Between W. 2nd Street and W. 3rd Street	Hard	45	40	40	40	2377	49	25	70.8	71.1
N./S. Broadway										
Between W. Aliso Street and W. Temple Street	Hard	50	40	40	40	2487	51	26	70.5	70.8
Between W. Temple Street and W. 1st Street	Hard	50	40	40	40	2122	44	22	69.8	70.1
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	1859	38	19	69.3	69.6
Between W. 2nd Street and W. 3rd Street	Hard	50	40	40	40	1973	41	20	69.5	69.8
Between W. 3rd Street and W. 4th Street	Hard	50	40	40	40	1983	41	20	69.5	69.8
N./S. Spring Street										
Between W. Aliso Street and W. Temple Street	Hard	40	40	40	40	1653	34	17	69.7	70.0
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	1439	30	15	69.1	69.4
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1448	30	15	69.1	69.4
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	2015	42	21	70.6	70.9
Between W. 3rd Street and W. 4th Street	Hard	40	40	40	40	1432	30	15	69.1	69.4
N./S. Main Street										
Between W. Temple Street and W. 1st Street	Hard	40	40	40	40	2017	42	21	70.6	70.9
Between W. 1st Street and W. 2nd Street	Hard	40	40	40	40	1795	37	19	70.1	70.4
Between W. 2nd Street and W. 3rd Street	Hard	40	40	40	40	1912	39	20	70.4	70.7
S. Los Angeles Street										
Between W. 1st Street and W. 2nd Street	Hard	50	40	40	40	2240	46	23	70.1	70.4

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

I-4
Parking Structure Noise

Parking Related Noise Analysis

Project Name: Times Mirror Square
Project Number: D170060.00

AM or PM Peak Hour Trips	889	trips
Leq	**56**	dBA

$$Leq(h) = SELref + 10\log(NA/1000) - 35.6$$

Where: Leq(h) = hourly Leq noise level at 50 feet
SELref (92 dBA SEL) = reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet
NA = number of automobiles per hour

I-5
Operational Vibration

Operational Vibration

Project Name: Times Mirror Square
Project Number: D170060.00

Pump/Compressor	PPV	0.5	in/sec	at 1 foot	
1999 ASHRAE Application Handbook					
Table 44	RMS	0.13	in/sec		
		1.00E-06	20*log(V/Vref)		Vref = 0.000001 in/sec
	VdB	102	1 u /sec		
				0.0085	

0.5	in/s PPV	
1	Reference Distance	
80	Distance to Receptors	
0.0125		
0.001		
Vibration Levels at Receptors	0.0007	in/s PPV

I-6
Construction Vibration

Project: Times Mirror Square Project

Vibration Velocity Calculations

Large Bull Dozer (V1)	0.089	**in/sec PPV**	
Reference Distance (R1)	25	**ft**	
Distance (R2)	1	**ft**	
	25		
	34.493	V1(R1/R2)^r	r=1.1
Large Bull Dozer at 1 ft	**3.070**	**in/sec PPV**	
RMS	0.7675	in/sec	
	1.00E-06	20*log(V/Vref)	Vref = 0.000001 in/sec
RMS	**118**	**VdB**	

Project: Times Mirror Square Project

Vibration Velocity Calculations

Large Bull Dozer (V1)	0.089	**in/sec PPV**	
Reference Distance (R1)	25	**ft**	
Distance (R2)	100	**ft**	
	0.25		
	0.125	V1(R1/R2)^r	r=1.5
Large Bull Dozer at 100 ft	**0.011**	**in/sec PPV**	
RMS	0.0028	in/sec	
	1.00E-06	20*log(V/Vref)	Vref = 0.000001 in/sec
RMS	**69**	**VdB**	

Project: Times Mirror Square Project

Vibration Velocity Calculations

Vibratory Pile Driver (sonic) (typical soil conditions) (V1)	0.17	**in/sec PPV**	
Reference Distance (R1)	25	**ft**	
Distance (R2)	1	**ft**	
	25		
	34.493	V1(R1/R2)^r	r=1.1
Sonic Pile Driver at 1 ft	**5.864**	**in/sec PPV**	
RMS	1.4660	in/sec	
	1.00E-06	20*log(V/Vref)	Vref = 0.000001 in/sec
RMS	**123**	**VdB**	

Project: Times Mirror Square Project

Vibration Velocity Calculations

Vibratory Pile Driver (sonic) (typical soil conditions) (V1)	0.17	**in/sec PPV**	
Reference Distance (R1)	25	**ft**	
Distance (R2)	100	**ft**	
	0.25		
	0.125	V1(R1/R2)^r	r=1.5
Sonic Pile Driver at 100 ft	**0.021**	**in/sec PPV**	
RMS	0.0053	in/sec	
	1.00E-06	20*log(V/Vref)	Vref = 0.000001 in/sec
RMS	**74**	**VdB**	

I-7

Operatonal Noise Sources
CNEL Calculations

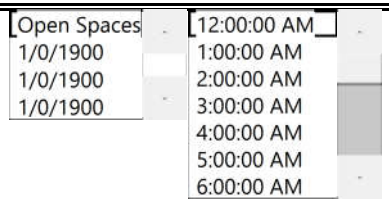
Noise Measurement Data

Project: Times Mirror Square Project

Location:

Open Spaces	
12:00:00 AM	
1:00:00 AM	
2:00:00 AM	
3:00:00 AM	
4:00:00 AM	
5:00:00 AM	
6:00:00 AM	
7:00:00 AM	
8:00:00 AM	
9:00:00 AM	
10:00:00 AM	
11:00:00 AM	
12:00:00 PM	48.00
1:00:00 PM	48.00
2:00:00 PM	48.00
3:00:00 PM	48.00
4:00:00 PM	48.00
5:00:00 PM	48.00
6:00:00 PM	48.00
7:00:00 PM	48.00
8:00:00 PM	48.00
9:00:00 PM	48.00
10:00:00 PM	48.00
11:00:00 PM	48.00

Start Date and Time



Start
#VALUE!
End
#VALUE!

CNEL	**52.8**
L_{dn}	52.0
24-hr Max.	48.0
24-hr Min.	0.0
24-hr Nighttime Average[a]	41.5
24-hr Nighttime Max	48.0
24-hr Nighttime Min	0.0
24-hr Daytime Average[a]	46.2
24-hr Daytime Max	48.0
24-hr Daytime Min	0.0
Total Period Average	48.0
Total Period Max	48.0
Total Period Min	48.0
Total Period Daytime Average	48.0
Total Period Daytime Max	48.0
Total Period Daytime Min	48.0
Total Period Nighttime Average	48.0
Total Period Nighttime Max	48.0
Total Period Nighttime Min	48.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

Noise Measurement Data

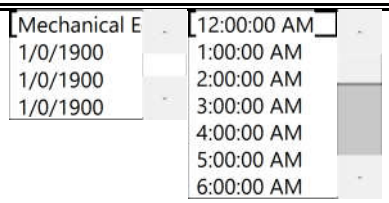
Project: Times Mirror Square Project

Location:

Mechanical Equipment

12:00:00 AM	53.00
1:00:00 AM	53.00
2:00:00 AM	53.00
3:00:00 AM	53.00
4:00:00 AM	53.00
5:00:00 AM	53.00
6:00:00 AM	53.00
7:00:00 AM	53.00
8:00:00 AM	53.00
9:00:00 AM	53.00
10:00:00 AM	53.00
11:00:00 AM	53.00
12:00:00 PM	53.00
1:00:00 PM	53.00
2:00:00 PM	53.00
3:00:00 PM	53.00
4:00:00 PM	53.00
5:00:00 PM	53.00
6:00:00 PM	53.00
7:00:00 PM	53.00
8:00:00 PM	53.00
9:00:00 PM	53.00
10:00:00 PM	53.00
11:00:00 PM	53.00

Start Date and Time



Start
#VALUE!
End
#VALUE!

CNEL	**59.7**
L_{dn}	59.4
24-hr Max.	53.0
24-hr Min.	53.0
24-hr Nighttime Average[a]	53.0
24-hr Nighttime Max	53.0
24-hr Nighttime Min	53.0
24-hr Daytime Average[a]	53.0
24-hr Daytime Max	53.0
24-hr Daytime Min	53.0
Total Period Average	53.0
Total Period Max	53.0
Total Period Min	53.0
Total Period Daytime Average	53.0
Total Period Daytime Max	53.0
Total Period Daytime Min	53.0
Total Period Nighttime Average	53.0
Total Period Nighttime Max	53.0
Total Period Nighttime Min	53.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

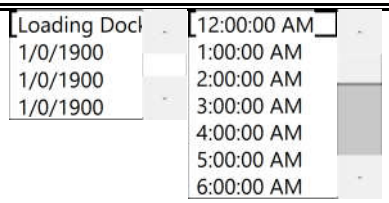
Noise Measurement Data

Project: Times Mirror Square Project

Location:

	Loading Dock
12:00:00 AM	
1:00:00 AM	
2:00:00 AM	
3:00:00 AM	
4:00:00 AM	
5:00:00 AM	
6:00:00 AM	
7:00:00 AM	45.00
8:00:00 AM	45.00
9:00:00 AM	45.00
10:00:00 AM	45.00
11:00:00 AM	45.00
12:00:00 PM	45.00
1:00:00 PM	45.00
2:00:00 PM	45.00
3:00:00 PM	45.00
4:00:00 PM	45.00
5:00:00 PM	45.00
6:00:00 PM	45.00
7:00:00 PM	45.00
8:00:00 PM	45.00
9:00:00 PM	
10:00:00 PM	
11:00:00 PM	

Start Date and Time



Start
#VALUE!
End
#VALUE!

CNEL	**46.2**
L_{dn}	45.0
24-hr Max.	45.0
24-hr Min.	0.0
24-hr Nighttime Average[a]	#NUM!
24-hr Nighttime Max	0.0
24-hr Nighttime Min	0.0
24-hr Daytime Average[a]	44.7
24-hr Daytime Max	45.0
24-hr Daytime Min	0.0
Total Period Average	45.0
Total Period Max	45.0
Total Period Min	45.0
Total Period Daytime Average	45.0
Total Period Daytime Max	45.0
Total Period Daytime Min	45.0
Total Period Nighttime Average	#DIV/0!
Total Period Nighttime Max	45.0
Total Period Nighttime Min	45.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

Noise Measurement Data

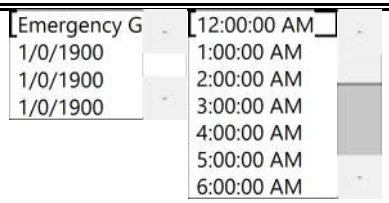
Project: Times Mirror Square Project

Location:

Emergency Generator

Start Date and Time

12:00:00 AM	
1:00:00 AM	
2:00:00 AM	
3:00:00 AM	
4:00:00 AM	
5:00:00 AM	
6:00:00 AM	
7:00:00 AM	
8:00:00 AM	
9:00:00 AM	
10:00:00 AM	
11:00:00 AM	
12:00:00 PM	
1:00:00 PM	76.00
2:00:00 PM	
3:00:00 PM	
4:00:00 PM	
5:00:00 PM	
6:00:00 PM	
7:00:00 PM	
8:00:00 PM	
9:00:00 PM	
10:00:00 PM	
11:00:00 PM	



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CNEL	**76.0**
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24-hr Min.	0.0
24-hr Nighttime Average[a]	#NUM!
24-hr Nighttime Max	0.0
24-hr Nighttime Min	0.0
24-hr Daytime Average[a]	64.2
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24-hr Daytime Min	0.0
Total Period Average	76.0
Total Period Max	76.0
Total Period Min	76.0
Total Period Daytime Average	76.0
Total Period Daytime Max	76.0
Total Period Daytime Min	76.0
Total Period Nighttime Average	#DIV/0!
Total Period Nighttime Max	0.0
Total Period Nighttime Min	0.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

Noise Measurement Data

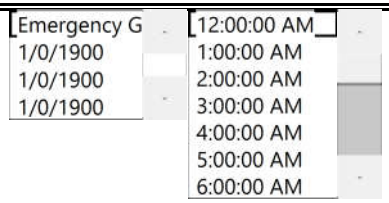
Project: Times Mirror Square Project

Location:

Emergency Generator with MM-NOISE-7

Start Date and Time

12:00:00 AM	
1:00:00 AM	
2:00:00 AM	
3:00:00 AM	
4:00:00 AM	
5:00:00 AM	
6:00:00 AM	
7:00:00 AM	
8:00:00 AM	
9:00:00 AM	
10:00:00 AM	
11:00:00 AM	
12:00:00 PM	
1:00:00 PM	61.00
2:00:00 PM	
3:00:00 PM	
4:00:00 PM	
5:00:00 PM	
6:00:00 PM	
7:00:00 PM	
8:00:00 PM	
9:00:00 PM	
10:00:00 PM	
11:00:00 PM	



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24-hr Nighttime Average[a]	#NUM!
24-hr Nighttime Max	0.0
24-hr Nighttime Min	0.0
24-hr Daytime Average[a]	49.2
24-hr Daytime Max	61.0
24-hr Daytime Min	0.0
Total Period Average	61.0
Total Period Max	61.0
Total Period Min	61.0
Total Period Daytime Average	61.0
Total Period Daytime Max	61.0
Total Period Daytime Min	61.0
Total Period Nighttime Average	#DIV/0!
Total Period Nighttime Max	0.0
Total Period Nighttime Min	0.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

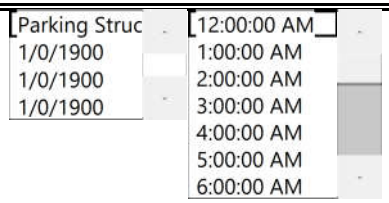
Noise Measurement Data

Project: Times Mirror Square Project

Location:

	Parking Structure
12:00:00 AM	56.00
1:00:00 AM	56.00
2:00:00 AM	56.00
3:00:00 AM	56.00
4:00:00 AM	56.00
5:00:00 AM	56.00
6:00:00 AM	56.00
7:00:00 AM	56.00
8:00:00 AM	56.00
9:00:00 AM	56.00
10:00:00 AM	56.00
11:00:00 AM	56.00
12:00:00 PM	56.00
1:00:00 PM	56.00
2:00:00 PM	56.00
3:00:00 PM	56.00
4:00:00 PM	56.00
5:00:00 PM	56.00
6:00:00 PM	56.00
7:00:00 PM	56.00
8:00:00 PM	56.00
9:00:00 PM	56.00
10:00:00 PM	56.00
11:00:00 PM	56.00

Start Date and Time



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End
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24-hr Nighttime Max	56.0
24-hr Nighttime Min	56.0
24-hr Daytime Average[a]	56.0
24-hr Daytime Max	56.0
24-hr Daytime Min	56.0
Total Period Average	56.0
Total Period Max	56.0
Total Period Min	56.0
Total Period Daytime Average	56.0
Total Period Daytime Max	56.0
Total Period Daytime Min	56.0
Total Period Nighttime Average	56.0
Total Period Nighttime Max	56.0
Total Period Nighttime Min	56.0

[a] Daytime hours are from 7:00 a.m. to 10:00 p.m., and nighttime hours are from 10:00 p.m. to 7:00 a.m.

I-6
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APPENDIX J

Population, Housing, and Employment Projection Documentation

ESA

Appendix J
Table 1
Estimate of New Population and Housing from Related Projects

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
1	454 E Commercial St	Bus Facility	2	acres			
2	225 S Los Angeles St	Condominiums	300	du	2.43	729	300
		Retail	3.4	ksf			
3	1101 N Main	Condominiums	318	du	2.43	773	318
4	1133 S Hope St	Apartments	208	du	2.43	506	208
		Retail	5.069	ksf			
5	1115 S Hill St	Condominiums	172	du	2.43	418	172
		Restaurant	6.85	ksf			
6	1102 W 6th St	Apartments	649	du	2.43	1,578	649
		Retail	39.996	ksf			
7	609 W 8th St	Condominiums	225	du	2.43	547	225
		Hotel	200	rooms			
		Retail	30	ksf			
		Restaurant	32	ksf			
8	1050 S Grand Ave	Condominiums	151	du	2.43	367	151
		Retail	3.472	ksf			
		Restaurant	2.2	ksf			
9	848 S Grand Ave	Condominiums	420	du	2.43	1,021	420
		Supermarket	38.5	ksf			
10	1430 W Beverly Blvd	Apartments	243	du	2.43	591	243
		Commercial	3.5	ksf			
11	900 W Wilshire Blvd	Condominiums	100	du	2.43	243	100
		Hotel	560	rooms			
		Fitness Facility	20	ksf			
		Office	1,500	ksf			
		Retail/Restaurant	50	ksf			
12	2000 Stadium Way	Condominiums	800	du	2.43	1,944	800
		Hospital	56	beds			
		Retail	15	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
13	1435 W 3rd St	Apartments	122	du	2.43	297	122
		Retail	3.5	ksf			
14	237 S Grand Ave (100 S. Grand Ave; Grand Ave Project)	Apartments	412	du	2.43	1,002	412
		Condominiums	1,648	du	2.43	4,005	1,648
		Supermarket	53	ksf			
		Restaurant	67	ksf			
		Health Club	50	ksf			
		Event Facility	250	seats			
		Hotel	275	rooms			
		Retail	225.25	ksf			
		Office	681	ksf			
15	899 S Francisco St	Condominiums	836	du	2.43	2,032	836
		Office	988.225	office			
		Hotel	480	rooms			
		Retail/Restaurant	46	ksf			
16	150 N Los Angeles St	Office	712.5	ksf			
		Retail	35	ksf			
		Child care	2.5	ksf			
17	1027 S Olive St	Apartments	100	du	2.43	243	100
18	1300 S Hope St	Apartments	419	du	2.43	1,019	419
		Retail	42.2	ksf			
19	928 S Broadway	Apartments	662	du	2.43	1,609	662
		Retail	47	ksf			
		Live/Work	11	ksf			
		Office	34.824	ksf			
20	1200 S Grand Ave	Apartments	640	du	2.43	1,556	640
		Retail	45	ksf			
21	1329-1419 W 7th St	Apartments	87	du	2.43	212	87
22	534 S Main St	Apartments	160	du	2.43	389	160
		Retail	18	ksf			
		Restaurant	7	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
23	840 S Olive St	Condominiums	303	du	2.43	737	303
		Restaurant	9.68	ksf			
		Retail	1.5	ksf			
24	950 E 3rd St	School	532	students			
		Retail	30.062	ksf			
		Apartments	635	du	2.43	1,544	635
25	201 S Broadway	Mixed Use	27.675	ksf			
26	1057 S San Pedro St	Office	549.141	ksf			
		Retail	224.862	ksf			
		Cinema	744	seats			
		Apartments	877	du	2.43	2,132	877
		Condominiums	68	du	2.43	166	68
		Hotel	210	rooms			
27	400 S Broadway	Apartments	450	du	2.43	1,094	450
		Retail	6.904	ksf			
		Bar	5	ksf			
28	1001 S Olive St	Apartments	225	du	2.43	547	225
		Restaurant	5	ksf			
29	955 S Broadway	Apartments	163	du	2.43	397	163
		Retail	6.406	ksf			
30	801 S Olive	Apartments	363	du	2.43	883	363
		Retail	2.5	ksf			
		Restaurant	7.5	ksf			
31	1212 S Flower St	Condominiums	730	du	2.43	1,774	730
		Retail	7.873	ksf			
32	820 S Olive St	Apartments	589	du	2.43	1,432	589
		Retail	4.5	ksf			
33	601 S Main St	Condominiums	452	du	2.43	1,099	452
		Retail	25	ksf			
34	2051 E 7th St	Apartments	320	du	2.43	778	320
		Retail	15	ksf			
		Restaurant	5	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
35	1111 S Broadway	Apartments	391	du	2.43	951	391
		Office	39.725	ksf			
		Retail	49	ksf			
36	1148 S Broadway	Apartments	94	du	2.43	229	94
		Retail	2.5	ksf			
37	1120 S. Grand Avenue & 1155 S. Olive Stree	Apartments	666	du	2.43	1,619	666
		Retail	20.6	ksf			
38	1230 S Olive St	Apartments	360	du	2.43	875	360
		Retail	6.4	ksf			
39	1247 S Grand Ave	Apartments	115	du	2.43	280	115
		Retail	4.61	ksf			
40	527 N Spring St	Apartments	345	du	2.43	839	345
		Retail	44	ksf			
		Restaurant	11	ksf			
41	1036 S Grand Ave	Restaurant	7.149	ksf			
42	963 E 4th St	Office	78.6	ksf			
		Retail	25	ksf			
		Restaurant	20	ksf			
43	1345 W 1st St	Apartments	102	du	2.43	248	102
		Retail	3.463	ksf			
44	401 N Boylston St	Apartments	121	du	2.43	295	121
45	737 S Spring St	Apartments	320	du	2.43	778	320
		Pharmacy	25	ksf			
46	1218 W Ingraham St	Apartments	80	du	2.43	195	80
47	555 S Mateo St	Retail	153	ksf			
48	732 S Spring St	Apartments	400	du	2.43	972	400
		Pharmacy	15	ksf			
49	340 S Hill St	Apartments	428	du	2.43	1,041	428
		Retail	2.894	ksf			
50	1145 W 7th St	Condominiums	241	du	2.43	586	241
		Retail	7.291	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
51	540 S Santa Fe Ave	Office	89.825	ksf			
52	360 S Alameda St	Apartments	55	du	2.43	134	55
		Restaurant	2.5	ksf			
		Office	6.3	ksf			
53	118 S Astronaut E.S. Onizuka St	Apartments	77	du	2.43	188	77
54	765 W College St	Office	100	ksf			
55	959 E Stadium Way	Apartments	158	du	2.43	384	158
56	700 W Cesar Chavez Ave	Apartments	299	du	2.43	727	299
		Retail	8	ksf			
57	1525 E Industrial St	Apartments	328	du	2.43	798	328
		Office	27.3	ksf			
		Retail	6.4	ksf			
		Restaurant	5.7	ksf			
58	649 S Wall St	Medical Office	66	employees			
		Assisted Living	55	beds			
59	410 N Center St	Office	110	ksf			
60	500 S Mateo St	Restaurant	12.882	ksf			
61	300 S Main St	Apartments	471	du	2.43	1,145	471
		Restaurant	27.78	ksf			
		Retail	5.19	ksf			
62	850 S Hill St	Apartments	300	du	2.43	729	300
		Retail	3.5	ksf			
		Restaurant	3.5	ksf			
63	340 N Patton St	Apartments	44	du	2.43	107	44
64	400 S Alameda St	Hotel	66	rooms			
		Restaurant	2.13	ksf			
		Retail	0.84	ksf			
65	700 W 9th St	Apartments	341	du	2.43	829	341
		Retail	11.687	ksf			
66	649 S Olive St	Hotel	241	rooms			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
67	1111 W 6th St	Apartments	362	du	2.43	880	362
		Retail	25.805	ksf			
68	1185 W Sunset Blvd	Apartments	214	du	2.43	521	214
		Single Family	6	du	2.43	15	6
		Commercial Condominium	6	du	2.43	15	6
69	1229 S Grand Ave	Condominiums	161	du	2.43	392	161
		Restaurant	3	ksf			
70	675 S Bixel St	Hotel	126	rooms			
		Apartments	422	du	2.43	1,026	422
		Retail	4.874	ksf			
71	740 S Hartford Ave	Apartments	80	du	2.43	195	80
72	1235 W 7th St	Condominiums	304	du	2.43	739	304
		Retail	5.699	ksf			
73	940 S Hill St	Apartments	232	du	2.43	564	232
		Restaurant	14	ksf			
74	719 E 5th St	Apartments	160	du	2.43	389	160
		Retail	7.5	ksf			
75	1340 S Olive St	Apartments	156	du	2.43	380	156
		Retail	5	ksf			
		Restaurant	10	ksf			
76	929 E 2nd St	Retail	37.974	ksf			
		Other	71.078	ksf			
77	633 S Spring St	Hotel	176	rooms			
		Restaurant	8.43	ksf			
		Bar	5.29	ksf			
78	1020 S Figueroa St	Hotel	300	rooms			
		Condominiums	435	du	2.43	1,058	435
		Retail	58.959	ksf			
79	1800 E 7th St	Apartments	122	du	2.43	297	122
		Restaurant	4.605	ksf			
		Retail	3.245	ksf			
80	1013 N Everett Pl	Apartments	49	du	2.43	120	49

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
81	708 N Hill St	Apartments	162	du	2.43	394	162
		Retail	5	ksf			
82	211 W Alpine St	Apartments	122	du	2.43	297	122
		Retail	7.5	ksf			
83	106-136 S. Beaudry	Apartments	220	du	2.43	535	220
84	495 S Hartford Ave	Apartments	218	du	2.43	530	218
85	1316 W Court St	Apartments	60	du	2.43	146	60
86	744 S Figueroa St	Apartments	436	du	2.43	1,060	436
		Retail	10.043	ksf			
87	1201 N Broadway	Apartments	118	du	2.43	287	118
		Commercial	8.8	ksf			
88	811, 813, 815 W Olympic Blvd	Hotel	373	rooms			
		Condominiums	374	du	2.43	909	374
		Retail	65.074	ksf			
		Office	33.498	ksf			
89	433 S Main	Condominiums	161	du	2.43	392	161
		Mixed Use	6.9	ksf			
90	926 W James M Woods Blvd	Hotel	247	rooms			
91	459 S Hartford Ave	Apartments	101	du	2.43	246	101
92	520 S Mateo St	Apartments	600	du	2.43	1,458	600
		Office	30	ksf			
		Retail	15	ksf			
		Restaurant	15	ksf			
93	920 S. Hill St.	Apartments	239	du	2.43	581	239
		Retail	5.4	ksf			
94	527 Colyton St	Condominiums	310	du	2.43	754	310
		Retail	11.375	ksf			
		Art Production Space	11.736	ksf			
95	330 South Alameda	Apartments	186	du	2.43	452	186
		Office	10.415	ksf			
		Retail	11.925	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
96	668 South Alameda	Apartments	475	du	2.43	1,155	475
		Office	43	ksf			
		Retail	9	ksf			
		Supermarket	15	ksf			
		Restaurant	17.000	ksf			
97	717 Maple Ave	Apartments	452	du	2.43	1,099	452
		Retail	14	ksf			
98	445 South Colyton	Shopping Center	24.950	ksf			
		Restaurant	25.380	ksf			
		Hotel	113	rooms			
		Residential	129	du	2.43	314	129
		Art Gallery/School	13.500	ksf			
99	1100 East 5th St	Apartments	220	du	2.43	535	220
		Office	20.021	ksf			
		Restaurant	19.609	ksf			
		Retail	9.250	ksf			
100	640 South Alameda Street	Hotel	412	rooms			
		Apartments	1305	du	2.43	3,172	1,305
		Condominiums	431	du	2.43	1,048	431
		Office	253.514	ksf			
		School	29.316	ksf			
		Retail	127.609	ksf			
		Art Space	22.429	ksf			
101	676 Mateo Street	Apartments	172	du	2.43	418	172
		Retail	23.025	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
102	670 Mesquit Street	Hotel	236	rooms			
		Apartments	308	du	2.43	749	308
		Retail	79.240	ksf			
		Restaurant	89.576	ksf			
		Event Space	93.617	ksf			
		Gym	62.148	ksf			
		Grocery	56.912	ksf			
		Office	944.055	ksf			
103	732-765 Wall Street	Apartments	323	du	2.43	785	323
		Retail	4.4	ksf			
		Event space	125	persons			
		Office	53.2	ksf			
		Restaurant	4.420	ksf			
104	1248 S Figueroa Street	Restaurant	13.145	ksf			
		Hotel	1,162	rooms			
105	924 N. Spring Street	Condominiums	770	du	2.43	1,872	770
		Retail	51.592	ksf			
106	1100 S. Main St.	Apartments	379	du	2.43	921	379
		Commercial	25.810	ksf			
107	1340 S. Hill St.	Apartments	233	du	2.43	567	233
108	845 S. Olive St.	Apartments	208	du	2.43	506	208
		Retail	0.810	ksf			
		Restaurant	1.620	ksf			
109	755 S. Los Angeles St.	Retail	16.7	ksf			
		Office	60.243	ksf			
		Restaurant	26.959	ksf			
110	222 W. 2nd St.	Apartments	107.0	du	2.43	261	107
		Office	534.044	ksf			
		Retail	7.200	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
111	333 West 5th St.	Condominiums	100	du	2.43	243	100
		Hotel	200	rooms			
		Restaurant	27.5	ksf			
112	1246 W. Court St.	Apartments	54	du	2.43	132	54
113	1101 E. 5th St.	Live/Work Units	129	du	2.43	314	129
		Retail	26.979	ksf			
		Restaurant	31.719	ksf			
		Hotel	113	rooms			
		Arts uses	13.771	ksf			
114	333 S. Alameda St.	Apartments	994	du	2.43	2,416	994
		Retail	99.3	ksf			
115	401 S. Hewitt St.	Office	255.5	ksf			
		Retail	4.970	ksf			
		Restaurant	9.940	ksf			
116	1001 W. Olympic Blvd.; 911-955 S. Georgia St.; 1000-1015 W. James M. Wood Blvd.; 936-950 S. Bixel St.; 1013-1025 W. Olympic	Apartments	1367	du	2.43	3,322	1,367
		Retail	20	ksf			
		Restaurant	20	ksf			
117	609 E. 5th St.	Apartments	151	du	2.43	367	151
118	713 E. 5th St.	Apartments	51	du	2.43	124	51
119	911 S. Figueroa St.	Apartments	200	du	2.43	486	200
		Commercial	94.080	ksf			
		Hotel	220	rooms			
120	1800 W. Beverly Blvd.	Apartments	243	du	2.43	591	243
		Restaurant	3.5	ksf			
121	940 E. 4th St.	Apartments	93	du	2.43	226	93
		Office	6.000	ksf			
		Retail	14.248	ksf			
122	810 E Pico Bl	Retail	181.62	ksf			
123	643 N Spring St	Apartments	203	du	2.43	494	203
		Retail	21.049	ksf			
124	215 W 14th Street	Apartments	154	du	2.43	375	154
		Retail	10.7	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
125	1201 S Grand Avenue	Condominiums	126	du	2.43	307	126
126	888 S Hope Street	Apartments	526	du	2.43	1,279	526
127	755 S Figueroa Street	Apartments	781	du	2.43	1,898	781
		Retail	6.7	ksf			
128	825 S Hill Street	Condominiums	589	du	2.43	1,432	589
		Retail	4.5	ksf			
129	1000 W Temple Street	Apartments	1,500	du	2.43	3,645	1,500
		Retail	30	ksf			
130	237 S Los Angeles St	Sports Complex	43.453	ksf			
131	450 N Main Street	TV Studio	18	ksf			
		Auditorium	50	Seat			
132	640 S Santa Fe Avenue	Office	107.127	ksf			
133	1745 E 7th Street	Apartments	57	du	2.43	139	57
		Commercial	6	ksf			
134	430 S. Hewitt Street	Condominiums	72	du	2.43	175	72
135	437 W. 5th Street	Condominiums	660	du	2.43	1,604	660
		Restaurant	13.742	ksf			
136	508 E. 4th St.	Apartments	41	du	2.43	100	41
137	552-554 S. San Pedro St.	Apartments	407	du	2.43	990	407
		Retail	12.3	ksf			
138	601 S. Central Ave.	Apartments	236	du	2.43	574	236
		Commercial	12	ksf			
139	600 S. San Pedro St.	Apartments	303	du	2.43	737	303
		Retail	20	ksf			
140	508 E. 4th Street	Apartments	41	du	2.43	100	41
141	655 S. San Pedro Street	Apartments	81	du	2.43	197	81
142	656 S. Stanford Ave.	Apartments	82	du	2.43	200	82
143	754 S. Hope St.	Apartments	409	du	2.43	994	409
144	900 N. Alameda Street	Office	179.9	ksf			
145	1027 W. Wilshire Blvd	Retail	5	ksf			
		Office	5	ksf			
		Condominiums	356	du	2.43	866	356

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
146	1000 S. Hill St.	Apartments	498	du	2.43	1,211	498
		Commercial	8.707	ksf			
147	1018 W. Ingraham St.	Apartments	43	du	2.43	105	43
		Retail	7.4	ksf			
148	1030-1380 N. Broadway	Apartments	920	du	2.43	2,236	920
		Commercial	21.405	ksf			
149	1219 S. Hope St	Hotel	75	room			
		Restaurant	7.7	ksf			
150	1323 S. Grand Ave.	Apartments	284	du	2.43	691	284
		Retail	6.3	ksf			
151	222 E. 7th St.	Apartments	452	du	2.43	1,099	452
		Commercial	13.655	ksf			
152	354 S. Spring Street	Apartments	212	du	2.43	516	212
153	361 S. Spring Street	Hotel	315	room			
154	400-402 W. 7th Street; 701-715 S. Hill Street	Apartments	165	du	2.43	401	165
		Restaurant	25.934	ksf			
155	1625 W. Palo Alto St.	Hotel	88	room			
156	641 Imperial Street	Residential	140	du	2.43	341	140
		Office	14.749	ksf			
157	550 S Main St	Apartments	159	du	2.43	387	159
		Retail	23	ksf			
158	110 11th Street	Office	52	ksf			
159	1011 North Broadway	Hotel	92	rooms			
160	905 E. 2nd St.	Condominiums	320	du	2.43	778	320
		Retail	18.716	ksf			
161	1334 South Flower Street	Apartments	188	du	2.43	457	188
		Retail/Restaurant	10.096	ksf			
162	1410 South Flower Street	Apartments	152	du	2.43	370	152
		Retail	1.184	ksf			
163	1300 South Figueroa Street	Hotel	1,024	rooms			
164	1346 West Court Street	Apartments	43	du	2.43	105	43
165	1322 West Maryland Street	Apartments	47	du	2.43	115	47
		Retail	0.76	ksf			

						All Related Projects	
ID	**PROJECT ADDRESS [a]**	**LAND USE**	**SIZE**		**Household Size [b]**	**Population**	**Household Count**
166	Alameda District Plan	Residential	22	du	2.43	54	22
		Office	7,443.2	ksf			
		Retail	645	ksf			
		Hotel	750	room			
		Restaurant	20	ksf			
		Museum	70	ksf			
167	Los Angeles Sports & Entertainment District	Convention Center	250	ksf			
		Hotel	183	rooms			
		Office	601.8	ksf			
		Apartment	1,152	du	2.43	2,800	1,152
		Retail	214.583	ksf			
TOTALS						111,640	45,914

Notes:

du = dwelling units

ksf = one thousand square feet

[a] Related Projects List was prepared as a component of the Traffic Study, Appendix L of this Draft EIR. Calculations do not include Project 168 (Metro), 169 (Main and Spring Bike Lane Project), and 170 (First and Broadway Civic Center Park) as they do not have specific land uses and development square footages tied to them.

[c] Estimated household size reflects the Citywide Person Per Household factor for multi-family units as published in the 2016 American Community Survey.

Compiled by ESA, 2018.

Appendix J
Table 2
Estimate of New Employees from Related Projects

				Retail						Office				Hotel				School			Other			Total
ID [a]	LAND USE	SIZE		Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
1	Bus Facility	2	acres																	87	1.35	117.61	118
2	Condominiums	300	du																				
	Retail	3.4	ksf	3.4			3.4	2.71	9.214														9
3	Condominiums	318	du																				
4	Apartments	208	du																				
	Retail	5.069	ksf	5.069			5.069	2.71	13.73699														14
5	Condominiums	172	du																				
	Restaurant	6.85	ksf		6.85		6.85	2.71	18.5635														19
6	Apartments	649	du																				
	Retail	39.996	ksf	39.996			39.996	2.71	108.38916														108
7	Condominiums	225	du																				
	Hotel	200	rooms										200	100	1.13	113							113
	Retail	30	ksf	30			30	2.71	81.3														81
	Restaurant	32	ksf		32		32	2.71	86.72														87
8	Condominiums	151	du																				
	Retail	3.472	ksf	3.472			3.472	2.71	9.40912														9
	Restaurant	2.2	ksf		2.2		2.2	2.71	5.962														6
9	Condominiums	420	du																				
	Supermarket	38.5	ksf	38.5			38.5	2.71	104.335														104
10	Apartments	243	du																				
	Commercial	3.5	ksf	3.5			3.5	2.71	9.485														9
11	Condominiums	100	du																				
	Hotel	560	rooms										560	280	1.13	316							316
	Fitness Facility	20	ksf			20	20	2.71	54.2														54
	Office	1,500	ksf							1,500	4.79	7,185											7,185
	Retail/Restaurant	50	ksf	50			50	2.71	135.5														136
12	Condominiums	800	du																				
	Hospital	56	beds																				-
	Retail	15	ksf	15			15	2.71	40.65														41
13	Apartments	122	du																				
	Retail	3.5	ksf	3.5			3.5	2.71	9.485														9
14	Apartments	412	du																				
	Condominiums	1,648	du																				
	Supermarket	53	ksf	53			53	2.71	143.63														144
	Restaurant	67	ksf		67		67	2.71	181.57														182
	Health Club	50	ksf			50	50	2.71	135.5														136
	Event Facility [f]	250	seats																	2.25	3.04	6.84	7
	Hotel	275	rooms										275	138	1.13	155							155
	Retail	225.25	ksf	225.25			225.25	2.71	610.4275														610
	Office	681	ksf							681	4.79	3,262											3,262
15	Condominiums	836	du																				
	Office	988.225	ksf							988	4.79	4,734											4,734
	Hotel	480	rooms										480	240	1.13	271							271
	Retail/Restaurant	46	ksf	46			46	2.71	124.66														125
16	Office	712.5	ksf							713	4.79	3,413											3,413
	Retail	35	ksf	35			35	2.71	94.85														95
	Child care	2.5	ksf														50	0.084	4				4
17	Apartments	100	du																				
18	Apartments	419	du																				
	Retail	42.2	ksf	42.2			42.2	2.71	114.362														114
19	Apartments	662	du																				
	Retail	47	ksf	47			47	2.71	127.37														127
	Live/Work	11	ksf	11			11	2.71	29.81														30
	Office	34.824	ksf							35	4.79	167											167
20	Apartments	640	du																				
	Retail	45	ksf	45			45	2.71	121.95														122
21	Apartments	87	du																				
22	Apartments	160	du																				
	Retail	18	ksf	18			18	2.71	48.78														49
	Restaurant	7	ksf		7		7	2.71	18.97														19
23	Condominiums	303	du																				
	Restaurant	9.68	ksf		9.68		9.68	2.71	26.2328														26
	Retail	1.5	ksf	1.5			1.5	2.71	4.065														4
24	School	532	students														532	0.084	45				45
	Retail	30.062	ksf	30.062			30.062	2.71	81.46802														81
	Apartments	635	du																				
25	Mixed Use	27.675	ksf	27.675			27.675	2.71	74.99925														75

				Retail						Office			Hotel				School			Other			Total
ID [a]	LAND USE	SIZE		Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
	Office	549.141	ksf							549	4.79	2,630											2,630
	Retail	224.862	ksf	224.862			224.862	2.71	609.37602														609
26	Cinema [f]	744	seats			6.696	6.696	2.71	18.14616														18
	Apartments	877	du																				
	Condominiums	68	du																				
	Hotel	210	rooms										210	105	1.13	119							119
	Apartments	450	du																				
27	Retail	6.904	ksf	6.904			6.904	2.71	18.70984														19
	Bar	5	ksf		5		5	2.71	13.55														14
28	Apartments	225	du																				
	Restaurant	5	ksf		5		5	2.71	13.55														14
29	Apartments	163	du																				
	Retail	6.406	ksf	6.406			6.406	2.71	17.36026														17
	Apartments	363	du																				
30	Retail	2.5	ksf	2.5			2.5	2.71	6.775														7
	Restaurant	7.5	ksf		7.5		7.5	2.71	20.325														20
31	Condominiums	730	du																				
	Retail	7.873	ksf	7.873			7.873	2.71	21.33583														21
32	Apartments	589	du																				
	Retail	4.5	ksf	4.5			4.5	2.71	12.195														12
33	Condominiums	452	du																				
	Retail	25	ksf	25			25	2.71	67.75														68
	Apartments	320	du																				
34	Retail	15	ksf	15			15	2.71	40.65														41
	Restaurant	5	ksf		5		5	2.71	13.55														14
	Apartments	391	du																				
35	Office	39.725	ksf							40	4.79	190											190
	Retail	49	ksf	49			49	2.71	132.79														133
36	Apartments	94	du																				
	Retail	2.5	ksf	2.5			2.5	2.71	6.775														7
37	Apartments	666	du																				
	Retail	20.6	ksf	20.6			20.6	2.71	55.826														56
38	Apartments	360	du																				
	Retail	6.4	ksf	6.4			6.4	2.71	17.344														17
39	Apartments	115	du																				
	Retail	4.61	ksf	4.61			4.61	2.71	12.4931														12
	Apartments	345	du																				
40	Retail	44	ksf	44			44	2.71	119.24														119
	Restaurant	11	ksf		11		11	2.71	29.81														30
41	Restaurant	7.149	ksf		7.149		7.149	2.71	19.37379														19
	Office	78.6	ksf							79	4.79	376											376
42	Retail	25	ksf	25			25	2.71	67.75														68
	Restaurant	20	ksf		20		20	2.71	54.2														54
43	Apartments	102	du																				
	Retail	3.463	ksf	3.463			3.463	2.71	9.38473														9
44	Apartments	121	du																				
45	Apartments	320	du																				
	Pharmacy	25	ksf	25			25	2.71	67.75														68
46	Apartments	80	du																				
47	Retail	153	ksf	153			153	2.71	414.63														415
48	Apartments	400	du																				
	Pharmacy	15	ksf	15			15	2.71	40.65														41
49	Apartments	428	du																				
	Retail	2.894	ksf	2.894			2.894	2.71	7.84274														8
50	Condominiums	241	du																				
	Retail	7.291	ksf	7.291			7.291	2.71	19.75861														20
51	Office	89.825	ksf							90	4.79	430											430
	Apartments	55	du																				
52	Restaurant	2.5	ksf		2.5		2.5	2.71	6.775														7
	Office	6.3	ksf							6	4.79	30											30
53	Apartments	77	du																				
54	Office	100	ksf							100	4.79	479											479
55	Apartments	158	du																				
56	Apartments	299	du																				
	Retail	8	ksf	8			8	2.71	21.68														22
	Apartments	328	du																				
57	Office	27.3	ksf							27	4.79	131											131
	Retail	6.4	ksf	6.4			6.4	2.71	17.344														17
	Restaurant	5.7	ksf		5.7		5.7	2.71	15.447														15
58	Medical Office	66	employees									66											66
	Assisted Living	55	beds																				-
59	Office	110	ksf							110	4.79	527											527
60	Restaurant	12.882	ksf		12.882		12.882	2.71	34.91022														35
	Apartments	471	du																				
61	Restaurant	27.78	ksf		27.78		27.78	2.71	75.2838														75
	Retail	5.19	ksf	5.19			5.19	2.71	14.0649														14
	Apartments	300	du																				

				Retail						Office			Hotel				School			Other			Total
ID [a]	LAND USE	SIZE		Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
62	Retail	3.5	ksf	3.5			3.5	2.71	9.485														9
	Restaurant	3.5	ksf		3.5		3.5	2.71	9.485														9
63	Apartments	44	du																				
64	Hotel	66	rooms										66	33	1.13	37							37
	Restaurant	2.13	ksf		2.13		2.13	2.71	5.7723														6
	Retail	0.84	ksf	0.84			0.84	2.71	2.2764														2
65	Apartments	341	du																				
	Retail	11.687	ksf	11.687			11.687	2.71	31.67177														32
66	Hotel	241	rooms										241	121	1.13	136							136
67	Apartments	362	du																				
	Retail	25.805	ksf	25.805			25.805	2.71	69.93155														70
68	Apartments	214	du																				
	Single Family	6	du																				
	Commercial Condominium	6	du																				
69	Condominiums	161	du																				
	Restaurant	3	ksf		3		3	2.71	8.13														8
70	Hotel	126	rooms										126	63	1.13	71							71
	Apartments	422	du																				
	Retail	4.874	ksf	4.874			4.874	2.71	13.20854														13
71	Apartments	80	du																				
72	Condominiums	304	du																				
	Retail	5.699	ksf	5.699			5.699	2.71	15.44429														15
73	Apartments	232	du																				
	Restaurant	14	ksf		14		14	2.71	37.94														38
74	Apartments	160	du																				
	Retail	7.5	ksf	7.5			7.5	2.71	20.325														20
75	Apartments	156	du																				
	Retail	5	ksf	5			5	2.71	13.55														14
	Restaurant	10	ksf		10		10	2.71	27.1														27
76	Retail	37.974	ksf	37.974			37.974	2.71	102.90954														103
	Other	71.078	ksf																	71.078	3.04	216.077	216
77	Hotel	176	rooms										176	88	1.13	99							99
	Restaurant	8.43	ksf		8.43		8.43	2.71	22.8453														23
	Bar	5.29	ksf		5.29		5.29	2.71	14.3359														14
78	Hotel	300	rooms										300	150	1.13	170							170
	Condominiums	435	du																				
	Retail	58.959	ksf	58.959			58.959	2.71	159.77889														160
79	Apartments	122	du																				
	Restaurant	4.605	ksf		4.605		4.605	2.71	12.47955														12
	Retail	3.245	ksf	3.245			3.245	2.71	8.79395														9
80	Apartments	49	du																				
81	Apartments	162	du																				
	Retail	5	ksf	5			5	2.71	13.55														14
82	Apartments	122	du																				
	Retail	7.5	ksf	7.5			7.5	2.71	20.325														20
83	Apartments	220	du																				
84	Apartments	218	du																				
85	Apartments	60	du																				
86	Apartments	436	du																				
	Retail	10.043	ksf	10.043			10.043	2.71	27.21653														27
87	Apartments	118	du																				
	Commercial	8.8	ksf	8.8			8.8	2.71	23.848														24
88	Hotel	373	rooms										373	187	1.13	211							211
	Condominiums	374	du																				
	Retail	65.074	ksf	65.074			65.074	2.71	176.35054														176
	Office	33.498	ksf							33	4.79	160											160
89	Condominiums	161	du																				
	Mixed Use	6.9	ksf	6.9			6.9	2.71	18.699														19
90	Hotel	247	rooms										247	124	1.13	140							140
91	Apartments	101	du																				
92	Apartments	600	du																				
	Office	30	ksf							30	4.79	144											144
	Retail	15	ksf	15			15	2.71	40.65														41
	Restaurant	15	ksf		15		15	2.71	40.65														41
93	Apartments	239	du																				
	Retail	5.4	ksf	5.4			5.4	2.71	14.634														15
94	Condominiums	310	du																				
	Retail	11.375	ksf	11.375			11.375	2.71	30.82625														31
	Art Production Space	11.736	ksf																	11.736	4.79	56.215	56
95	Apartments	186	du																				
	Office	10.415	ksf							10	4.79	50											50
	Retail	11.925	ksf	11.925			11.925	2.71	32.31675														32
96	Apartments	475	du																				
	Office	43	ksf							43	4.79	206											206
	Retail	9	ksf	9			9	2.71	24.39														24
	Supermarket	15	ksf	15			15	2.71	40.65														41
	Restaurant	17.000	ksf		17		17	2.71	46.07														46

				Retail						Office				Hotel				School			Other			Total
ID [a]	LAND USE	SIZE		Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
97	Apartments	452	du																				
	Retail	14	ksf	14			14	2.71	37.94														38
98	Shopping Center	24.950	ksf	24.95			24.95	2.71	67.6145														68
	Restaurant	25.380	ksf		25.38		25.38	2.71	68.7798														69
	Hotel	113	rooms										113	57	1.13	64							64
	Residential	129	du																				
	Art Gallery/School	13.500	ksf																	13.5	4.79	64.665	65
99	Apartments	220	du																				
	Office	20.021	ksf							20	4.79	96											96
	Restaurant	19.609	ksf		19.609		19.609	2.71	53.14039														53
	Retail	9.250	ksf	9.25			9.25	2.71	25.0675														25
100	Hotel	412	rooms										412	206	1.13	233							233
	Apartments	1305	du																				
	Condominiums	431	du																				
	Office	253.514	ksf							254	4.79	1,214											1,214
	School	29.316	ksf														586	0.084	49				49
	Retail	127.609	ksf	127.609			127.609	2.71	345.82039														346
	Art Space	22.429	ksf																	22.4	4.79	107.435	107
101	Apartments	172	du																				
	Retail	23.025	ksf	23.025			23.025	2.71	62.39775														62
102	Hotel	236	rooms										236	118	1.13	133							133
	Apartments	308	du																				
	Retail	79.240	ksf	79.24			79.24	2.71	214.7404														215
	Restaurant	89.576	ksf		89.576		89.576	2.71	242.75096														243
	Event Space	93.617	ksf																	93.62	3.04	284.60	285
	Gym	62.148	ksf			62.148	62.148	2.71	168.42108														168
	Grocery	56.912	ksf	56.912			56.912	2.71	154.23152														154
	Office	944.055	ksf							944	4.79	4,522											4,522
103	Apartments	323	du																				
	Retail	4.4	ksf	4.4			4.4	2.71	11.924														12
	Event space [f]	125	persons																	1.125	3.04	3.42	3
	Office	53.2	ksf							53	4.79	255											255
	Restaurant	4.420	ksf		4.42		4.42	2.71	11.9782														12
104	Restaurant	13.145	ksf		13.145		13.145	2.71	35.62295														36
	Hotel	1,162	rooms										1,162	581	1.13	657							657
105	Condominiums	770	du																				
	Retail	51.592	ksf	51.592			51.592	2.71	139.81432														140
106	Apartments	379	du																				
	Commercial	25.810	ksf	25.81			25.81	2.71	69.9451														70
107	Apartments	233	du																				
108	Apartments	208	du																				
	Retail	0.810	ksf	0.81			0.81	2.71	2.1951														2
	Restaurant	1.620	ksf		1.62		1.62	2.71	4.3902														4
109	Retail	16.694	ksf	16.694			16.694	2.71	45.24074														45
	Office	60.243	ksf							60	4.79	289											289
	Restaurant	26.959	ksf		26.959		26.959	2.71	73.05889														73
110	Apartments	107.0	du																				
	Office	534.044	ksf							534	4.79	2,558											2,558
	Retail	7.200	ksf	7.2			7.2	2.71	19.512														20
111	Condominiums	100	du																				
	Hotel	200	rooms										200	100	1.13	113							113
	Restaurant	27.5	ksf		27.5		27.5	2.71	74.525														75
112	Apartments	54	du																				
113	Live/Work Units	129	du																				
	Retail	26.979	ksf	26.979			26.979	2.71	73.11309														73
	Restaurant	31.719	ksf		31.719		31.719	2.71	85.95849														86
	Hotel	113	rooms										113	57	1.13	64							64
	Arts uses	13.771	ksf																	13.8	4.79	65.963	66
114	Apartments	994	du																				
	Retail	99.3	ksf	99.3			99.3	2.71	269.103														269

				Retail						Office			Hotel				School			Other			Total
ID [a]	LAND USE	SIZE		Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
	Office	255.5	ksf							256	4.79	1,224											1,224
115	Retail	4.970	ksf	4.97			4.97	2.71	13.4687														13
	Restaurant	9.940	ksf		9.94		9.94	2.71	26.9374														27
	Apartments	1367	du																				
116	Retail	20	ksf	20			20	2.71	54.2														54
	Restaurant	20	ksf		20		20	2.71	54.2														54
117	Apartments	151	du																				
118	Apartments	51	du																				
	Apartments	200	du																				
119	Commercial	94.080	ksf	94.08			94.08	2.71	254.9568														255
	Hotel	220	rooms										220	110	1.13	124							124
120	Apartments	243	du																				
	Restaurant	3.5	ksf		3.5		3.5	2.71	9.485														9
	Apartments	93	du																				
121	Office	6.000	ksf							6	4.79	29											29
	Retail	14.248	ksf	14.248			14.248	2.71	38.61208														39
122	Retail	181.62	ksf	181.62			181.62	2.71	492.1902														492
123	Apartments	203	du																				
	Retail	21.049	ksf	21.049			21.049	2.71	57.04279														57
124	Apartments	154	du																				
	Retail	10.7	ksf	10.7			10.7	2.71	28.997														29
125	Condominiums	126	du																				
126	Apartments	526	du																				
127	Apartments	781	du																				
	Retail	6.7	ksf	6.7			6.7	2.71	18.157														18
128	Condominiums	589	du																				
	Retail	4.5	ksf	4.5			4.5	2.71	12.195														12
129	Apartments	1,500	du																				
	Retail	30	ksf	30			30	2.71	81.3														81
130	Sports Complex	43.453	ksf																	43.453	3.04	132.097	132
131	TV Studio	18	ksf																	18.000	3.04	54.720	55
	Auditorium [f]	50	Seat																	0.450	3.04	1.368	1
132	Office	107.127	ksf							107	4.79	513											513
133	Apartments	57	du																				
	Commercial	6	ksf	6			6	2.71	16.26														16
134	Condominiums	72	du																				
135	Condominiums	660	du																				
	Restaurant	13.742	ksf		13.742		13.742	2.71	37.24082														37
136	Apartments	41	du																				
137	Apartments	407	du																				
	Retail	12.3	ksf	12.3			12.3	2.71	33.333														33
138	Apartments	236	du																				
	Commercial	12	ksf	12			12	2.71	32.52														33
139	Apartments	303	du																				
	Retail	20	ksf	20			20	2.71	54.2														54
140	Apartments	41	du																				
141	Apartments	81	du																				
142	Apartments	82	du																				
143	Apartments	409	du																				
144	Office	179.9	ksf							180	4.79	862											862
	Retail	5	ksf	5			5	2.71	13.55														14
145	Office	5	ksf							5	4.79	24											24
	Condominiums	356	du																				
146	Apartments	498	du																				
	Commercial	8.707	ksf	8.707			8.707	2.71	23.59597														24
147	Apartments	43	du																				
	Retail	7.4	ksf	7.4			7.4	2.71	20.054														20
148	Apartments	920	du																				
	Commercial	21.405	ksf	21.405			21.405	2.71	58.00755														58
149	Hotel	75	room										75	38	1.13	42							42
	Restaurant	7.7	ksf		7.7		7.7	2.71	20.867														21
150	Apartments	284	du																				
	Retail	6.3	ksf	6.3			6.3	2.71	17.073														17
151	Apartments	452	du																				
	Commercial	13.655	ksf	13.655			13.655	2.71	37.00505														37
152	Apartments	212	du																				
153	Hotel	315	room										315	158	1.13	178							178
154	Apartments	165	du																				
	Restaurant	25.934	ksf		25.934		25.934	2.71	70.28114														70
155	Hotel	88	room										88	44	1.13	50							50
156	Residential	140	du																				
	Office	14.749	ksf							15	4.79	71											71
157	Apartments	159	du																				
	Retail	23	ksf	23			23	2.71	62.33														62
158	Office	52	ksf							52	4.79	249											249
159	Hotel	92	rooms										92	46	1.13	52							52
160	Condominiums	320	du																				

			Retail					Office			Hotel				School			Other			Total
ID [a]	LAND USE	SIZE	Retail (ksf)	Restaurant (ksf)	Misc Retail (ksf)	Total Retail (ksf)	Retail Generation Rate [b]	Retail Employees	Office (ksf)	Office Generation Rate [b]	Office Employees	Hotel Rooms	Hotel (Converted to ksf) [c]	Hotel Generation Rate [b]	Hotel Employees	Students	School Generation Rate [d]	School Employees	Other (ksf)	Other Generation Rates [e]	Other Employees	Total Employees
160	Retail	18.716 ksf	18.716			18.716	2.71	50.72036														51
161	Apartments	188 du																				
	Retail/Restaurant	10.096 ksf	10.096			10.096	2.71	27.36016														27
162	Apartments	152 du																				
	Retail	1.184 ksf	1.184			1.184	2.71	3.20864														3
163	Hotel	1,024 rooms										1,024	512	1.13	579							579
164	Apartments	43 du																				
165	Apartments	47 du																				
	Retail	0.76 ksf	0.76			0.76	2.71	2.0596														2
166	Residential	22 du																				
	Office	7,443.2 ksf							7,443	4.79	35,653											35,653
	Retail	645 ksf	645			645	2.71	1747.95														1,748
	Hotel	750 room										750	375	1.13	424							424
	Restaurant	20 ksf		20		20	2.71	54.2														54
	Museum	70 ksf																	70	3.04	213	213
167	Convention Center	250 ksf																	250	3.04	760	760
	Hotel	183 rooms										183	92	1.13	103							103
	Office	601.8 ksf							602	4.79	2,883											2,883
	Apartment	1,152 du																				
	Retail	214.583 ksf	214.583			214.583	2.71	581.51993														582
TOTALS						4,561		12,358	12,358		74,622	8,237			4,654	1,169		99	699		2,084	93,815

Notes:
du = dwelling units
ksf = one thousand square feet
[a] Related Projects List was prepared as a component of the Traffic Study, Appendix L of this Draft EIR. Calculations do not include Project 168 (Metro), 169 (Main and Spring Bike LaneProject), and 170 (First and Broadway Civic Center Park) as they do not have specific land uses and development square footages tied to them.
[b] Employee Generation Rates for these uses are based on data provided in the Los Angeles Unified School District, 2016 Developer Fee Justification Study. Selected representative/conservative categories include: Neighborhood Shopping Center, Standard Commercial Office, and Lodging.
[c] It is assumed that each hotel room is approximately 500 square feet.
[d] The employee generation factor for schools is based on dividing the total school district employees by the total student enrollment, which results in 0.084 employees per student. Data is provided in the LAUSD 2017-2018 Fingertip Facts, https://achieve.lausd.net/cms/lib/CA01000043/Centricity/Domain/32/NewlyUpdatedFingertip%20Facts2017-18_English.pdf.
[e] The projects that fall under Other include a variety of uses, including bus facility, museums, and others that do not have a speific genreation rate. In those cases, the closest possible generation factor is used.
[f] It is assumed that cinema, theater, auditorium, convention center, and other entertainment facilities will require approximately 9 square feet per seat.

Compiled by ESA, 2018.

APPENDIX K

Public Service Provider Correspondence

ESA

K-1 Los Angeles Police Department Correspondence

Jessie Fan

From: Christopher Gibson <40318@lapd.online>
Sent: Monday, August 14, 2017 9:31 AM
To: Jessie Fan
Subject: Re: LAPD Information Request - Times Mirror Square Project

Follow Up Flag: Follow Up
Flag Status: Flagged

Per Sergeant Tango, here are updated stats:

The distance from Central Police Station on 251 East 6th Street to the Times Square Project located at 1st Street and Broadway (202 West 1st Street) is **0.9 miles** using Google maps.

We do not have response time for the entire City of LA as we discussed over the phone

There are no plans to expand Central Station

CRIMES	YTD 2017 1-1-17 to 7-22-17	YTD 2016	YDT 2015
HOMICIDE	15	5	7
RAPE	81	65	75
ROBBERY	387	371	393
AGGRAVATED ASSAULT	615	529	503
BURGLARY	185	166	187
MOTOR VEHICLE TEFT	222	215	209
BURGLARTY FROM MOTOR VEHICLE	707	600	483
PERSONAL/OTHER THEFT	1429	1401	1362

Source: lapd.online

From: Jessie Fan <JFan@esassoc.com>
Sent: Saturday, August 5, 2017 12:09:53 AM
To: Christopher Gibson
Subject: RE: LAPD Information Request - Times Mirror Square Project

Hello Officer Gibson,

I have received the letter. Within the letter, you say that the project site is located approximately 0.9 miles from the Central Community Police Station. Google Maps is pointing me at approximately 1.8 to 1.9 miles. Could you please confirm which is the correct distance?

Additionally, could you please provide the crime statistics specifically for RD 0123 for 2015 and 2016 (same categories as the YTD info provided in the letter for the Central Area)?

Lastly, are there any current plans to expand the Central Community Police Station or increase the number of personnel assigned to the Central Area?

If you could please provide responses at your earliest convenience, it would be extremely helpful. Thank you so much, and have a wonderful weekend!

Jessie Fan
Senior Associate
ESA
626.714.4611 direct

From: Christopher Gibson [mailto:40318@lapd.online]
Sent: Thursday, July 27, 2017 5:04 PM
To: Jessie Fan <JFan@esassoc.com>
Subject: Re: LAPD Information Request - Times Mirror Square Project

Your welcome, please let me know if you need anything else.

Chris

On Jul 27, 2017, at 5:02 PM, Jessie Fan <JFan@esassoc.com> wrote:

> Wonderful, thank you so much for your prompt response! Have a great rest of your week.
>
> Jessie Fan
> Senior Associate
> ESA
> 626.714.4611 direct
>
> ---
>
> **From:** Christopher Gibson [mailto:40318@lapd.online]
> **Sent:** Thursday, July 27, 2017 5:02 PM
> **To:** Jessie Fan <JFan@esassoc.com>
> **Subject:** Re: LAPD Information Request - Times Mirror Square Project
>
> Hello, I completed that report on Monday and submitted for signature. It should be in the mail by now.
>
> On Jul 27, 2017, at 4:58 PM, Jessie Fan <JFan@esassoc.com> wrote:
>
> > Hello Officer Gibson,
> >
> > I just wanted to check in with you on the status of this information request. Please let me know at your earliest availability, and thanks in advance!
> >
> > Jessie Fan
> > Senior Associate
> > ESA
> > 626.714.4611 direct
> >
> > ---
> >
> > **From:** Jessie Fan
> > **Sent:** Monday, July 10, 2017 2:09 PM
> > **To:** 'Christopher Gibson' <40318@lapd.online>
> > **Subject:** LAPD Information Request - Times Mirror Square Project

Dear Officer Gibson,

In coordination with the City of Los Angeles Department of City Planning, ESA is preparing an Environmental Impact Report (EIR) for the proposed Times Mirror Square Project located generally at 100 S. Broadway within the Central City Community Plan Area pursuant to the California Environmental Quality Act (CEQA). Since the Project is located within the jurisdiction of the Los Angeles Police Department, we are requesting information from your agency with regards to police protection services and facilities. In order to maintain the schedule for the EIR, we respectfully request your input by **July 24, 2017**. Attached is an information request letter, and a hard copy will follow in the mail. Please let me know if you have any further questions. Your assistance is much appreciated. Thanks!

Jessie Fan
Senior Associate
ESA | Environmental Science Associates
80 South Lake Avenue, Suite 570
Pasadena, CA 91101
626.204.6170 main | 626.204.6171 fax
626.714.4611 direct
JFan@esassoc.com | www.esassoc.com

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LOS ANGELES POLICE DEPARTMENT

CHARLIE BECK
Chief of Police

ERIC GARCETTI
Mayor

P. O. Box 30158
Los Angeles, Calif. 90030
Telephone: (213) 486-6000
TDD: (877) 275-5273
Ref #:14.7

July 24, 2017

Mr. Jessie Fan
ESA
233 Wilshire Boulevard, Suite 150
Santa Monica, California 90401

Dear Mr. Fan:

The proposed Times Mirror Square Project falls within the geographical boundaries of the Los Angeles Police Department's Central Area. A project of this size could have a moderate impact on police services in the Central Area. The Department is available to advise you on crime prevention features appropriate for the design of the property in this project. The Department strongly recommends that the developers contact Community Relationship Division, Crime Prevention Through Environmental Design, Officer Christopher Gibson, at (213) 486-6000.

Upon completion of the project, you are encouraged to provide the Central Area Commanding Officer with a diagram of each portion of the property. The diagram should include access routes and any additional information that might facilitate police response.

Should you have any questions regarding this response, please contact Sergeant David Tango, Community Relationship Division, at (213) 486-6000.

Very truly yours,

CHARLIE BECK
Chief of Police

FOR:

AL NEAL, Captain
Commanding Officer
Community Relationship Division

Enclosure

The proposed Times Mirror Square Project will be under the jurisdiction of Central Community Police Station, located at 251 East 6th Street, Los Angeles, CA 90014. Telephone Number (213) 833-3707.

The project site is approximately 0.9 miles and 6 minutes without traffic from the Police Station in Reporting District (RD) 0123.

Central Geographic Area is approximately 4.5 square miles and consists of 52 Reporting Districts. The service boundaries for Central Area are as follows: Stadium Way, Pasadena Freeway to the North, Washington Boulevard, 7th Street to the South, Los Angeles River to the East, and the Harbor Freeway to the West.

It has approximately 370 sworn personnel and 30 civilian support staff assigned. It is a culturally diverse community with a population of approximately 40,000 people. The officer to resident ratio is; 1 officer to 108 residents in Central Area. Additionally, there are special service teams available within the LAPD to service Central Area.

Central Station's emergency response system is directly linked to the Los Angeles Police Department Communications Division's Dispatch Centers. Communications Division has the responsibility to staff and answer, on a 24-hour basis, the telephones upon which calls for service are received. This includes 911 emergency calls (police, fire, and paramedic). Communication Division handles only police related calls for the City.

The average response time to emergency calls for service in Central Area during 2016 was 2.7 minutes. The average response time for non-emergency calls for service in Central Area during 2016 was 13.7 minutes.

Crime Statistics for all Central Area:

CRIMES	YTD 2017	YTD 2016	YDT 2015
HOMICIDE	15	5	7
RAPE	50	42	55
ROBBERY	366	356	382
AGGRAVATED ASSAULT	598	513	476
BURGLARY	184	163	184
MOTOR VEHICLE TEFT	218	205	205
BURGLARTY FROM MOTOR VEHICLE	686	577	453
PERSONAL/OTHER THEFT	1370	1344	1322

Prepared by:

Officer Christopher Gibson
Community Relationship Division
213 486-6000

K-2 Los Angeles Fire Department Correspondence

FORM. GEN. 160 (Rev. 6-80)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

August 13, 2018

To: Jessie Fan, Senior Associate
ESA/Environmental Science Associates
80 South Lake Avenue, Suite 750
Pasadena, CA 91101

From: Los Angeles City Fire Department

Subject: Request for Fire Services Report

PROJECT NAME: **Times Mirror Square Project**
PROJECT APPLICANT: **Onni Contracting, CA Inc.**
PROJECT LOCATION: **100 S. BROADWAY, LOS ANGELES, CA 90015**

PROPOSED PROJECT:

The Project would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 376,105 sf of offices and/or other retail and commercial uses, including an approximately 50,000 sf grocery store. These three buildings are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the Site and construct two mixed-use towers (North and South Towers). The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S., Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units,. The towers would include approximately 34,572 sf of retail uses, which would be located at ground level. With the addition of retail uses, total new construction would amount to 1,135,803 sf. Inclusive of the existing buildings to be retained and rehabilitated, the Project would include a total of 1,511,908 sq of floor area for a resulting floor-area ratio (FAR) of approximately 9.42;1.

The Project would include a pedestrian paseo constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. Approximately 72,902 sf of common open space, including the approximately 15,708 sq paseo, would provided as part of the North and South Tower component. With the addition of approximately 56,349 sf of private balconies, combined private and common open space would be approximately 129,477 sf. Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023.

The following comments are furnished in response to your request for this Department to review the proposed development:

FIRE FLOW:

The adequacy of fire protection for a given area is based on required fire-flow, response distance from existing fire stations, and this Department's judgment for needs in the area. In general, the required fire-flow is closely related to land use. The quantity of water necessary for fire protection varies with the type of development, life hazard, occupancy, and the degree of fire hazard.

Fire-flow requirements vary from 2,000 gallons per minute (G.P.M.) in low density residential areas to 12,000 G.P.M. in high-density commercial or industrial areas. A minimum residual water pressure of 20 pounds per square inch (P.S.I.) is to remain in the water system, with the required gallons per minute flowing. The required fire-flow for this project has been set at **6,000 to 9,000 G.P.M. from four to six fire hydrants flowing simultaneously.**

Improvements to the water system in this area may be required to provide 6,000 to 9,000 G.P.M. fire-flow. The cost of improving the water system may be charged to the developer. For more detailed information regarding water main improvements, the developer shall contact the Water Services Section of the Department of Water and Power.

RESPONSE DISTANCE:

Based on a required fire-flow of 6,000 to 9,000 G.P.M., the first-due Engine Company should be within 1 mile(s), the first-due Truck Company within 1 ½ mile(s).

FIRE STATIONS:

The Fire Department has existing fire stations at the following locations for initial response into the area of the proposed development: **100 S. BROADWAY**

DISTANCE	**Fire Station No. 3**	**EQUIPMENT & SERVICES**	**STAFF**
0.6	108 N. Fremont Avenue Los Angeles, CA 90012	Engine, Truck, Task Force, Paramedic Rescue Ambulance, BLS Rescue Ambulance, Emergency Lighting Unit, Command Post Vehicle, Medical Supply Trailer and Back-up US&R Apparatus	**16**
0.8	**Fire Station No. 4** 450 E, Temple Street Los Angeles, CA 90012	Assessment Engine, Paramedic Rescue Ambulance, EMS Battalion Captain and BLS Rescue Ambulance	**14**
1.1	**Fire Station No. 11** 1819 W. 7th Street Los Angeles, CA 90057	Assessment Engine, Paramedic Rescue Ambulance, BLS Rescue Ambulance, Light Force	**14**
1.2	**Fire Station No. 9** 430 E. 7th Street Los Angeles, CA 90014	Assessment Engine, Assessment Truck and BLS Rescue Ambulance	**12**
1.7	**Fire Station No. 10** 1335 S. Olive Street Los Angeles, CA 90015	Assessment Truck, Paramedic Rescue Ambulance, BLS Rescue Ambulance and Assessment Light Force	**14**

(Equipment listed for each Fire Station is subject to change)

Based on these criteria (response distance from existing fire stations), fire protection would be considered **adequate.**

At present, there are no immediate plans to increase Fire Department staffing or resources in those areas, which will serve the proposed project.
The inclusion of the above listed recommendations, along with any additional recommendations made during later reviews of the proposed project will reduce the impacts to an acceptable level.

Definitive plans and specifications shall be submitted to this Department and requirements for necessary permits satisfied prior to commencement of any portion of this project.

The Los Angeles Fire Department continually evaluates fire station placement and overall Department services for the entire City, as well as specific areas. The development of this proposed project, along with other approved and planned projects in the immediate area, may result in the need for the following:

1. Increased staffing for existing facilities. (I.E., Paramedic Rescue Ambulance and EMT Rescue Ambulance resources.)
2. Additional fire protection facilities.
3. Relocation of present fire protection facilities.

For additional information, please contact the Fire Development Services Section, Hydrants & Access Unit at **(213) 482-6543.**

RALPH M. TERRAZAS,
Fire Chief

Kristin Crowley, Fire Marshal
Bureau of Fire Prevention and Public Safety

KC:RED:yw

ATTACHMENT: LAFD Frequently Asked Questions

Jessie Fan

From: Robert Duff <robert.duff@lacity.org>
Sent: Monday, July 31, 2017 12:00 PM
To: Jessie Fan
Subject: Re: Times Mirror Square Project - Fire Services Information

Follow Up Flag: Follow up
Flag Status: Flagged

Additional Fire Stations near Times Mirror Square Project FS 3, 4, 9, 10, 11.

On Sat, Jul 29, 2017 at 3:15 PM, Jessie Fan <JFan@esassoc.com> wrote:
> Hello Hilda,
>
>
>
> Could you include some more information on all of the fire stations
> that would serve the project site? In the past, we were provided by
> LAFD with a table that showed 3 or so fire stations, their distances
> from the project site, the services and equipment provided at the
> stations, and the number of staff at the station. On the LAFD website,
> I was only able to find the single station closest to the project site
> (Station 4) and its address, but not much else. Please let me know if
> you can provide that information for me, and thanks in advance!
>
>
>
> Jessie Fan
>
> Senior Associate
>
> ESA
>
> 626.714.4611 direct
>
>
>
> From: Hilda Reyes [mailto:hilda.reyes@lacity.org]
> Sent: Thursday, July 13, 2017 9:41 AM
> To: Jessie Fan <JFan@esassoc.com>; Robert Duff
> <robert.duff@lacity.org>
> Subject: Times Mirror Square Project - Fire Services Information
>
>
>
> Good morning,
>
>
>

> Please refer to the attached: Request for Fire Service Information
> FAQ's handout as a guide to access requested information.
>
>
>
> Fire Flow requirement for Times Mirror Square Project is 6,000 - 9,000 GPM.
> Contact Aida Fitton at DWP 213-367-1204 for Fire Flow availability
> report for 6,000 - 9,000 GPM.
>
>
>
> --
>
> Please see the attached items
>
> Thank you,
>
> Hilda Reyes
>
> Student Professional Worker
>
> Fire Development Services Unit
>
> Los Angeles Fire Department
>
>

--
Robert E. Duff, Fire Inspector II
Fire Development Svcs/ Hydrants & Access Los Angeles Fire Department
201 N. Figueroa St. Ste 300
Los Angeles, CA 90012
(213) 482-6502

LOS ANGELES FIRE DEPARTMENT

Hydrants and Access Unit

Request For Fire Services Information: FAQ's

Q. Fire Stations that would serve the Project including the address and distance to the Project Site, as well as an identification of the first-in and backup stations.

A. Information can be attained at www.lafd.org (Fire Stations)

Q. A map of the service area and associated population for each of the fire stations that serve the Project Site.

A. Information can be attained at www.lafd.org (Fire Stations)

Q. Existing staffing levels (e.g., Captains, Firefighters, Paramedics, EMT's, HazMat-trained personnel) for each fire station serving the Project Site.

A. Information can be attained at www.lafd.org (Contact Area Fire Station)

Q. Equipment for each fire station serving the Project Site, including number of engines, trucks, rescue ambulances.

A. Information can be attained at www.lafd.org (Contact Area Fire Station)

Q. A description of any plans by LAFD to construct new or expand existing fire stations that would serve the Project. Incident data, by type of incident, on a monthly and annual basis for each fire station that would serve the project, and provide monthly data for the last two years and annual data for the last five years;

A. None Scheduled at this time.

Q. Indication of whether the response times and distances for each fire station serving the Project Site meet the performance standards of the LAFD.

A. Information can be attained at www.lafd.org (FIRESTATLA)

Q. The fire flow, hydrant, and residual water pressure requirements for the Project.

A. An Inspector will be assigned to forward requirements/recommendations.



FIRE STATION DIRECTORY

April 2016

LOS ANGELES FIRE DEPARTMENT

www.lafd.org

Ralph M. Terrazas
Fire Chief

For corrections or updates, please contact the Manuals and Orders Unit
e-mail Maria Lozano at: maria.lozano@lacity.org

FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address Business Phone(s)	City	Zip Code
1	LF, PA, RA	2 ☐	OCB ☐	2230 Pasadena Avenue **(213) 485-6201**	Los Angeles	90031 **(323) 223-9912** *FAX*
2	ALF, E, PA	1 ☐	OCB ☐	1962 E Cesar Chavez Ave. **(213) 485-6202**	Los Angeles	90033 **(213) 847-4464** *FAX*
3	TF, PA, RA, EL, CP, MST, URB	1 ☐	OCB ☑	108 N Fremont Avenue **(213) 485-6203**	Los Angeles	90012 *FAX*
4	AE, PA, EM,RA	1 ☑	OCB ☐	450 E Temple Street **(213) 485-6204** **(213) 485-6219**	Los Angeles	90012 **(213) 847-7325** *FAX*
5	LF, AE, PA, EM, URB	4 ☑	OWB ☐	8900 S Emerson Avenue **(213) 485-6205**	Los Angeles	90045 **(310) 202-2861** *FAX*
6	E, PA	11 ☐	OCB ☐	326 N Virgil Avenue **(213) 485-6206**	Los Angeles	90004 **(323) 644-3657** *FAX*
7	AE, PA	12 ☐	OVB ☐	14630 Plummer Street **(818) 892-4807**	Panorama City	91402 **(818) 895-5613** *FAX*
8	AE, BP	15 ☐	OVB ☐	11351 Tampa Avenue **(818) 756-8668**	Northridge	91324 **(818) 831-3237** *FAX*
9	AE,AT,RA	1 ☐	OCB ☐	430 E 7th Street **(213) 485-6209**	Los Angeles	90014 **(213) 485-2160** *FAX*
10	PA, RA, ALF	1 ☐	OCB ☐	1335 S Olive Street **(213) 485-6210**	Los Angeles	90015 **(213) 763-5193** *FAX*
11	PA, RA, ALF, AE	11 ☐	OCB ☐	1819 W 7th Street **(213) 485-6211**	Los Angeles	90057 **(213) 847-3825** *FAX*
12	TF,PA	2 ☐	OCB ☐	5921 N Figueroa Street **(213) 485-6212**	Los Angeles	90042 **(323) 913-4160** *FAX*
13	E,PA, EM	11 ☑	OCB ☐	2401 W Pico Blvd **(213) 485-6213**	Los Angeles	90006 **(323) 913-4164** *FAX*
14	PA, RA, AE	1 ☐	OCB ☐	3401 S Central Avenue **(213) 485-6214**	Los Angeles	90011 **(213) 763-5195** *FAX*
15	E, ALF, PA	13 ☐	OSB ☐	3000 S Hoover St. **(213) 485-6215**	Los Angeles	90007 **(213) 765-8346** *FAX*
16	AE	2 ☐	OCB ☐	2011 N Eastern Avenue **(213) 485-6216**	Los Angeles	90032 **(323) 226-1606** *FAX*
17	PA, FT, HMT, AE, AR	1 ☐	OCB ☐	1601 S Santa Fe Avenue **(213) 485-6217**	Los Angeles	90021 **(213) 485-5318** *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address / Business Phone(s)	City	Zip Code
18	AE, PA	15☐	OVB☐	12050 Balboa Blvd. **(818) 756-8618**	Granada Hills	91344 **(818) 832-7634** *FAX*
19	E, PA, BP	9☐	OWB☐	12229 Sunset Blvd. **(310) 575-8519**	Los Angeles	90049 **(310) 471-7891** *FAX*
20	ALF, PA, RA	11☐	OCB☐	2144 W Sunset Blvd. **(213) 485-6220**	Los Angeles	90026 **(213) 207-2101** *FAX*
21	PA, TF, RM, SQ, RA	13☐	OSB☐	1192 E 51st Street **(213) 485-6221**	Los Angeles	90011 **(213) 485-6153** *FAX*
23	AE, PA, BP	9☐	OWB☐	17281 Sunset Blvd. **(310) 575-8523**	Pacific Palisades	90272 **(213) 230-0592** *FAX*
24	AE	12☐	OVB☐	9411 Wentworth Street **(818) 756-8624**	Sunland	91040 **(818) 353-3063** *FAX*
25	AE, PA	1☐	OCB☐	2927 E Whittier Blvd. **(213) 485-6225**	Los Angeles	90023 **(213) 485-9812** *FAX*
26	AE, LF, PA, RA	11☐	OCB☐	2009 S Western Avenue **(213) 485-6226**	Los Angeles	90018 **(213) 763-5198** *FAX*
27	TF, PA, RA, UR	5☑	OWB☐	1327 N Cole Avenue **(213) 485-6227**	Los Angeles	90028 **(323) 957-6411** *FAX*
28	AE, RA , BP	15☐	OVB☐	11641 Corbin Avenue **(818) 756-9728**	Northridge	91326 **(818) 756-9779** *FAX*
29	TF, PA, RA, DECON	11☐	OCB☐	4029 W Wilshire Blvd. **(213) 485-6229**	Los Angeles	90010 **(213) 738-5603** *FAX*
31		☐	☐	Future fire station	Los Angeles	*FAX*
33	AE, ALF, RA, PA	13☑	OSB☐	6406 S Main Street **(213) 485-6233**	Los Angeles	90003 **(213) 485-2483** *FAX*
34	AE, PA, RA	18☐	OSB☐	3661 S 7th Avenue **(213) 485-6234**	Los Angeles	90018 **(213) 763-5199** *FAX*
35	ALF, PA, RA, BP	5☐	OWB☐	1601 N Hillhurst Avenue **(213) 485-6235**	Los Angeles	90027 **(323) 913-4165** *FAX*
36	AE,PA, FT	6☐	OSB☐	1005 N. Gaffey Street **(310) 548-2836**	San Pedro	90732 **(310) 548-7748** *FAX*
37	E, ALF, PA	9☑	OWB☐	1090 S Veteran Avenue **(310) 575-8537**	Los Angeles	90024 **(310) 208-8191** *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address / Business Phone(s)	City	Zip Code
38	E, PA, HMT	6 ☐	OSB ☐	124 E "I" Street **(310) 548-7538**	Wilmington	90744 **(310) 513-2141** *FAX*
39	E, ALF, PA	10 ☑	OVB ☐	14415 Sylvan Street **(818) 756-8639**	Van Nuys	91401 **(818) 756-7596** *FAX*
40	AE, RAT	6 ☐	OSB ☐	330 Ferry Street **(310) 548-7540**	Terminal Island	90731 **(310) 548-2815** *FAX*
41	E, PA, BP	5 ☐	OWB ☐	1439 N Gardner Street **(213) 485-6241**	Los Angeles	90046 **(323) 847-3194** *FAX*
42	AE	2 ☐	OCB ☐	2021 Colorado Blvd. **(213) 485-6242**	Los Angeles	90041 **(323) 257-9419** *FAX*
43	E, PA	18 ☐	OSB ☐	3690 S. Motor Ave. **(310) 840-2143**	Los Angeles	90034 **(310) 842-9596** *FAX*
44	AE, RA, BP, SW	2 ☐	OCB ☐	1410 Cypress Avenue **(213) 485-6244**	Los Angeles	90065 **(323) 224-0934** *FAX*
46	AE, (2)PA, RA, EM	13 ☐	OSB ☐	4370 S Hoover Street **(213) 485-6246**	Los Angeles	90037 **(323) 846-3939** *FAX*
47	E, PA, BP, EM	2 ☐	OCB ☐	4575 Huntington Dr. South **(213) 485-6247**	Los Angeles	90032 **(323) 226-1608** *FAX*
48	AE, LF, RA, SQ	6 ☐	OSB ☐	1601 S Grand Avenue **(310) 548-7548**	San Pedro	90731 **(310) 548-2816** *FAX*
49	AE, BT3 & BT4	6 ☑	OSB ☐	400 Yacht Street,Berth 194 **(310) 548-7549**	Wilmington	90744 **(310) 548-2922** *FAX*
50	ALF, RA	2 ☐	OCB ☐	3036 Fletcher Drive **(213) 485-6250**	Los Angeles	90065 **(323) 913-4162** *FAX*
51	AE, PA	4 ☐	OWB ☐	10435 Sepulveda Blvd. **(213) 485-6251**	Los Angeles	90045 **(310) 568-9842** *FAX*
52	AE, PA	5 ☐	OWB ☐	4957 Melrose Avenue **(213) 485-6252**	Los Angeles	90029 **(213) 485-6240** *FAX*
55	E, PA	2 ☑	OCB ☐	4455 E York Blvd. **(213) 485-6255**	Los Angeles	90041 **(213) 847-4463** *FAX*
56	AE, PA, HR	5 ☐	OWB ☐	2759 Rowena Avenue **(213) 485-6256** **(213) 847-4634**	Los Angeles	90039 **(323) 913-4169** *FAX*
57	AE, 2PA, RA	13 ☐	OSB ☐	7800 S Vermont Avenue **(213) 485-6257**	Los Angeles	90044 **(323) 971-0402** *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address Business Phone(s)	City	Zip Code
58	AE, PA, RA	18☐	OSB☐	1556 S Robertson Blvd. **(213) 485-6258**	Los Angeles	90035 **(323) 957-7085** *FAX*
59	AE, PA, EM, RAT	9☐	OWB☐	11505 W Olympic Blvd. **(310) 575-8559**	Los Angeles	90064 **(310) 479-3492** *FAX*
60	E, ALF, PA, RA, FT	14☑	OVB☐	5320 Tujunga Avenue **(818) 756-8660**	North Hollywood	91601 **(818) 755-7636** *FAX*
61	TF, PA, RA	18☐	OSB☐	5821 W 3rd Street **(213) 485-6261**	Los Angeles	90036 **(323) 957-0087** *FAX*
62	AE,PA	4☐	OWB☐	11970 W Venice Blvd. **(310) 397-2662**	Los Angeles	90066 **(310) 391-7091** *FAX*
63	TF, PA (310) 306-9934 (310) 827-2696	4☐	OWB☐	1930 Shell Avenue **(310) 575-8563**	Venice	90291 **(310) 306-4162** *FAX*
64	E, ALF, (2)PA, RA	13☐	OSB☐	10811 S Main St. **(213) 485-6264**	Los Angeles	90061 **(323) 241-1825** *FAX*
65	AE, PA, RA	13☐	OSB☐	1801 E Century Blvd. **(213) 485-6265**	Los Angeles	90002 **(323) 789-4945** *FAX*
66	AE, ALF, (2)PA, RA	13☐	OSB☐	1909 W Slauson Avenue **(213) 485-6266**	Los Angeles	90047 **(213) 364-7370** *FAX*
67	AE, RA	4☐	OWB☐	5451 Playa Vista Drive **(310) 862-2844**	Los Angeles	90094 **(310) 862-2846** *FAX*
68	E, PA	18☑	OSB☐	5023 W Washington Blvd. **(213) 485-6268**	Los Angeles	90019 **(323) 938-4870** *FAX*
69	ALF, PA, RA	9☐	OWB☐	15045 Sunset Blvd. **(310) 575-8569**	Pacific Palisades	90272 **(310) 230-9352** *FAX*
70	AE,PA, EM	15☑	OVB☐	9861 Reseda Blvd. **(818) 756-7670**	Northridge	91324 **(818) 756-7906** *FAX*
71	AE, PA	9☐	OWB☐	107 S Beverly Glen Blvd. **(310) 575-8571**	Los Angeles	90024 **(310) 234-9272** *FAX*
72	AE, PA	17☐	OVB☐	6811 De Soto Avenue **(818) 756-8672**	Canoga Park	91303 **(818) 610-1617** *FAX*
73	ALF, PA, RA	17☐	OVB☐	7419 Reseda Blvd. **(818) 756-8673**	Reseda	91335 **(818) 756-7915** *FAX*
74	ALF, PA, BP, RA	12☐	OVB☐	7777 Foothill Blvd. **(818) 756-8674**	Tujunga	91042 **(818) 352-6762** *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address / Business Phone(s)	City	Zip Code
75	ALF, PA, HMT, RA	12☐	OVB☐	15345 San FernandoMission **(818) 756-8675**	Mission Hills	91340 **(818) 623-4160** *FAX*
76	AE, PA	5☐	OWB☐	3111 N Cahuenga Blvd. **(213) 485-6276**	Los Angeles	90068 **(323) 882-6522** *FAX*
77	AE, PA, WT	12☐	OVB☐	9224 Sunland Blvd. **(818) 756-8677**	Sunland	91352 **(818) 767-1077** *FAX*
78	ALF, PA, EM, RA, AR	14☐	OVB☐	4041 Whitsett Avenue **(818) 756-8678**	Studio City	91604 **(818) 623-4160** *FAX*
79	AE, PA	6☐	OSB☐	18030 S Vermont Avenue **(310) 548-7579**	Gardena	90247 **(310) 787-4685** *FAX*
80	CR, FM	4☐	OWB☐	7250 World Way West **(213) 978-2180**	Los Angeles	90045 **(310) 645-0991** *FAX*
81	AE, PA, RA, RAT	10☐	OVB☐	14355 W Arminta Street **(818) 756-8681**	Panorama City	91402 **(818) 374-5875** *FAX*
82	E, PA	5☐	OWB☐	5769 W Hollywood Blvd. **(213) 485-6282**	Los Angeles	90028 **(323) 957-7082** *FAX*
83	AE, PA, BP,WT, ELT, MST	10☐	OVB☐	4960 Balboa Blvd. **(818) 756-8683** **(818) 310-1055**	Encino	91316 **(818) 386-2906** *FAX*
84	AE, PA, BP,EM	17☑	OVB☐	21050 W Burbank Blvd. **(818) 756-8684**	Woodland Hills	91367 **(818) 756-7906** *FAX*
85	TF, PA, UR, MST, ELT	6☐	OSB☐	1331 W 253rd Street **(310) 548-7585**	Harbor City	90710 **(310) 548-2823** *FAX*
86	AE, PA, SW, BP	14☐	OVB☐	4305 Vineland Avenue **(818) 756-8686**	North Hollywood	91602 **(818) 755-7638** *FAX*
87	E, ALF, PA, SQ	15☐	OVB☐	10124 Balboa Blvd. **(818) 756-8687** **(818) 756-0967**	North Hills	91343 **(818) 366-0708** *FAX*
88	E, ALF, PA, UR, TR, EA, WT	10☐	OVB☑	5101 N Sepulveda Blvd. **(818) 756-8688**	Sherman Oaks	91403 **(818) 756-9646** *FAX*
89	E, ALF, PA, RA, URB (818) 765-9941 (818) 765-9942	14☐	OVB☐	7063 Laurel Canyon Blvd. **(818) 756-8689**	North Hollywood	91605 **(818) 756-7921** *FAX*
90	TF, PA , AE	10☐	OVB☐	7921 Woodley Avenue **(818) 756-8690**	Van Nuys	91406 **(818) 756-1623** *FAX*
91	AE, PA	12☐	OVB☐	14430 Polk Street **(818) 756-8691**	Sylmar	91342 **(818) 362-9412** *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address / Business Phone(s)	City	Zip Code
92	ALF, PA, RA	18☐	OSB☐	10556 W Pico Blvd. (310) 840-2192	Los Angeles	90064 (213) 847-1669 *FAX*
93	TF, PA	17☐	OVB☐	19059 Ventura Blvd. (818) 756-8693	Tarzana	91356 (818) 756-7916 *FAX*
94	AE,LF, PA, RA, BP	18☐	OSB☐	4470 Coliseum Street (213) 485-6294	Los Angeles	90016 (213) 485-1424 *FAX*
95	TF, PA, SQ	4☐	OWB☐	10010 International Road (213) 485-6295	Los Angeles	90045 (310) 342-3128 *FAX*
96	ALF, PA, RA	15☐	OVB☐	21800 Marilla Street (818) 756-8696	Chatsworth	91311 (818) 756-7907 *FAX*
97	AE, PA	14☐	OVB☐	8021 Mulholland Drive (818) 756-8697	Los Angeles	90046 (323) 957-7089 *FAX*
98	E, ALF, PA, RA, DECON, BP	12☑	OVB☐	13035 Van Nuys Blvd. (818) 756-8698	Pacoima	91331 (818) 834-5159 *FAX*
99	AE, PA	10☐	OVB☐	14145 Mulholland Drive (818) 756-8699	Beverly Hills	90210 (818) 756-7920 *FAX*
100	E, PA, FT, SW	10☐	OVB☐	6751 Louise Avenue (818) 756-8600	Van Nuys	91406 (818) 345-8476 *FAX*
101	E, PA	6☐	OSB☐	1414 W 25th Street (310) 548-7501	San Pedro	90732 (310) 548-7712 *FAX*
102	AE, PA	14☐	OVB☐	13200 Burbank Blvd. (818) 756-8602	Van Nuys	91401 (818) 756-7904 *FAX*
103	AE, RA	15☐	OVB☐	18143 Parthenia Street (818) 756-8603	Northridge	91325 (818) 756-7908 *FAX*
104	E, PA	17☐	OVB☐	8349 Winnetka Avenue (818) 756-8604	Canoga Park	91306 (818) 886-3817 *FAX*
105	ALF, PA, E	17☐	OVB☐	6345 Fallbrook Avenue (818) 756-8605	Woodland Hills	91364 (818) 756-7913 *FAX*
106	AE, PA , FD	17☐	OVB☐	23004 Roscoe Blvd. (818) 756-8606	West Hills	91304 (818) 756-7914 *FAX*
107	E, PA	15☐	OVB☐	20225 Devonshire Street (818) 756-8607	Chatsworth	91311 (818) 341-5635 *FAX*
108	AE	14☐	OVB☐	12520 Mulholland Drive (818) 756-8608	Beverly Hills	90210 (310) 860-9616 *FAX*

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FIRE STATION LOCATIONS

Fire Sta	Resource Grapevine(s)	Bn HQ	Dv HQ	Address / Business Phone(s)	City	Zip Code
109	AE, RA, BP	10☐	OVB☐	16500 Mulholland Drive **(818) 756-8609**	Los Angeles	90049 **(310) 472-0924** *FAX*
110	BT5	6☐	OSB☐	2945 Miner Street, Berth 44A **(310) 548-7545**	San Pedro	90731 **(310) 548-2819** *FAX*
111	BT1	6☐	OSB☐	1444 S Seaside Ave., Berth 256 **(310) 548-7541**	Terminal Island	90731 **(310) 548-2926** *FAX*
112	E, PA, BT2	6☐	OSB☐	444 S Harbor Blvd, Berth 86 **(310) 548-7542**	San Pedro	90731 **(310) 548-7542** *FAX*
114	HELICOPTERS, CR, FM (818) 782-1430	10☐	OVB☐	16617 Arminta Street **(818) 756-8635**	Van Nuys	91406 **(818) 756-4094** *FAX*

RESOURCES LEGEND

AE	Assessment Engine
ALF	Assessment Light Force
AR	Arson Investigation Unit
BP	Brush Patrol
BT	Fireboat
CP	Command Post Vehicle
CR	Airport Crash Rescue
CT	Bicycle Medic Team
DECON	Decon Tender
E	Engine
EL	Emergency Lighting Unit
ELT	Emergency Lighting Trailer
EM	EMS Battalion Captain
FD	Fuel Tender-Diesel
FM	Airport Foam
FT	Foam Tender
HMT	Haz-Mat Tender
HR	Heavy Rescue (& Back-up)
LF	Light Force
MST	Medical Supply Trailer
PA	Paramedic Rescue Ambulance
RA	BLS Rescue Ambulance
RAT	Rehab Air Tender
SQ	Haz-Mat Squad
SW	Swift Water Rescue Team
T	Truck
TF	Task Force
TR	Tractor Company
TU	Tunnel Utility
UR	Urban Search & Rescue
URB	Back-up US&R Apparatus
WT	Water Tender

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DEPARTMENT OFFICES

CITY HALL EAST
200 N. MAIN STREET, LOS ANGELES, CA 90012

Headquarters (Information)	**(213) 485-5971**
Administration, Room 1800	(213) 978-3800…..FAX (213) 978-3815
Public Service Officer (24 Hours)	(213) 576-8938
Administrative Services Bureau, Room 1630	(213) 978-3422…..FAX (213) 978-3414
Fire Prevention & Public Safety Bureau, Room 1700	(213) 978-3570…..FAX (213) 978-3516
Training and Support Services Bureau, Room 1680	(213) 978-3500…..FAX (213) 978-3514
Emergency Operations, Room 1860	(213) 978-6300…..FAX (213) 978-3818
Metro Fire Communications, 500 E. Temple St	(213) 576-8900…..FAX (213) 576-2001
Metro Fire Communications Floor Captain	(213) 576-8920
Metro Fire Communications Battalion Commander	(213) 576-8910
Administrative Operations, Room 1890	(213) 978-3855…..FAX (213) 978-3817
Professional Standards Division, Room 1870	(213) 978-2107…..FAX (213) 978-3004
Personnel Services Section, Room 1600	(213) 978-3770…..FAX (213) 978-3618

FRANK HOTCHKIN MEMORIAL TRAINING CENTER
1700 STADIUM WAY, LOS ANGELES, CA 90012

Arson/Counter-Terrorism Section, Room 109	(213) 893-9800…..FAX (213) 893-9801
In-Service Training Section, Room 101	(213) 893-9890…..FAX (213) 485-8478
Recruit Services Section, Room 114	(213) 893-9899…..FAX (213) 473-5367
Quality Assurance Unit, Room 110	(213) 893-9502…..FAX (213) 485-0355
EMS Training Unit	(213) 893-9877…..FAX (213) 473-4203

FIGUEROA PLAZA
201 N. FIGUEROA STREET, LOS ANGELES, CA 90012

Medical Liaison Unit, Room 650	(213) 202-3440…..FAX (213) 202-3417
Risk Management Section, Room 650	(213) 482-6933
Behavioral Health &Wellness Program, Room 900B	(213) 202-3466…..FAX (213) 482-6940
EMS Quality Improvement Section, Room 650	(213) 202-9970…..FAX (213) 202-9918
Public Access Defibrillator (PAD), Room 650	(213) 202-9900…..FAX (213) 202-9911
Building Administration Section and Fire Facilities Div….	(213) 202-3455…..FAX (213) 580-9918
221 N. Figueroa St., Suite 1600	

BUREAU OF FIRE PREVENTION BRANCH OFFICES

Harbor Industrial Unit, 638 Beacon St., Room 530, San Pedro, 90731…….(310) 732-4580…FAX (310) 732-4579
Valley Fire Prevention, 6262 Van Nuys Blvd., Van Nuys, 91401……(818) 374-1110…FAX (818) 778-4911
Brush Clearance Unit, 6262 Van Nuys Blvd., Room 451, Van Nuys, 91401……(800) 994-4444…FAX (818) 778-4910
West Industrial Unit, 7166 W. Manchester Ave., Los Angeles, 90045……(213) 473-7700…FAX (213) 473-7702
Fire Development Services Section, Fire/Life Safety Plan Check and Field Inspections……
201 N. Figueroa Street, 3rd Floor , Los Angeles, 90012……(213) 482-6900…FAX (213) 482-6922
Hydrants and Access, ……(213) 482-6543…FAX (213) 482-6511
201 N. Figueroa Street, 3rd Floor, Los Angeles, 90012……

OUTLYING OFFICES

Disaster Preparedness Unit, 5101 N. Sepulveda Blvd., Sherman Oaks, 91403….(818) 756-9674...FAX (818) 756-9681
Supply and Maintenance Division, 140 N. Ave 19, Los Angeles, 90031……(213) 485-6103...FAX (213) 485-8993
Wildland Management Unit, 5101 N. Sepulveda, Sherman Oaks, 91403……(818) 756-9674…FAX (818) 756-9681
Operations Central Bureau, 108 N. Fremont Ave., Los Angeles, 90012……(213) 580-0061…FAX (213) 485-6292
Operations Valley Bureau, 4960 Balboa Blvd., Encino, 91316……(818) 756-8638…FAX (818) 728-9931
Operations West Bureau, 1800 Bronson Ave., Los Angeles, 90028……(323) 957-4121…FAX (323) 957-4509
Operations South Bureau, 638 S. Beacon Street, San Pedro, 90731……(310) 548-2567…FAX (310) 548-5557

DEPARTMENT OFFICES CONT.

RECRUIT TRAINING

Frank Hotchkin Memorial Training Center, Training Academy,
1700 Stadium Way, Los Angeles, 90012.....(213) 473-3767...FAX (213) 473-5367
Drill Tower 40, Harbor Recruit Training Academy, MS 833
330 Ferry St., Terminal Island, 90731.....(310) 548-7555...FAX (310) 548-2123
Drill Tower 81,Valley Recruit Training Academy,
14345 Arminta St., Panorama City, 91402.....(818) 374-4843,44,45...FAX (818) 374-4846

HELICOPTERS

Air Operations, 16617 Arminta St. , Van Nuys, 91406.....(818) 756-8635...FAX (818) 756-4094

RELATED ORGANIZATIONS

African American Firefighter Museum, **www.aaffmuseum.org**,
1401 Central Ave., LA, 90021, ...(213) 744-1730

Los Angeles Firefighters' Association, **www.losangelesfirefighters.org**
2712 Foothill Blvd., Suite A, La Crescenta, 91214.....(213) 386-3316

Los Angeles City Fire Department Chief Officers' Association, **www.lacitychiefs.net**
P.O. Box 2287, LA, 90053-2287.....(323) 255-2276.....FAX (323) 255-2276

Firefighters First Credit Union , **www.FFCU.org**.....(323) 254-1700
815 Colorado Blvd., Los Angeles, 90041.....(800) 231-1626

Los Angeles Fire Department Historical Society, **www.lafdhs.com**
1355 North Cahuenga Blvd., LA, 90028..... .....(323) 464-2727

Los Angeles Firemen's Relief Association, **www.lafra.org**.....(323) 259-5200
7470 N. Figueroa St., Los Angeles, CA 90041.....(800) 244-3439

Los Angeles Firemen's Relief Association Grapevine Magazine, **www.lafra.org**

Los Angeles Retired Fire and Police Assoc., 9521 Las Tunas Drive, Suite 4, Temple City, 91780.....(626) 285-5138

Los Angeles Firefighters Sertoma Club, P.O. Box 4394, Torrance, 90503.....(No phone mail only)

Los Bomberos, P.O. Box 532743, LA, 90053-2743.....(No phone mail only)

Firefighters for Christ International—Los Angeles Chapter, **www.fflosangeles.com**
19081 Calle Eduardo, Murrieta, CA 92562 .....FAX(949) 733-3948..(714) 427-0007

Stentorians, **www.stentorians.org**
1409 W. Vernon Ave., Los Angeles, 90012.....FAX(323) 294-1223..(323) 294-4143

United Firefighters of Los Angeles City AFL/CIO Local 112(UFLAC)
1571 Beverly Blvd., Suite 201, Los Angeles, 90026.....FAX(213) 250-5678 (213) 895-4006

Los Angeles Women in the Fire Service (LAWFS), **www.LAWFS.org**
645 W. 9th St., Unit 110-321, Los Angeles, 90013.....(978) 595-2937

Los Angeles County Fire Department Headquarters, **http://www.fire.lacounty.gov**
1320 N. Eastern Ave., Los Angeles, 90063.....FAX(323) 881-2362 (323) 881-2411

Fire and Police Pensions, **www.lafpp.com**
360 E. 2nd St., Suite 400, Los Angeles, 90012..... .....(213) 978-4545

K-3 Los Angeles Unified School District Correspondence

LOS ANGELES UNIFIED SCHOOL DISTRICT

Facilities Services Division

DATE: July 11, 2017

TO: Jessie Fan, Senior Associate
ESA | Environmental Science Associates
80 South Lake Avenue, Suite 570
Pasadena, CA 91101

FROM: Rena Perez, Director
Master Planning & Demographics

SUBJECT: Environmental Impact Report Information Requested for: ***TIMES MIRROR SQUARE PROJECT,*** *located generally at 100 S. Broadway within the Central City Community Plan area of the City of Los Angeles. The project site is located on an approximately 3.6 acre (five parcels totaling 160,578 square feet) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway in the Center City/Historic Core District of Downtown Los Angeles. The project will generate a total of 1,127 residential units, and retail uses.*

Included please find a ***LAUSD Schools Enrollments and Capacities Report*** for the schools that may be impacted by the development project(s) in question. This report contains data on each school's current and projected capacities, enrollments, and school calendars, and is designed to address any questions pertaining to overcrowding and factors related to school capacity.

Please note that no new school construction is planned and the data in this report *already take into account* portable classrooms on site, additions being built onto existing schools, student permits and transfers, specific educational programs running at the schools, and any other operational activities or educational programming that affects the capacities and enrollments of LAUSD's schools.

Additional information on LAUSD's Capital Improvement programs can be found on LAUSD's Facilities Services Division main webpage at www.laschools.org.

MASTER PLANNING AND DEMOGRAPHICS RESPONSE TO SPECIFIC QUESTIONS

Questions: 1, 3, 5-6 The project is located in a **High School** attendance choice/option area. Please see LAUSD Schools Enrollments and Capacities Report details;

Question: 2 Please contact the LAUSD Developer Fee Program Office (DFPO) at (213) 241-0715 for more information regarding fees and student generation rates.

ATTACHMENTS

1. LAUSD SCHOOLS ENROLLMENTS AND CAPACITIES REPORT
2. BOUNDARY DESCRIPTIONS FOR SCHOOLS SERVING PROPOSED PROJECT
   Boundary descriptions for existing schools identified as serving the proposed project

Sincerely,

Rena Perez, Director V. MAFFEI FOR R. PEREZ

Los Angeles Unified School District - Facilities Services Division: School Management Services, Master Planning and Demographics
333 S. Beaudry Ave., 23rd Floor, Los Angeles, CA 90017
Telephone (213) 241-8044 • Fax (213) 241-2077

LAUSD SCHOOLS ENROLLMENTS AND CAPACITIES

PROJECT SERVED: Times Mirror Square Project, located generally at 100 S. Broadway within the Central City Community Plan area of the City of Los Angeles. The project site is located on an approximately 3.6 acre (five parcels totaling 160,578 square feet) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway in the Center City/Historic Core District of Downtown Los Angeles. The project will generate a total of 1,127 residential units, and retail uses.

SCHOOL YEAR: 2016-2017

(Current and projected enrollments/capacities reflect data from School Year (SY) 2016-17.)

1	2	3	4	5	6	7	8	9	10	11	12
Cost Center Code	School Name	Current Calendar	Current Capacity	Resident Enrollment	Actual Enrollment	**Current seating overage/(shortage)**	Overcrowded **Now**?	Projected Capacity	Projected Enrollment	**Projected seating overage/(shortage)**	Overcrowding Projected in **Future**?
1550501	9th St El	1 TRK	360	287	342	73	**No**	324	381	(57)	**Yes**
1804501	Castro MS	1 TRK	462	688	359	(226)	**Yes**	430	652	(222)	**Yes**
a	**SCHOOL CHOICE AREA TOTALS (schools listed below)**	**-**	**7041**	**6932**	**5331**	**109**	**Yes**	**6618**	**6880**	**(262)**	**Yes**
	BELMONT HS ZONE OF CHOICE										
1820701	Contreras LC ALC	1 TRK	453	-	431	-	-	426	-	-	-
1851601	Cortines Sch of VAPA	1 TRK	1796	-	1470	-	-	1688	-	-	-
1851701	Contreras LC Bus Tr	1 TRK	511	-	446	-	-	480	-	-	-
1852701	Contreras LC Soc Jus	1 TRK	521	-	477	-	-	490	-	-	-
1854301	Belmont SH	1 TRK	1861	-	975	-	-	1749	-	-	-
1854401	Roybal LC	1 TRK	1507	-	1188	-	-	1417	-	-	-
1877401	Contreras LC Glbl St	1 TRK	392	-	344	-	-	368	-	-	-

[a] Schools & programs that are part of a "school choice area" pull enrollments from the school(s) that have resident areas, as defined by attendance boundaries.

The individual school and calculated total capacities and enrollments for school choice areas are reported to show current and projected seating overage/shortage and overcrowding (shaded green color).

If any of the school choice area schools is multi-track, then the service area is considered overcrowded.

Schools Planned to Relieve Known Overcrowding

NONE

see next page

NOTES:

[1] School's ID code.

[2] School's name

[3] The current calendar the school is operating on. Schools operate on a 'multi-track' calendar (listed as 4 TRK), because of overcrowded conditions.

[4] School's current operating capacity, or the maximum number of students the school can serve while operating on its current calendar. Excludes capacity allocated to charter co-locations. Includes capacity for magnet program.

[5] The total number of students living in the school's attendance area and who are eligible to attend the school plus students enrolled at any on-site magnet centers.
-Multi-track calendars are utilized as one method of providing relief to overcrowded schools by increasing enrollment capacities.
-A key goal of the Superintendent and Board of Education is to return all schools to a traditional 2-semester calendar (1 TRK).

[6] The number of students actually attending the school now, including magnet students.

[7] Current seating overage or (shortage): equal to (current capacity) - (resident enrollment).

[8] Current overcrowding status of school. The school is currently overcrowded if any of these conditions exist:
-School is currently on a multi-track calendar.
-There is currently a seating shortage.
-There is currently a seating overage of LESS THAN or EQUAL TO a 'safety margin' of 20 seats.

[9] School planning capacity. Formulated from a baseline calculation of the number of eligible classrooms after implementing LAUSD operational goals and shifting to a 2-semester (1 TRK) calendar. Includes capacity allocated to by charter co-locations. Includes capacity for magnet programs.

[10] Projected 5-year total number of students living in the school's attendance area and who are eligible to attend the school. Includes magnet students.

[11] Projected seating overage or (shortage): equal to (projected capacity) - (projected enrollment).

[12] Projected overcrowding status of school. The school will be considered overcrowded in the future if any of these conditions exist:
-School remains on a multi-track calendar.
-There is a seating shortage in the future.
-There is a seating overage of LESS THAN or EQUAL TO a 'safety margin' of 20 seats in the future.

* Independent Charter: Capacity and/or enrollment information may not be reported for some independent charters.

‡ Magnet Schools with Resident Kindergarten Enrollment: Resident enrollment is reported for Kindergarten only. Actual enrollment is reported for all grades in school. Projected capacities and enrollments not reported.

LOS ANGELES UNIFIED SCHOOL DISTRICT
Facilities **S**ervices **D**ivision

LOC. CODE: 5505 **COST CENTER:** 1550501

SUBJECT: NEW SERVICE BOUNDARY DESCRIPTION FOR NINTH STREET SCHOOL EFFECTIVE JULY 1, 2013.

The area described below has been approved as the attendance area served by the above-mentioned school. The description starts at the most northwesterly corner and follows the streets in clockwise order. Boundaries are on the center of the street unless otherwise noted.

This boundary supersedes boundary effective July 1, 1984 (updated 7-1-1994, 7-1-2009).

This is an official copy for your file.

(GRADES K - 5)

FIRST STREET * ALAMEDA STREET * FOURTH STREET * LOS ANGELES RIVER * 15TH STREET AND EXTENSION * CENTRAL AVENUE * 14TH PLACE * SAN PEDRO STREET * 14TH STREET AND EXTENSION * MAIN STREET * 14TH STREET * HILL STREET * VENICE BOULEVARD * HOPE STREET AND EXTENSION * FOURTH STREET * OLIVE STREET.

For assistance, please call Master Planning & Demographics, Facilities Services Division, at (213) 241-8044.

APPROVED: MARK HOVATTER, Chief Facilities Executive, Facilities Services Division

DISTRIBUTION: School
Transportation Branch
Master Planning and Demographics
Office of Environmental Health and Safety
Department of Transportation, City of L. A.

LOS ANGELES UNIFIED SCHOOL DISTRICT
Facilities **S**ervices **D**ivision

LOC. CODE: 8045 **COST CENTER:** 1804501

SUBJECT: UPDATE BOUNDARY DESCRIPTION FOR SAL CASTRO MIDDLE SCHOOL EFFECTIVE JULY 1, 2011 (UPDATED 7-1-2013).

Reconfiguration has changed the grade levels serviced by this school and the boundary description has been updated to reflect this change. This updating does not change the intent of the boundary as it was approved on July 1, 2011. The description starts at the most northwesterly corner and follows the streets in clockwise order. Boundaries are on the center of the street unless otherwise noted.

This is an official copy for your file.

(GRADES 6 - 8)

COURT STREET * BELMONT AVENUE * TEMPLE STREET * GLENDALE BOULEVARD * BELLEVUE AVENUE * WEST EDGEWARE ROAD (BOTH SIDES) * EAST EDGEWARE ROAD (BOTH SIDES) * A LINE EASTERLY, THROUGH AND EXCLUDING 800 AND 801 EAST KENSINGTON ROAD, TO THE INTERSECTION OF SUNSET BOULEVARD AND INNES AVENUE * INNES AVENUE (BOTH SIDES EXCLUDED) * EVERETT PLACE AND EXTENSION (BOTH SIDES) * EVERETT STREET (BOTH SIDES) * SUNSET BOULEVARD * BEAUDRY AVENUE (BOTH SIDES EXCLUDED) * HOLLYWOOD FREEWAY * SANTA ANA FREEWAY * MAIN STREET * THIRD STREET * HARBOR FREEWAY * SECOND STREET * FIRST STREET * BEVERLY BOULEVARD TO LOMA DRIVE * BEVERLY BOULEVARD (BOTH SIDES) * UNION PLACE (BOTH SIDES) * THIRD STREET * CARONDELET STREET (BOTH SIDES EXCLUDED) * BEVERLY BOULEVARD * ALVARADO STREET.

(GRADES 7 - 8)

BEVERLY BOULEVARD (BOTH SIDES EXCLUDED) TO LOMA DRIVE * BEVERLY BOULEVARD * FIRST STREET * SECOND STREET * HARBOR FREEWAY * THIRD STREET * UNION PLACE (BOTH SIDES EXCLUDED).

OPTIONAL: CASTRO MIDDLE AND CAMINO NUEVO CHARTER ACADEMY No. 4 SCHOOLS

(GRADES 6 – 8)

HOLLYWOOD FREEWAY * GLENDALE BOULEVARD * TEMPLE STREET * BELMONT AVENUE * COURT STREET * ALVARADO STREET.

For assistance, please call Master Planning & Demographics, Facilities Services Division, at (213) 241-8044.

APPROVED: MARK HOVATTER, Chief Facilities Executive, Facilities Services Division

DISTRIBUTION: School
Transportation Branch
Master Planning and Demographics
Office of Environmental Health and Safety
Department of Transportation, City of L. A.

LOS ANGELES UNIFIED SCHOOL DISTRICT
Facilities **S**ervices **D**ivision

LOC. CODE: 8543 **COST CENTER:** 1854301

SUBJECT: CLARIFICATION OF THE BOUNDARY DESCRIPTION FOR BELMONT HIGH SCHOOL EFFECTIVE JULY 1, 2013 (CLARIFIED 7-1-2014; 7-1-2015; 7-1-2016).

This clarification of the existing boundary description does not change the intent of the boundary as it was approved on July 1, 2013 (clarified 7-1-2014, 7-1-2015). The description starts at the most northwesterly corner and follows the streets in clockwise order. Boundaries are on the center of the street unless otherwise noted.

This is an official copy for your file.

BELMONT ACADEMIC ZONE

(GRADES 9 - 12)

MELROSE AVENUE * NORMANDIE AVENUE * HOLLYWOOD FREEWAY * VERMONT AVENUE * BEVERLY BOULEVARD * TEMPLE STREET * SILVER LAKE BOULEVARD * BELLEVUE AVENUE * MICHELTORENA STREET * MARATHON STREET * RAMPART BOULEVARD * SUNSET BOULEVARD * ALVARADO STREET * EFFIE STREET AND EXTENSION INCLUDING 1872 EFFIE STREET, 1698 AND 1699 LEMOYNE STREET, AND 1698 AND 1699 LUCRETIA AVENUE * LUCRETIA AVENUE * ECHO PARK AVENUE (BOTH SIDES EXCLUDED) * MORTON AVENUE (BOTH SIDES EXCLUDED) * MORTON PLACE, INCLUDING MORTON WALK (BOTH SIDES EXCLUDED) * SARGENT PLACE AND EXTENSION (BOTH SIDES, INCLUDING 1698 AND 1699 SARGENT PLACE, EXCLUDED) * ACADEMY ROAD AND EXTENSION EASTERLY AND SOUTHERLY TO THE INTERSECTION OF STADIUM WAY AND PASADENA FREEWAY * STADIUM WAY AND EXTENSION * NORTH SPRING STREET * ALAMEDA STREET * SIXTH STREET * MAIN STREET * PICO BOULEVARD * HARBOR FREEWAY * VENICE BOULEVARD * UNION AVENUE * PICO BOULEVARD * BONNIE BRAE STREET (BOTH SIDES EXCLUDED) * TWELFTH STREET * ALVARADO STREET * PICO BOULEVARD * VERMONT AVENUE * OLYMPIC BOULEVARD * WESTMORELAND AVENUE (BOTH SIDES EXCLUDED) * SAN MARINO STREET (BOTH SIDES EXCLUDED) TO ELDEN AVENUE * SAN MARINO STREET * HOOVER STREET * SEVENTH STREET (BOTH SIDES EXCLUDED) * WILSHIRE PLACE (BOTH SIDES EXCLUDED) * WILSHIRE BOULEVARD * WESTMORELAND AVENUE (BOTH SIDES EXCLUDED) * FOURTH STREET (BOTH SIDES) TO CATALINA STREET * FOURTH STREET * ALEXANDRIA AVENUE (BOTH SIDES) * THIRD STREET * KINGSLEY DRIVE * BEVERLY BOULEVARD * KINGSLEY DRIVE.

OPTIONAL: BELMONT ACADEMIC ZONE AND NORTHEAST ACADEMIC ZONE

NORTH SPRING STREET * BAKER STREET AND EXTENSION * LOS ANGELES RIVER * CESAR E. CHAVEZ AVENUE * ALAMEDA STREET.

(OVER)

OPTIONAL: BELMONT ACADEMIC ZONE AND SOTOMAYOR LEARNING ACADEMIES

WHITMORE AVENUE AND EXTENSION * LANDA STREET (BOTH SIDES, INCLUDING ALL OF TWIN OAK STREET) * LANDA STREET EXTENDED FROM THE INTERSECTION OF LANDA STREET AND STADIUM WAY * GOLDEN STATE FREEWAY * WEST BOUNDARY OF ELYSIAN PARK * ACADEMY ROAD * SARGENT PLACE AND EXTENSION (BOTH SIDES) EXCLUDING 1698 AND 1699 SARGENT PLACE * MORTON PLACE, INCLUDING MORTON WALK (BOTH SIDES) * MORTON AVENUE (BOTH SIDES) * ECHO PARK AVENUE (BOTH SIDES) * LUCRETIA AVENUE AND EXTENSION WESTERLY EXCLUDING 1698 AND 1699 LUCRETIA AVENUE, 1698 AND 1699 LEMOYNE STREET AND 1872 EFFIE STREET * EFFIE STREET AND EXTENSIONS * ALVARADO STREET AND EXTENSION.

Belmont Academic Zone: seven schools or educational programs that students will be able to make application to when resident to Belmont High School. For the current school year students have seven enrollment choices: Belmont High School, Academic Leadership Community at Miguel Contreras Learning Complex, Los Angeles School of Global Studies at Miguel Contreras Learning Complex, School of Business and Tourism at Miguel Contreras Learning Complex, School of Social Justice at Miguel Contreras Learning Complex, Ramon C. Cortines School of Visual and Performing Arts, and Edward Roybal Learning Center. All of these choices will serve grades 9-12.

For assistance, please call Master Planning & Demographics, Facilities Services Division, at (213) 241-8044.

APPROVED: MARK HOVATTER, Chief Facilities Executive, Facilities Services Division

DISTRIBUTION:
School
Transportation Branch
Master Planning and Demographics
Office of Environmental Health and Safety
Department of Transportation, City of L. A.

LAUSD SCHOOLS ENROLLMENTS AND CAPACITIES

PROJECT SERVED: Times Mirror Square Project, located generally at 100 S. Broadway within the Central City Community Plan area of the City of Los Angeles. The project site is located on an approximately 3.6 acre (five parcels totaling 160,578 square feet) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway in the Center City/Historic Core District of Downtown Los Angeles. The project will generate a total of 1,127 residential units, and retail uses.

SCHOOL YEAR: 2016-2017

(Current and projected enrollments/capacities reflect data from School Year (SY) 2016-17.)

1	2	3	4	5	6	7	8	9	10	11	12
Cost Center Code	School Name	Current Calendar	Current Capacity	Resident Enrollment	Actual Enrollment	**Current seating overage/(shortage)**	Overcrowded **Now**?	Projected Capacity	Projected Enrollment	**Projected seating overage/(shortage)**	Overcrowding Projected in **Future**?
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1804501	Castro MS	1 TRK	462	688	359	(226)	**Yes**	430	652	(222)	**Yes**
a	**SCHOOL CHOICE AREA TOTALS** (schools listed below)	-	**7041**	**6932**	**5331**	**109**	**No**	**6618**	**6880**	**(262)**	**Yes**
	BELMONT HS ZONE OF CHOICE										
1820701	Contreras LC ALC	1 TRK	453	-	431	-	-	426	-	-	-
1851601	Cortines Sch of VAPA	1 TRK	1796	-	1470	-	-	1688	-	-	-
1851701	Contreras LC Bus Tr	1 TRK	511	-	446	-	-	480	-	-	-
1852701	Contreras LC Soc Jus	1 TRK	521	-	477	-	-	490	-	-	-
1854301	Belmont SH	1 TRK	1861	-	975	-	-	1749	-	-	-
1854401	Roybal LC	1 TRK	1507	-	1188	-	-	1417	-	-	-
1877401	Contreras LC Glbl St	1 TRK	392	-	344	-	-	368	-	-	-

[a] Schools & programs that are part of a "school choice area" pull enrollments from the school(s) that have resident areas, as defined by attendance boundaries.

The individual school and calculated total capacities and enrollments for school choice areas are reported to show current and projected seating overage/shortage and overcrowding (shaded green color).

If any of the school choice area schools is multi-track, then the service area is considered overcrowded.

Schools Planned to Relieve Known Overcrowding

NONE

see next page

NOTES:

[1] School's ID code.

[2] School's name

[3] The calendar the school is operating on for the reported school year. Schools operate on a 'multi-track' calendar (listed as 4 TRK), because of overcrowded conditions.

[4] School's operating capacity for the reported school year. The maximum number of students the school can serve during the reported school year, with the school's classroom utilization, and while operating on its reported calendar. Excludes capacity allocated to charter co-locations. Includes capacity for magnet programs.

[5] The total number of students living in the school's attendance area and who are eligible to attend the school at the start of the reported school year, plus students enrolled at any on-site magnet centers.

-Multi-track calendars are utilized as one method of providing relief to overcrowded schools by increasing enrollment capacities.

-A key goal of the Superintendent and Board of Education is to return all schools to a traditional 2-semester calendar (1 TRK).

[6] The number of students actually attending the school in the reported school year, including magnet students.

[7] Reported school year seating overage or (shortage): equal to (capacity) - (resident enrollment).

[8] Reported school year overcrowding status of school. The school is overcrowded if any of these conditions exist:

-School is on a multi-track calendar.

-There is a seating shortage.

-There is a seating overage of LESS THAN or EQUAL TO a 'safety margin' of 20 seats.

[9] School planning capacity. Formulated from a baseline calculation of the number of eligible classrooms and classroom utilization after implementing LAUSD operational goals, which include operating on a 2-semester (1 TRK) calendar and assumed budget resources which allow for reductions in class size. Includes capacity allocated to charter co-locations. Includes capacity for magnet programs.

[10] Projected 5-year total number of students living in the school's attendance area and who are eligible to attend the school as of the start of the school year. Includes magnet students.

[11] Projected seating overage or (shortage): equal to (projected capacity) - (projected enrollment).

[12] Projected overcrowding status of school. The school will be considered overcrowded in the future if any of these conditions exist:

-School remains on a multi-track calendar.

-There is a seating shortage in the future.

-There is a seating overage of LESS THAN or EQUAL TO a 'safety margin' of 20 seats in the future.

* Independent Charter: Capacity and/or enrollment information may not be reported for some independent charters.

‡ Magnet Schools with Resident Kindergarten Enrollment: Resident enrollment is reported for Kindergarten only. Actual enrollment is reported for all grades in school. Projected capacities and enrollments not reported.

K-4 Department of Recreation and Parks Correspondence

DEPARTMENT OF RECREATION AND PARKS

BOARD OF COMMISSIONERS

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VICKI ISRAEL
ASSISTANT GENERAL MANAGER

SOPHIA PIÑA-CORTEZ
ASSISTANT GENERAL MANAGER

(213) 202-2633, FAX (213) 202-2614

October 11, 2017

ESA
Jessie Fan, Senior Associate
233 Wilshire Boulevard, Suite 150
Santa Monica, CA 90401

REQUEST FOR INFORMATION REGARDING RECREATIONAL AND PARK SERVICES FOR THE TIMES MIRROR SQUARE PROJECT IN THE CITY OF LOS ANGELES

Dear Ms. Fan:

The following information has been prepared in response to your request for Recreation and Parks information relative to the proposed Times Mirror Square Project. This proposed mixed-use project describes the new development up to 1,127 residential units and 34,572 square feet of commercial space, and the renovation of approximately 376,105 square feet of commercial space, on an approximately 3.6-acre site generally bounded at 100 S. Broadway in the Central City Community Plan area of the City of Los Angeles.

1. The name, location, size and park classification (regional, community, neighborhood, or special use), and available facilities within the parks that would serve the Project site.

The following Department of Recreation and Parks facilities are classified as a neighborhood parks and are located within a two-mile radius of the project site:

- 6th and Gladys Street Park, located at 824 E. 6th Street.
- Arts District Park, located at 501 S. Hewitt Street.
- Hope and Peace Park, located at 843 Bonnie Brae Street.
- Patton Street Pocket Park, located at 317-327 Patton Street.
- Prospect Park, located at 612 N. Echandia Street.
- Rockwood Community Park, located at 1571 Rockwood Street.
- Spring Street Park, located at 428 S. Spring Street.
- Unidad Park, located at 1644-48 Beverly Boulevard.

The following Department of Recreation and Parks facilities are classified as community parks and are located within a five-mile radius of the project site:

- Aliso-Pico Recreation Center, located at 370 S. Clarence Street.
- Alpine Recreation Center, located at 817 Yale Street.
- Bellevue Recreation Center, located at 826 Lucille Avenue.
- Boyle Heights Sports Center, located at 933 S. Mott Street.
- Carlin G. Smith Recreation Center, located at 511 W. Avenue 46.
- Central Recreation Center, located at 1357 E. 22nd Street.

- Cypress Recreation Center, located at 2630 Pepper Avenue.
- Denker Recreation Center, located at 1550 W. 35th Place.
- Downey Pool, located at 1775 N. Spring Street.
- Downey Recreation Center, located at 1772 N. Spring Street.
- Echo Park, located at 751 Echo Park Boulevard.
- Echo Park Boys and Girls, located at 303 Patton Street.
- Echo Park Deep Pool, located at 1419 Colton Street.
- Elysian Valley Recreation Center, located at 1811 Ripple Street.
- Evergreen Recreation Center, located at 2839 E. 4th Street.
- EXPO Center, located at 3980 S. Menlo Avenue.
- Hazard Park, located at 2230 Norfolk Street.
- Hollenbeck Park, located at 415 S. St. Louis Street.
- Hoover Recreation Center, located at 1010 W. 25th Street.
- James Slauson Recreation Center, located at 5306 S. Compton Avenue.
- Lafayette Park, located at 2830 W. 6th Street.
- Lake Street Park, located at 227 N. Lake Street.
- Lemon Grove Recreation Center, located at 4959 Lemon Grove Avenue.
- Lincoln Heights Recreation Center, located at 2303 Workman Avenue.
- Lincoln Heights Youth Center, located at 2500 Griffin Avenue.
- Lincoln Park, located at 3501 Valley Boulevard.
- MacArthur Park, located at 2230 W. 6th Street.
- Martin Luther King Jr. Park, located at 3934 S. Western Avenue.
- Miguel Contreras Learning Center Pool, located at 322 S. Lucas Avenue.
- Msgr. Ramon D. Garcia Recreation Center, located at 1016 S. Fresno Avenue.
- Normandie Recreation Center, located at 1550 S. Normandie Avenue.
- Parkview Photo Center, located at 2332 W. 4th Street.
- Pecan Recreation Center, located at 127 S. Pecan Street.
- Pershing Square, located at 525 S. Olive Street.
- Pueblo del Rio Recreation Center, located at 5350 Alba Street.
- Queen Anne Recreation Center, located at 1240 West Boulevard.
- Ramona Gardens Park, located at 2830 Lancaster Avenue.
- Ramona Gardens Recreation Center, located at 2830 Lancaster Avenue.
- Ramona Hall Community Center, located at 4580 N. Figueroa Street.
- Rio de Los Angeles State Park, located at 1900 N. San Fernando Road.
- Roosevelt High School Pool, located at 456 S. Mathews Street.
- Ross Snyder Recreation Center, located at 1501 W. 41st Street.
- Seoul International Park, located at 3250 San Marino Street.
- Shatto Recreation Center, located at 3191 W. 4th Street.
- Silverlake Recreation Center and Dog Park, located at 1850 W. Silverlake Boulevard.
- South Los Angeles Sports Activity Center, located at 7020 S. Figueroa Street.
- South Park Recreation Center, located at 345 E. 51st Street.
- South Seas House Park, located at 2301 W. 24th Street.
- State Street Recreation Center, located at 716 N. State Street.
- Toberman Recreation Center, located at 1725 Toberman Street.
- Tommy Lasorda's Field of Dreams, located at 1901 Waterloo Street.
- Trinity Recreation Center, located at 2415 Trinity Street.
- Vista Hermosa Soccer Field, located at 1301 W. 1st Street.
- Wabash Recreation Center, located at 2765 Wabash Avenue.

The following Department of Recreation and Parks facilities classified as regional parks and are located within a ten-mile radius of the project site:

- Armand Hammer Golf Course, located at 601 Club View Drive (at Holmby Park).
- Arroyo Seco Park, located at 5568 Via Marisol.
- Ascot Hills Park, located at 4371 Multnomah Street.
- Barnsdall Park, located at 4800 Hollywood Boulevard.
- Bronson Canyon, located at 3200 Canyon Road.
- Campo de Cahuenga, located at 3919 Lankershim Boulevard.
- Cheviot Hills Park, located at 2551 Motor Avenue.
- Elysian Park, located at 929 Academy Road.
- Ernest E. Debs Regional Park, located at 4235 Monterey Road.
- Exposition Park Rose Garden, located at 701 State Drive.
- Griffith Park, located at 4730 Crystal Springs Drive.
- Harding Golf Course, located at 4730 Crystal Springs Drive (in Griffith Park).
- Heritage Square, located at 3800 Homer Street.
- Holmby Park, located at 601 Club View Drive.
- Los Feliz Golf Course, located at 3207 Los Feliz Boulevard.
- Rancho Park Golf Course, located at 10460 Pico Boulevard.
- Roosevelt Golf Course, located at 2650 N. Vermont Avenue (in Griffith Park).
- Runyon Canyon Park, located at 2000 N. Fuller Avenue.
- South L.A. Wetlands Park, located at 5413 S. Avalon Boulevard.
- Wattles Garden Park, located at 1824 N. Curson Avenue.
- Wilson Golf Course, located at 4730 Crystal Springs Drive (in Griffith Park).

For additional information regarding facilities and features available in these parks visit our website: www.laparks.org.

2. Existing ratios of developed parkland per resident on a citywide basis and within the Central City North Community Plan area.

The City of Los Angeles overall has a ratio of 0.76 acres of neighborhood and community parkland per 1,000 residents. The Central City Los Angeles Community Plan area has a ratio of 0.10 acres of neighborhood and community parkland per 1,000 residents.

3. Current capacity and level of use of recreational facilities and parks near the Project Site.

While data regarding the level of use for the recreational facilities that serve the project site is not available, parks within the surrounding community are heavily utilized and often overburdened.

4. Any planned improvements to the parks and recreational facilities in the service area of the Project site (i.e., construction or expansion, new facilities, etc.)? If so, please describe.

The Department is currently developing a park at 1st and Broadway.

5. Would Project implementation require the physical expansion of an existing park(s) or a new park serving the Project site? If so, please describe.

Given that the existing recreational facilities in the project are heavily utilized, and that the project proposed the development of an additional 1,127 residential units, additional capacity through retrofit, expansion or new acreage would be necessary to keep the area at the current level of service.

6. City-adopted parks and recreation standards and acreage goals to be used in analyzing the Project.

The Public Recreation Plan, a section of the Service Systems Element of the Los Angeles General Plan, has a standard of four acres per 1,000 residents of neighborhood and community parks (two acres of neighborhood parks and two acres of community parks per 1,000 residents). The existing ratio of neighborhood and community parks within the Central City Community Plan area is well below the standards proscribed by the City adopted General Plan.

7. Any other design features or special parks and recreation requirements due to the specific attributes of the project?

This project is likely to trigger the requirement for an early consultation with the Department prior to the filing. Options for land dedication, recreation credits and fees will be discussed at that time.

Thank you for the opportunity to provide information relative to the proposed project's impact on recreation and park services. If you have any questions or comments regarding this information please contact Melinda Gejer, of my staff, at (213) 202-2657 or melinda.gejer@lacity.org.

Sincerely,

MICHAEL A. SHULL
General Manager

DARRYL FORD
Senior Management Analyst I
Planning, Maintenance, and Construction Branch

DF/MG:ar

cc: Reading File

K-5 Los Angeles Public Library Correspondence

Jessie Fan

From: Jung, Thomas <tjung@lapl.org>
Sent: Wednesday, December 20, 2017 3:56 PM
To: Jessie Fan
Subject: Re: LAPL Information Request - Times Mirror Square Project - LAPL Response
Attachments: Times Mirror Square Project_LAPL Response.pdf

Hi Jessie,

Attached you will find the LAPL's response to your inquiry for the Times Mirror Square Project.

Thank you for your patience and have a great and safe holiday weekend too!!!!

Tom Jung

Management Analyst II
Business Office
Los Angeles Public Library
Phone: (213) 228-7474
E-mail: tjung@lapl.org

From: Jessie Fan
Sent: Monday, July 10, 2017 2:12 PM
To: 'Jung, Thomas' <tjung@lapl.org>
Subject: LAPL Information Request - Times Mirror Square Project

Dear Mr. Jung,

In coordination with the City of Los Angeles Department of City Planning, ESA is preparing an Environmental Impact Report (EIR) for the proposed Times Mirror Square Project located generally at 100 S. Broadway within the Central City Community Plan Area pursuant to the California Environmental Quality Act (CEQA). Since the Project is located within the jurisdiction of the Los Angeles Public Library, we are requesting information from your agency with regards to library services and facilities. In order to maintain the schedule for the EIR, we respectfully request your input by **July 24, 2017**. Attached is an information request letter, and a hard copy will follow in the mail. Please let me know if you have any further questions. Your assistance is much appreciated. Thanks!

Jessie Fan

Senior Associate

ESA | Environmental Science Associates

80 South Lake Avenue, Suite 570

Pasadena, CA 91101

626.204.6170 main | 626.204.6171 fax

626.714.4611 direct

JFan@esassoc.com | www.esassoc.com

Follow us on Facebook | Twitter | LinkedIn

Re: Times Mirror Square Project

The following is our response to your questions:

Richard J. Riordan Central Library

1. Libraries that would serve the proposed project:

Richard J. Riordan Central Library
630 W. 5th Street
Los Angeles, CA 90071

Hours of Operation:

Monday-Thursday	10 am – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	1 pm – 5 pm

2a. Size (Square Feet):
538,000 sq. ft. facility.

2b. Staffing Levels:
390.0 Full-time Employees + 284 Volunteers

2c. Collection size/Circulation and Amenities:
2.6 million volumes; Circulation – 1.2 million

Amenities: See "Special facilities available for public use" below

2d. Programmed or Target Service Population:

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

The Central Library draws patrons not only from the City of Los Angeles, but also from the County of Los Angeles as well as from all of the United States and many foreign countries. Any increase in the residential/business/commercial population that is in close proximity to the Central Library has a direct impact on library services with increased demands for library staffing, materials, computers and information services.

2e. Current Service Population:
3,792,621 per Census 2010 est.
9,818,605 per Census 2010 est. County of Los Angeles

2f. Census Tracts:
The Los Angeles Public Library no longer uses Census tracts but derives its library service populations from Mapping LA from the Los Angeles Times. The Central Library

draws patrons from throughout the entire City and County of Los Angeles as well as throughout the nation and world.

3. **Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.**

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staff, materials, computers and information services.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

Little Tokyo Branch Library

Libraries that would serve the proposed project:

1. Little Tokyo Branch Library
203 S. Los Angeles St.
Los Angeles, CA. 90012

Hours of Operation:

Monday, Wednesday	10 am – 8 pm
Tuesday, Thursday	12:00 pm – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	CLOSED

2a. Size (Square Feet):
12,500 sq. ft. facility.

2b. Staffing Levels:
10.0 Full-time Employees + 43 Volunteers

2c. Collection size/Circulation and Amenities:
66,634 Volumes/Circulation – 143,317

Amenities: See "Special facilities available for public use" below

2d. Programmed or Target Service Population:

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

2e. Current Service Population:
45,796 est. per the Los Angeles Times Mapping LA.

2f. Census Tracts:
The LAPL no longer uses census tracts to determine a branch library's service population.

3. Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Currently, the Little Tokyo branch at 12,500 square feet does not meet the standard of 14,500 square feet for a service population in excess of 45,000. Any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staffing, materials, computers and information services. Therefore, mitigation measures are necessary in order to lessen the impact to these services to a level that is appropriate for a given service population in accordance to the February 8, 2007 Board of Library Commissioners approved Branch Facilities Plan.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

Chinatown Branch Library

Libraries that would serve the proposed project:

1. Chinatown Branch Library
639 N. Hill St.
Los Angeles, CA. 90012

Hours of Operation:

Monday, Wednesday	10 am – 8 pm
Tuesday, Thursday	12:00 pm – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	CLOSED

2a. **Size (Square Feet):**
14,500 sq. ft. facility.

2b. **Staffing Levels:**
13.5 Full-time Employees

2c. **Collection size/Circulation and Amenities:**
74,709 Volumes/Circulation – 238,872

Amenities: See "Special facilities available for public use" below

2d. **Programmed or Target Service Population:**

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

2e. **Current Service Population:**
11,225 est. per Los Angeles Times Mapping LA.

2f. **Census Tracts**:

The LAPL no longer uses census tracts to determine a branch library's service population.

3. **Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.**

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Currently, the Chinatown branch at 14,500 square feet does meet the standard of 12,500 square feet for a service population of less than 45,000. However, any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staffing, materials, computers and information services. It should be noted that the Chinatown branch has an extraordinarily high circulation number compared to its service population. It is one of the busiest branches in the LAPL system due to nearby schools. Therefore, mitigation measures may be necessary in order to lessen the impact to these services to a level that is appropriate for a given service population in accordance to the February 8, 2007 Board of Library Commissioners approved Branch Facilities Plan.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

Echo Park Branch Library

Libraries that would serve the proposed project:

1. Echo Park Branch Library
1410 West Temple Street
Los Angeles, CA 90026

Hours of Operation:

Monday, Wednesday	10 am – 8 pm
Tuesday, Thursday	12:00 pm – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	CLOSED

2a. Size (Square Feet):
17,543 sq. ft. facility.

2b. Staffing Levels:
10.5 Full-time Employees

2c. Collection size/Circulation and Amenities:
43,908 Volumes/Circulation – 111,188

Amenities: See "Special facilities available for public use" below

2d. Programmed or Target Service Population:

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

2e. Current Service Population:
52,842 est. per Los Angeles Times Mapping LA.

2f. Census Tracts:

The LAPL no longer uses census tracts to determine a branch library's service population.

3. Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Currently, the Echo Park branch at 17,543 square feet does meet the standard of 14,500 square feet for a service population in excess of 45,000, however, any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staffing, materials, computers and information services. Therefore, mitigation measures may be necessary in order to lessen the impact to these services to a level that is appropriate for a given service population in accordance to the February 8, 2007 Board of Library Commissioners approved Branch Facilities Plan.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

Lincoln Heights Park Branch Library

Libraries that would serve the proposed project:

1. Lincoln Heights Branch Library
2530 Workman Street
Los Angeles, CA 90031

Hours of Operation:

Monday, Wednesday	10 am – 8 pm
Tuesday, Thursday	12:00 pm – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	CLOSED

2a. Size (Square Feet):
12,912 sq. ft. facility.

2b. Staffing Levels:
10.5 Full-time Employees

2c. Collection size/Circulation and Amenities:
41,549 Volumes/Circulation – 127,624

Amenities: See "Special facilities available for public use" below

2d. Programmed or Target Service Population:

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

2e. Current Service Population:
34,651 est. per Los Angeles Times Mapping LA.

2f. Census Tracts:

The LAPL no longer uses census tracts to determine a branch library's service population.

3. Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Currently, the Lincoln Heights branch at 12,912 square feet does meet the standard of 12,500 square feet for a service population of less than 45,000, however, any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staffing, materials, computers and information services. Therefore, mitigation measures may be necessary in order to lessen the impact to these services to a level that is appropriate for a given service population in accordance to the February 8, 2007 Board of Library Commissioners approved Branch Facilities Plan.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

Edendale Branch Library

Libraries that would serve the proposed project:

1. Edendale Branch Library
2011 W. Sunset Blvd
Los Angeles, CA 90026

Hours of Operation:

Monday, Wednesday	10 am – 8 pm
Tuesday, Thursday	12:00 pm – 8 pm
Friday, Saturday	9:30 am – 5:30 pm
Sunday	CLOSED

2a. Size (Square Feet):
12,500 sq. ft. facility.

2b. Staffing Levels:
9.0 Full-time Employees

2c. Collection size/Circulation and Amenities:
45,466 Volumes/Circulation – 154,974

Amenities: See "Special facilities available for public use" below

2d. Programmed or Target Service Population:

The Los Angeles Public Library (LAPL) does not make programmed or targeted projections.

2e. Current Service Population:
23,254 est. per Los Angeles Times Mapping LA.

2f. Census Tracts:

The LAPL no longer uses census tracts to determine a branch library's service population.

3. Planned, funded, and/or scheduled service improvements or expansions to City library facilities that would serve the project.

There are no planned improvements to add capacity through expansion. There are no plans for the development of any other new libraries to serve this community.

4. **Would Project implementation require physical expansion of an existing library(s), or a new library serving the project site? If so, please describe.**

No, as there are no plans to add capacity through expansion of an existing library or through the construction of a new library facility.

5. **Please confirm LAPL's standards and goals used to assess the adequacy of library services and facilities and potential impact from project development.**

On February 8, 2007, The Board of Library Commissioners approved a new Branch Facilities Plan. This Plan includes Criteria for new Libraries, which recommends new size standards for the provision of LAPL facilities – 12,500 s.f. for community with less than 45,000 population and 14,500 s.f. for community with more than 45,000 population and up to 20,000 s.f. for a Regional branch. It also recommends that when a community reaches a population of 90,000, an additional branch library should be considered for the area.

Currently, the Edendale branch at 12,500 square feet does meet the standard of 12,500 square feet for a service population of less than 45,000, however, any increase in the residential/business/commercial population that is in close proximity to this branch has a direct impact on library services with increased demands for library staffing, materials, computers and information services. Therefore, mitigation measures may be necessary in order to lessen the impact to these services to a level that is appropriate for a given service population in accordance to the February 8, 2007 Board of Library Commissioners approved Branch Facilities Plan.

The Los Angeles Public Library recommends a mitigation fee of $200 per capita based upon the projected residential/business population of the development. The funds will be used for staff, books, computers and other library materials. It is recommended that mitigation fees be paid by the developer.

- Special facilities available for public use:
  Free Public Wi-Fi
  Wireless Printing
  Reserve a Computer
  Meeting Room Rentals
  Zoom Text Computer for the Visually Impaired

APPENDIX L
Traffic and Parking Analysis

ESA

L-1 Traffic Study

Times Mirror Square Project

Transportation Impact Analysis

Prepared by
FEHR PEERS

600 Wilshire Blvd, Suite 1050
Los Angeles, CA 90017
213.261.3050

May 2018



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1. INTRODUCTION

This report documents the assumptions, methodologies, and findings of a study conducted by Fehr & Peers to evaluate the potential traffic impacts of the proposed Times Mirror Square Project (the Project), located on the city block bounded by West 1st Street, South Spring Street, West 2nd Street, and South Broadway, in Downtown Los Angeles. This study was conducted as part of an environmental document being prepared for the proposed Project.

PROJECT DESCRIPTION

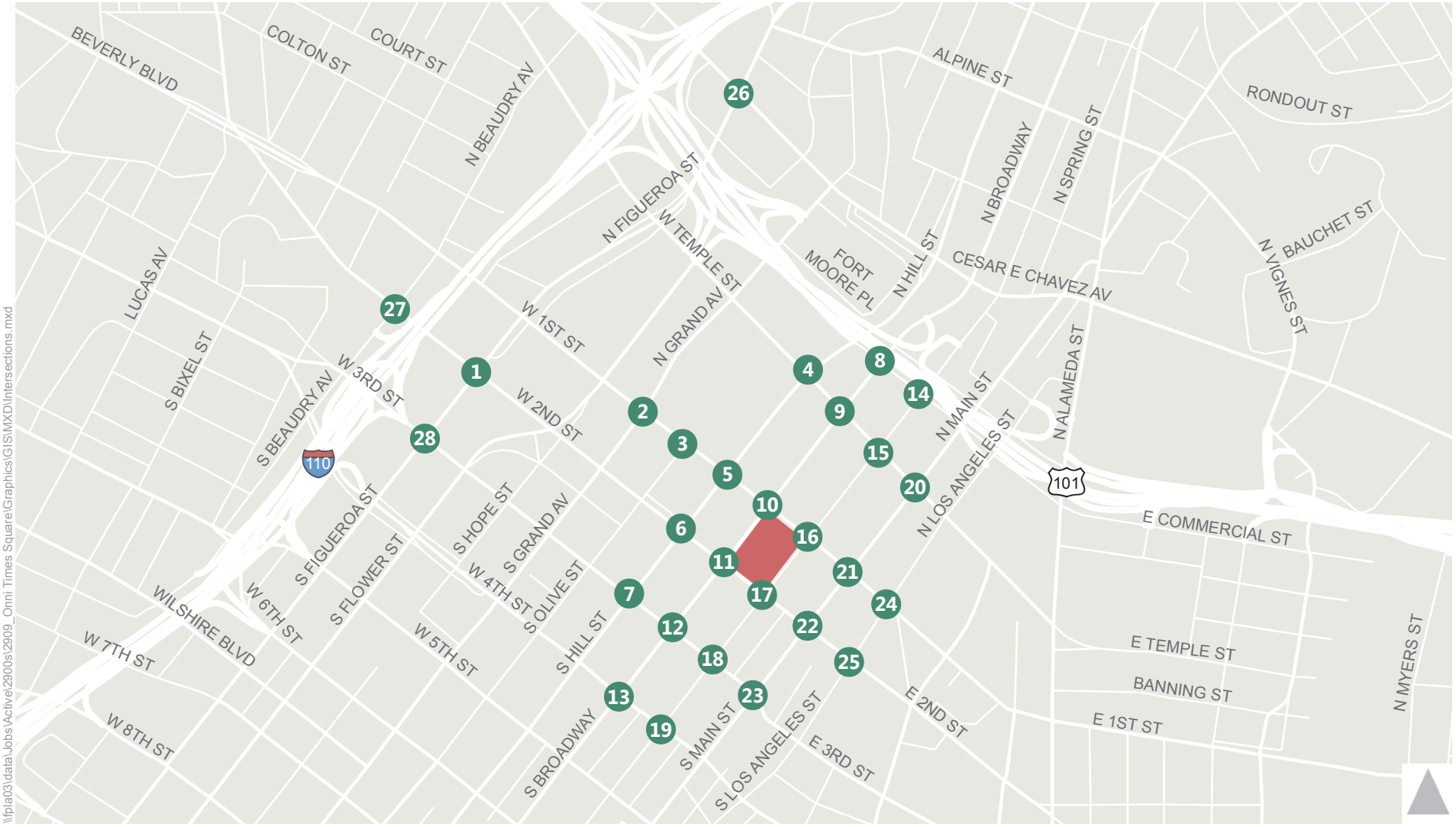
The Project would retain and renovate the existing Times, Plant, and Mirror Buildings to provide 307,288 square feet of office space, 18,817 square feet of restaurant space, and a 50,000 square foot grocery store. These three buildings are aligned along South Spring Street, with frontages along both West 1st Street and West 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the site and construct two mixed-use towers (North and South Towers).

The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of West 1st Street and South Broadway and the 6-story parking structure at the corner of West 2nd Street and South Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include 34,572 square feet of restaurant space, located at ground level. The Project would include a pedestrian paseo constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between West 1st Street to West 2nd Street.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023. The project site is currently occupied by five buildings used by the Los Angeles Times, a bank, and other office uses.

A five-level above-ground parking podium and a nine-level subterranean garage will be included as part of the construction of the two towers along the Broadway frontage. Access to the site will be provided through three driveways: one on West 2nd Street between Broadway and South Spring Street, and two on Broadway, both between West 1st Street and West 2nd Street.

The adjacent land uses include the Los Angeles Civic Center, Grand Park, and the First and Broadway Civic Center Park (anticipated for completion in 2019) to the north, office buildings, parking structures, and parking lots to the south, the Los Angeles Police Department Headquarters Building to the east, and the Federal Courthouse to the west. Figure 1 illustrates the location of the proposed Project in relation to the surrounding street system. Regional access to the Project site is provided by two freeways: Interstate 110 (I-110) with access ramps approximately 0.75 miles to the west and the Hollywood Freeway United States 101 (US-101) with access ramps approximately 0.25 miles to the north. The Project is located less than 750 feet southeast of the Metro Purple/Red Line Civic Center/Grand Park Station and immediately north of the Metro Regional Connector Historic Broadway Station (currently under construction).



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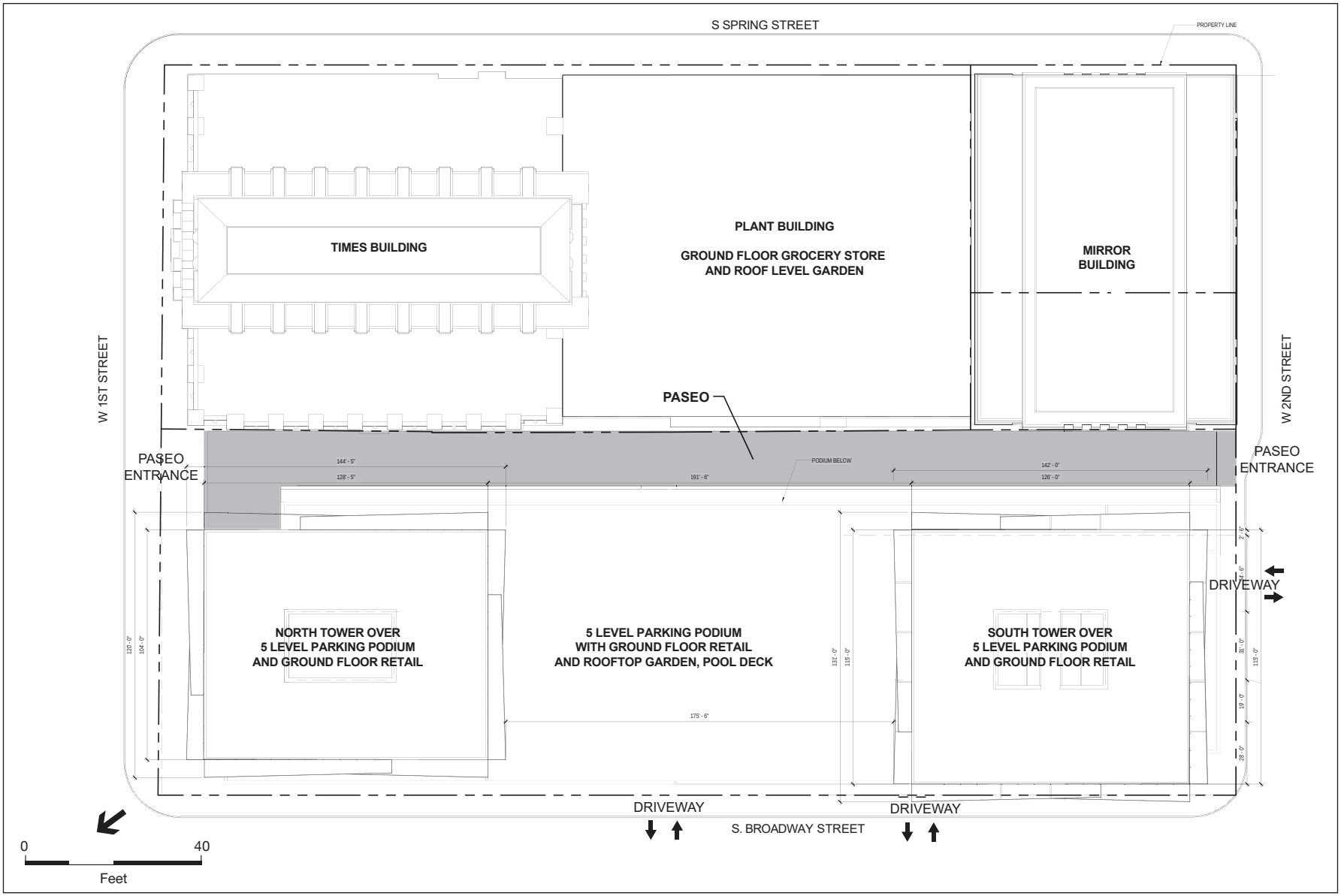
Project Site Study Intersections

Figure 1

Study Intersections



SOURCE: AC Martin Partners, Inc, 2017

Figure 2

Site Plan

STUDY SCOPE

The scope of work for this study was determined in consultation with the Los Angeles Department of Transportation (LADOT). The base assumptions and technical methodologies were discussed with LADOT as part of the study approach and agreed to in a memorandum of understanding dated March 2017 (MOU). The MOU is included in Appendix A to this document.

TRAFFIC SCENARIOS

The study assumes that the Project would be completed by year 2023 and is directed at analyzing the potential Project-generated traffic impact on local street system under both existing and future year traffic conditions. The following traffic scenarios have been developed and analyzed as part of this study:

- Existing Conditions – The existing conditions analysis includes a description of the transportation system serving the project site, existing traffic volumes, and an assessment of the operating conditions at the study analysis locations described below.

- Existing Base Conditions – Traffic counts were taken during a period when 2nd Street was closed between Spring and Broadway to through traffic due to construction of the Regional Connector transit line. Therefore, a baseline traffic scenario was developed to provide a basis for the remainder of the study, which represents traffic conditions without the effect of the Regional Connector construction on study intersections.

- Existing Base plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under Existing Base conditions with the addition of Project-generated traffic. The impacts of the proposed Project on existing traffic operating conditions were then identified.

- Future Base (Year 2023) Conditions – Future traffic projections without the proposed Project were developed for the year 2023. The objective of this analysis was to project future traffic growth and operating conditions that could be expected to result from regional growth, related projects, and transportation network changes in the vicinity of the project site by the year 2023.

- Future (Year 2023) plus Project Conditions – This traffic scenario provides projected traffic volumes and an assessment of operating conditions under future conditions with the addition of Project-generated traffic. The impacts of the proposed Project on future traffic operating conditions were then identified.

STUDY LOCATIONS

Signalized Intersections

The following 28 signalized intersections, illustrated in Figure 1, were analyzed as part of the scope of work for this Project:

1. South Figueroa Street & West 2nd Street
2. South Grand Avenue & West 1st Street
3. South Olive Street & West 1st Street
4. North Hill Street & West Temple Street
5. Hill Street & West 1st Street
6. Hill Street & West 2nd Street

7. Hill Street & West 3rd Street
8. North Broadway & Aliso Street
9. North Broadway & West Temple Street
10. Broadway & West 1st Street
11. South Broadway & West 2nd Street
12. South Broadway & West 3rd Street
13. South Broadway & West 4th Street
14. North Spring Street & Aliso Street
15. North Spring Street & West Temple Street
16. Spring Street & West 1st Street
17. South Spring Street & West 2nd Street
18. South Spring Street & West 3rd Street
19. South Spring Street & West 4th Street
20. North Main Street & East Temple Street
21. Main Street & 1st Street
22. South Main Street & 2nd Street
23. South Main Street & 3rd Street
24. Los Angeles Street & East 1st Street
25. South Los Angeles Street & East 2nd Street
26. North Figueroa Street & West Cesar Estrada Chavez Avenue / Sunset Boulevard
27. South Beaudry Avenue & West 2nd Street
28. South Figueroa Street & West 3rd Street

Freeway Analysis

The *Congestion Management Program for Los Angeles* County (CMP) (Metro, 2010) requires that all CMP mainline freeway monitoring locations where a proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours be analyzed. The proposed Project is not expected to add 150 or more vehicle trips during the AM or PM peak hours on nearby freeways (see Chapter 5). Therefore, no analysis of freeway segments is required for CMP purposes.

The *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures* (October 2013, as amended in December 2015), sets forth criteria for when a freeway impact analysis should be conducted. LADOT determined as part of the traffic study memorandum of understanding for this Project that the Project would not meet the criteria requiring a freeway impact analysis (see Appendix A). Accordingly, no further analysis under the City's amended agreement with Caltrans was required.

ORGANIZATION OF REPORT

This report is divided into nine chapters, including this introduction. Chapter 2 describes the existing conditions, including an inventory of the streets, highways, and transit service in the study area, a summary of existing traffic volumes, and an assessment of existing operating conditions. The methodologies used to develop traffic forecasts for the Existing, Existing plus Project, Future Base, and Future plus Project scenarios and the forecasts themselves are included in Chapter 3. Chapter 4 presents an assessment of potential intersection traffic impacts of the proposed Project under both Existing and Future conditions. The results of the regional transportation system impact analysis are provided in Chapter 5. Chapter 6 provides an assessment of the proposed Project's access scheme, and Chapter 7 an analysis of parking for the Project. Chapter 8 summarizes the construction impact analysis. Chapter 9 provides the summary and conclusions.

2. EXISTING CONDITIONS

A comprehensive data collection effort was undertaken to develop a detailed description of existing conditions in the study area. The assessment of conditions relevant to this study includes a description of the study area, an inventory of the local street system in the vicinity of the Project site, a review of traffic volumes on these facilities, an assessment of the resulting operating conditions, and a summary of the current transit service and bicycle and pedestrian facilities in the study area. A detailed description of these elements is presented in this chapter.

STUDY AREA

The Project site is within the Central City Community Plan area of the City of Los Angeles. The study area selected for analysis extends to include Beaudry Avenue to the west, Los Angeles Street to the east, Cesar Estrada Chavez Avenue/Sunset Boulevard to the north, and 4th Street to the south. All of the streets in the study area are under the jurisdiction of the City of Los Angeles.

EXISTING STREET SYSTEM

Interstate 110 lies approximately 0.75 miles west of the site and US-101 lies approximately 0.25 miles northeast of the site. Each of these interstates provides regional access to and from the study area.

The characteristics of the major roadways serving the study area and are part of a study intersection are described below. The street descriptions include the designation of the roadway under the *Mobility Plan 2035, An Element of the General Plan* adopted by the Los Angeles City Council in September 2016.

FREEWAYS

- **Interstate 110** runs in northeast/southwest in the vicinity of the study area. The freeway provides four lanes in each direction plus auxiliary lanes. Ramps are provided at 3rd Street.
- **US-101** runs in the southeast/northwest direction, extending from downtown Los Angeles through Hollywood and the San Fernando Valley and beyond. In the vicinity of the study area, the Hollywood freeway provides four lanes in each direction plus auxiliary lanes. Ramps are provided at Broadway and Los Angeles Street.

EAST/WEST STREETS

- **Cesar Estrada Chavez Avenue (east of North Figueroa Street) / Sunset Boulevard (west of North Figueroa Street)** has two travel lanes in each direction with a center turn lane. Lanes are 10 feet wide and metered parking is available on portions of both sides of the street between North Beaudry Avenue and North Grand Avenue with AM and PM peak hour restrictions. During peak hours, the area otherwise available for metered parking serves as a bus and right-turn lane. Cesar E. Chavez Avenue is designated as an Avenue I roadway in the Los Angeles Mobility Plan 2035.
- **Aliso Street** is an eastbound one-way street, north of the Project site. Aliso provides three travel lanes that are 10 feet wide. Aliso Street is designated as a local street in the Los Angeles Mobility Plan 2035.

- **Temple Street** has two travel lanes in each direction with a two-way center left-turn lane. Lanes are 10 feet wide. Temple Street is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

- **1st Street** has two travel lanes in each direction with a two-way center left-turn. Lanes are 10 feet wide. Metered parking is available on portions of both sides of the street with AM and PM peak hour restrictions. 1st Street is designated as a Boulevard II roadway in the Los Angeles Mobility Plan 2035, within the study area.

- **2nd Street** has one to two travel lanes in each direction with a two-way center left-turn in some portions. The 2nd street tunnel, which runs from Figueroa Street to Hill Street, has one travel lane in each direction. Lanes are 10 feet wide and metered parking is available on the south side of the street between Spring Street and Los Angeles Street with AM and PM peak hour restrictions. 2nd Street is designated as an Avenue III roadway between Figueroa Street and San Pedro Street, and an Avenue II roadway west of Figueroa Street.

- **3rd Street** is a one-way westbound street with two to three travel lanes that are 10 feet wide. Metered parking is available on portions of both sides of the street with AM and PM peak hour restrictions. 3rd Street is designated as an Avenue III roadway between Hope Street and Los Angeles Street, and an Avenue II roadway both west and east of those boundaries.

- **4th Street** is a one-way eastbound street with four travel lanes that are 10 feet wide. Metered parking is available on the north side of portions of the street, with inconsistent AM and PM peak hour restrictions. 4th Street is designated as an Avenue III roadway in the Los Angeles Mobility Plan 2035, within the study area.

NORTH/SOUTH STREETS

- **Beaudry Avenue** is a two-way street that runs south until the north side of 6th Street. It continues on the south side of 6th Street, before terminating at Ingraham Street. It is two-way throughout except for a short portion between 6th Street and Wilshire Boulevard where through northbound traffic is prohibited. Travel lanes are 10 feet wide. There is limited, intermittent parking (both free and metered) on either side of Beaudry Avenue. Within the study area, Beaudry Avenue is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

- **Figueroa Street** is a northbound one-way street until 3rd Street, where the street becomes a two-way street. Travel lanes are 10 feet wide. There is limited metered parking on either side of Figueroa Street. Within the study area, Figueroa Street is designated as a Boulevard II roadway in the Los Angeles Mobility Plan 2035.

- **Grand Avenue** is a two-way street that runs south until 5th Street, where it continues as a southbound one-way street. The two-way portion has two 10 foot lanes in each direction. The one-way portion has three 10 foot lanes. Within the study area, Grand Avenue is designated as a Boulevard II roadway in the Los Angeles Mobility Plan 2035.

- **Olive Street** is a northbound one-way street until 5th Street, where it becomes a two-way street, after which it generally has two lanes in each direction, with a two-way center left-turn. Lanes are 10 feet and there is metered parking on both sides of Olive Street north of 5th Street. Olive Street is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

- **Hill Street** has one to two travel lanes in each direction with a two-way center left-turn. Lanes are 10 feet wide and metered parking is available on both sides of the street, south of 2nd Street. Parking on the west side of the street is restricted during the PM peak hour and parking on the east side of the street is restricted during the AM peak hour. Hill Street is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

- **Broadway** has two travel lanes running north and one travel lane running south in each direction with a two-way center left-turn north of 1st Street. Lanes are 10 feet wide and metered parking is available on both sides of the street, south of 2nd Street. Broadway is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

- **Spring Street** is a southbound one-way street with three travel lanes running south and two lanes between 1st Street and 3rd Street. Travel lanes are 10 feet wide. There is metered parking with AM and PM peak hour restrictions on the east side of the street, between 1st Street and 3rd Street, and south of 4th Street. Spring Street also has two contraflow bus lanes, north of 1st Street. South of 1st Street, Spring Street is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035. Between 1st Street and Cesar E. Chavez Avenue, Spring Street is designated as an Avenue I roadway.

- **Main Street** is a northbound one-way street with two travel lanes running north south of 2nd Street, three lanes south of 1st Street, and four lanes south of Aliso Street. Lane widths range from 10-12 feet wide. Metered parking is available on both sides of the street south of 2nd Street, with PM peak hour restrictions on the west side of Spring Street. Between 1st Street and Temple Street, Main Street is designated as an Avenue I roadway in the Los Angeles Mobility Plan 2035. Elsewhere in the study area, Main Street is designated as an Avenue II roadway.

- **Los Angeles Street** has two 10-foot travel lanes in each direction, with a two-way center left-turn between 1st and 2nd Street. Metered parking is available on both sides of the street, south of 2nd street, with no peak hour restrictions. Within the study area, Los Angeles Street is designated as an Avenue II roadway in the Los Angeles Mobility Plan 2035.

Lane configurations of the study intersections are provided in Appendix B.

EXISTING PUBLIC TRANSIT SERVICE

The Project site is served by a high level of public transit. Figures 3A and 3B show the various local Metro bus routes, rapid bus Metro routes, and other municipal bus services in the study area. The project is located within the heart of Downtown Los Angeles, which serves as the center of the Los Angeles regional transit system. The Project is located less than 750 feet southeast of the Metro Purple/Red Line Civic Center/Grand Park Station and within ¼ mile of 64 bus transit lines, which provide service to regional centers such as Century City, Santa Monica, Burbank, Long Beach, Pasadena, and the Inland Empire as well as to major transit stations including Union Station and 7th and Metro Center Station. Table 1 details the transit service near the project site.

FUTURE REGIONAL CONNECTOR TRANSIT CORRIDOR

The Project site is located adjacent to the future Historic Broadway Station for the Regional Connector Transit Corridor that will connect the Blue and Exposition Light Rail lines to the current Gold Line and Union Station. When completed, the 1.9 mile alignment will allow transit riders to transfer between Blue, Expo, Red and Purple Lines, bypassing Union Station. Passengers will also be able to travel from Azusa to Long Beach and from East

Los Angeles to Santa Monica without transferring lines. Forecasted opening for the Regional Connector is 2021.

EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Figure 4 shows existing and planned designated bicycle facilities in the Project area. As shown in the figure, there are existing bike lanes along Figueroa Street, Spring Street, Main Street, 1st Street, and 2nd Street west of Spring Street in the study area. There are sharrowed routes along Broadway south of 3rd Street and along 2nd Street west of Spring Street. The only cycle track in the study area exists along Los Angeles Street north of 1st Street. The study area has a mature network of pedestrian facilities including sidewalks, crosswalks and pedestrian safety features. Sidewalks are generally 12-feet wide throughout the study area.

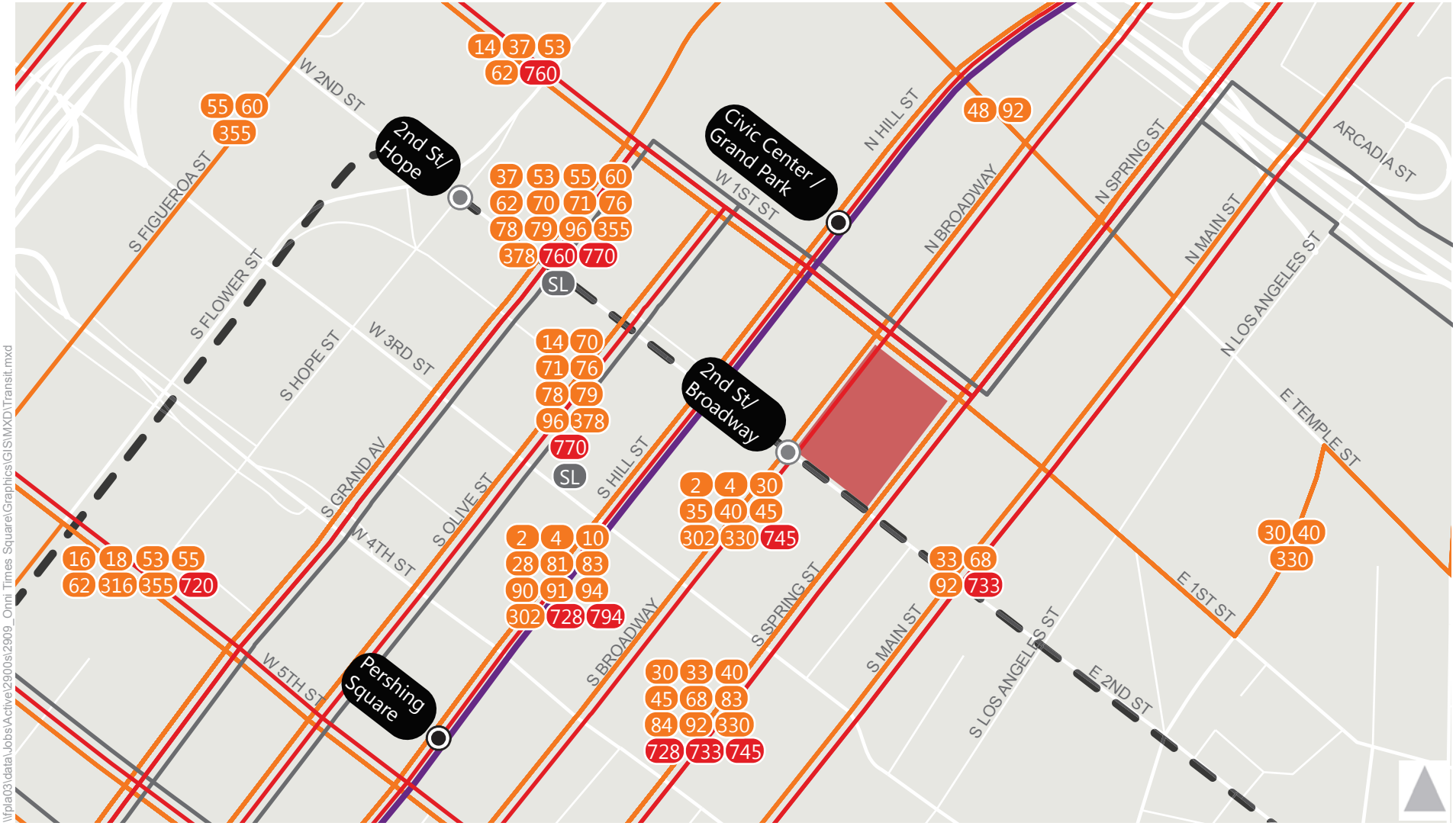
Metro's *Active Transportation Strategic Plan (ATSP)* identifies corridors proposed to receive improved bicycle and pedestrian infrastructure improvements. The ATSP identifies improvements along a portion of 1st Street, 2nd Street, Spring Street, and Main Street with the addition of a cycle track. There are also planned bike lanes along portions of Hill Street and 2nd Street within the study area.

In the immediate vicinity of the Project, the City has identified the one-way pair of Spring Street and Main Street in Downtown Los Angeles to receive bicycle and pedestrian safety upgrades as part of the Main and Spring Forward project. The project aims to improve intersections and crossings for people walking, upgrade the existing buffered bicycle lanes to protected bicycle lanes, reduce bus-bicycle conflicts, and maximize parking/loading. These changes will be implemented along Spring Street between 1st Street and 9th Street, and Main Street between Cesar Chavez Avenue and 9th Street. Phase One improvements include: higher-visibility crosswalks, protected bike lanes, bike signals, and dedicated left-turn pockets. Planned Phase Two improvements include pedestrian islands at intersections and full-length concrete curbs to buffer parked cars from bike lanes. Construction on Phase One improvements began in January 2018. Phase Two improvements are proposed for 2018/2019.

STREET CLASSIFICATION AND HIGH INJURY NETWORK

As seen in Figure 5A, the Downtown Los Angeles street network is characterized by several different roadway classifications, according to the Los Angeles Mobility Plan 2035. The Project site is bounded by Broadway and Spring Street (Avenue II), 1st Street (Boulevard II), and 2nd Street (Avenue III). Figure 5A also shows the location of the High Injury Network (HIN) in the study area. The HIN is a component of LADOT's Vision Zero plan to eliminate traffic fatalities by 2020. The HIN comprises 6% of Los Angeles' street miles and 65% of all deaths and severe injuries involving people walking and biking. The project site is bounded by four streets that are part of the HIN: 1st Street, Spring Street, Broadway, and 2nd Street.

Figure 5B shows the Mobility Plan 2035 Enhanced Street Network. The Mobility Plan is a component of the General Plan that classifies streets based on the user groups that improvements are targeted towards: the vehicle enhanced network (VEN) consists of roadways designed to provide access to and from the region's freeways, the transit enhanced network (TEN) will provide upgrades to roadways to improve line performance as well as accessibility for transit users, the bicycle enhanced network (BEN) will improve facilities to encourage bicycle use and increase safety, and the neighborhood enhanced network (NEN) will slow down neighborhood streets and add amenities to improve the walking, cycling, and other slow-moving vehicle access. Within the study area are mainly bicycle and transit enhanced network roadways. There are no vehicle enhanced network roadways or neighborhood enhanced network roadways within the study area.



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Project Site

Local

Rapid

Silver Line

Red/Purple Line

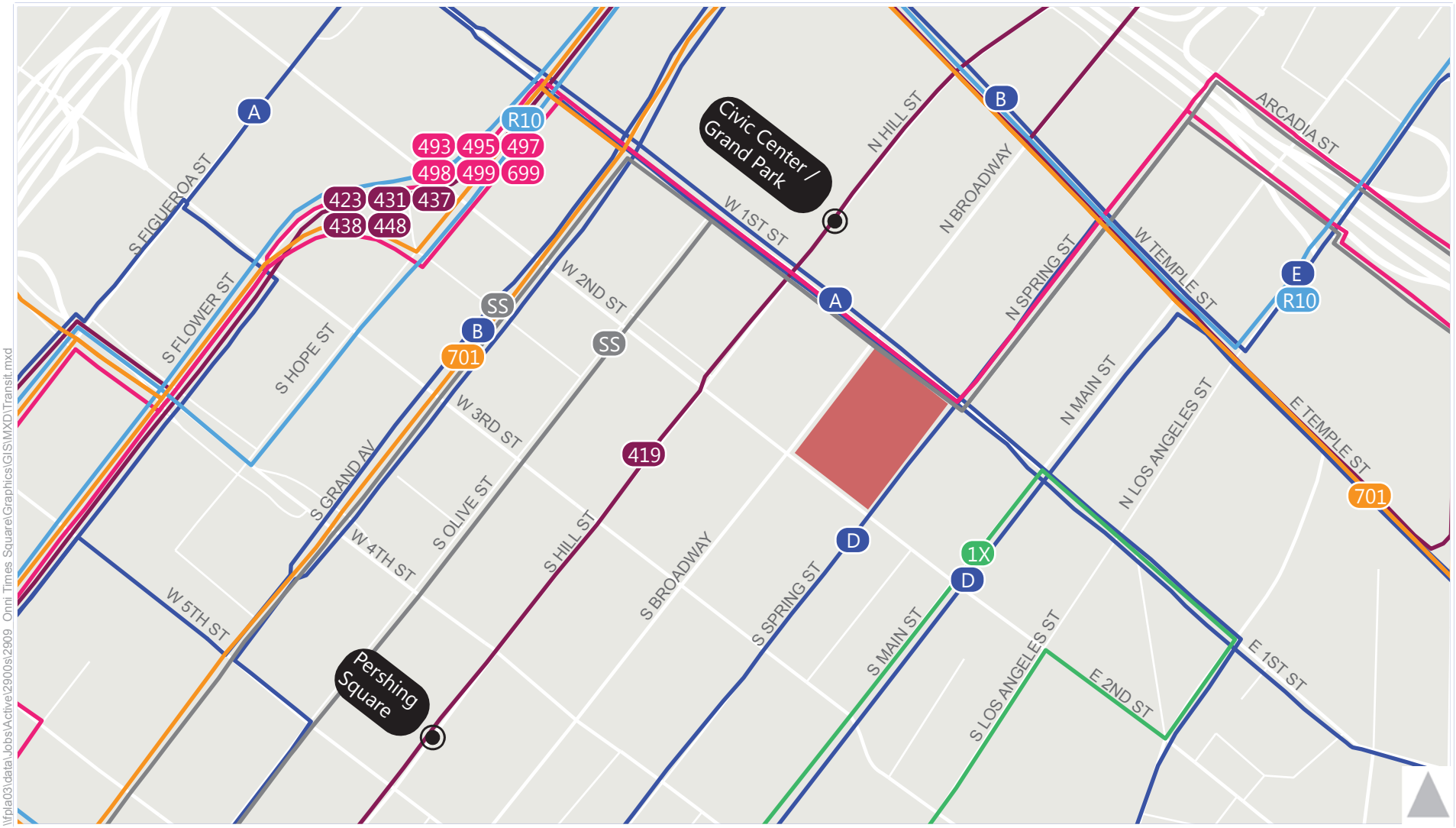
Regional Connector (under construction)

Existing Metrorail Station

Future Regional Connector Station

Figure 3A

Existing Transit: Metro Bus and Rail



Project Site

GTrans

OCTA

Foothill Silver Streak

LADOT DASH

Foothill Transit

LADOT Commuter Express

Big Blue Bus

Figure 3B

Existing Transit: Municipal Transit Operators

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TABLE 1
TIMES MIRROR SQUARE
EXISTING PUBLIC TRANSIT SERVICE

Transit Route	Operator	Service Type	Service Between	Along (within study area)	Weekday Headways	
					AM	PM
785	AVTA	Commuter	Downtown and Lancaster	Flower Street/1st Street/Main Street	15-30 min	20-25 min
R10	Big Blue Bus	Rapid	Santa Monica and Downtown	Hope Street/Temple Street	20 min	30 min
COX	Commerce Bus Lines	Shuttle	Downtown and Citadel Outlets	Grand Avenue/1st Street	50-60 min	50-60 min
493	Foothill Transit	Commuter	Downtown and Diamond Bar	Figueroa Street/Grand Avenue/1st Street/Spring Street	10-20 min	10-15 min
495	Foothill Transit	Commuter	Downtown and Industry	Figueroa Street/Grand Avenue/1st Street/Spring Street	25-30 min	15-20 min
497	Foothill Transit	Commuter	Downtown and Chino	Figueroa Street/Grand Avenue/1st Street/Spring Street	15 min	15 min
498	Foothill Transit	Commuter	Downtown and Azusa/West Covina	Figueroa Street/Grand Avenue/1st Street/Spring Street	10-20 min	10-15 min
499	Foothill Transit	Commuter	Downtown and San Dimas	Figueroa Street/Grand Avenue/1st Street/Spring Street	10-20 min	10-20 min
699	Foothill Transit	Commuter	Downtown and Montclair	Figueroa Street/Grand Avenue/1st Street/Spring Street	10-15 min	7-10 min
SS	Foothill Transit	Rapid	Downtown and Calremont	Grand Avenue/Olive Street/Spring Street/1st Street	5-10 min	15 min
1X	G-Trans	Express	Downtown and Hawthorne	Los Angeles Street/Main Street	30 min	30 min
409	LADOT	Commuter	Downtown and East Glendale	Hope Street/Temple Street	20-30 min	15-20 min
419	LADOT	Commuter	Downtown and Chatsworth	Hill Street	15-20 min	20 min
423	LADOT	Commuter	Downtown and Thousand Oaks	Hope Street/Temple Street	20-40 min	5-10 min
431	LADOT	Commuter	Downtown and Westwood	Hope Street/Temple Street	25 min	30 min
437	LADOT	Commuter	Downtown and Venice	Hope Street/Temple Street	20-40 min	15-30 min
438	LADOT	Commuter	Downtown and Redondo Beach	Hope Street/Temple Street	10-30 min	15 min
448	LADOT	Commuter	Downtown and Rancho Palos Verdes	Hope Street/Temple Street	15-20 min	15-30 min
534	LADOT	Commuter	Downtown and West LA	1st Street	25 min	20-30 min
Downtown - A	LADOT	Shuttle	Little Toyko, City West	1st Street	7 min	7 min
Downtown - B	LADOT	Shuttle	Chinatown, Financial District	Grand Avenue/Temple Street	8 min	8 min
Downtown - D	LADOT	Shuttle	Union Station, South Park	Spring Street/Main Street	5 min	5 min
MSB	LADOT	Shuttle	Union Station and Bunker Hill	Hope Street/Grand Street	5-10 min	5-10 min
442	Metro	Express	Downtown and Hawthorne	Grand Avenue/Olive Street/1st Street	20-40 min	35-60 min
Red	Metro	Heavy Rail	Union Station and North Hollywood	Hill Street	5-10 min	5-10 min
Purple	Metro	Heavy Rail	Union Station and Koreatown	Hill Street	5-10 min	5-10 min
4	Metro	Local	Downtwon and Santa Monica	Temple Street	10-15 min	10-20 min
10	Metro	Local	Downtown and Pacific Palisades	Main Street/Spring Street	10-15 min	10-15 min
14	Metro	Local	Downtown and Beverly Hills	Grand Avenue/Olive Street/1st Street	5-10 min	5-10 min
28	Metro	Local	Eagle Rock and Century City	Hill Street/Broadway/Spring Street	10-15 min	10-20 min
37	Metro	Local	Downtown and Fairfax Transit Hub	Grand Avenue/Olive Street/1st Street	5-10 min	5-10 min
40	Metro	Local	Downtown and South Bay Galleria	Broadway/Spring Street	10-15 min	15-20 min
45	Metro	Local	Lincoln Heights and Rosewood	Broadway/Spring Street	5-10 min	10-15 min
48	Metro	Local	Downtown and Avalon Station	Hill Street/1st Street	10-15 min	10-12 min
53	Metro	Local	Downtown and CSU Dominguez Hills	1st Street/Grand Avenue	10-15 min	10-15 min
60	Metro	Local	Downtown and Long Beach	Figueroa Street	10-15 min	10-15 min
62	Metro	Local	Downtown and Hawaiian Gardens	1st Street/Grand Avenue	15-20 min	15-20 min
68	Metro	Local	Downtown and Montebello	Spring Street/Main Street/1st Street	20 min	20 min
70	Metro	Local	Downtown and El Monte	Grand Avenue/Olive Street/Spring Street/1st Street	12-15 min	15-20 min
71	Metro	Local	Downtown and Cal State LA	Grand Avenue/Olive Street/Spring Street/1st Street	20 min	20-40 min
76	Metro	Local	Downtown and El Monte	Grand Avenue/Olive Street/Spring Street/1st Street	15 min	15-20 min
81	Metro	Local	South LA and Eagle Rock	Hill Street	5-10 min	10-12 min
83	Metro	Local	Downtown and Eagle Rock	Hill Street/Main Street	20-30 min	20-30 min
84	Metro	Local	Downtown and Eagle Rock	Hill Street/Broadway	20-30 min	20-30 min
92	Metro	Local	Downtown and Burbank	Main Street/Spring Street	15-20 min	15-20 min
94	Metro	Local	Downtown and Sun Valley	Hill Street	10-20 min	20-30 min
96	Metro	Local	Downtown and Burbank Station	Grand Avenue/Olive Street/Spring Street/1st Street	30 min	30 min
90/91	Metro	Local	Downtown and Sylmar	Hill Street	15-20 min	15-20 min
487/489	Metro	Local/Express	Downtown and El Monte Station	Grand Avenue/Olive Street/1st Street	30 min	10-15 min
2/302	Metro	Local/Limited	Downtown and Pacific Palisades	Hill Street/Broadway	15 min	15 min
30/330	Metro	Local/Limited	East Los Angeles and West Hollywood	Broadway/Spring Street	5-10 min	5-10 min
55/355	Metro	Local/Limited	Downtown and Willowbrook/Rosa Parks Station	Main Street/Spring Street	10-15 min	10-15 min
78/79/378	Metro	Local/Limited	Downtwon and Arcadia	Grand Avenue/Olive Street/Spring Street/1st Street	10 min	10 min
728	Metro	Rapid	Union Station and Century City	Hill Street/Spring Street	12 min	12 min
733	Metro	Rapid	Downtown and Santa Monica	Main Street/Spring Street	10-15 min	10-15 min
745	Metro	Rapid	Downtown and Harbor Freeway Station	Broadway/Spring Street	10 min	10 min
760	Metro	Rapid	Downtown and Long Beach Blvd Station	1st Street/Grand Avenue	10-20 min	10-20 min
770	Metro	Rapid	Downtown and El Monte	Grand Avenue/Olive Street/Spring Street/1st Street	10-15 min	15 min
794	Metro	Rapid	Downtown and Sylmar	Hill Street	20 min	30 min
90	Montebello Bus Lines	Express	Downtown and Whittier	3rd Street/4th Street	20-25 min	20-25 min
40	Montebello Bus Lines	Local	Downtown and Whittier	3rd Street/4th Street	10 min	10-15 min
701	OCTA	Commuter	Union Station and Huntington Beach	Hope Street/Temple Street	20-30 min	25-35 min
799	Santa Clarita Transit	Commuter	Downtown and Santa Clarita	Figueroa Street/Grand Avenue/1st Street/Spring Street	10-20 min	15-20 min
4	Torrance Transit	Commuter	Downtown and Torrance	Grand Avenue/Olive Street/1st Street	40 min	45-60 min

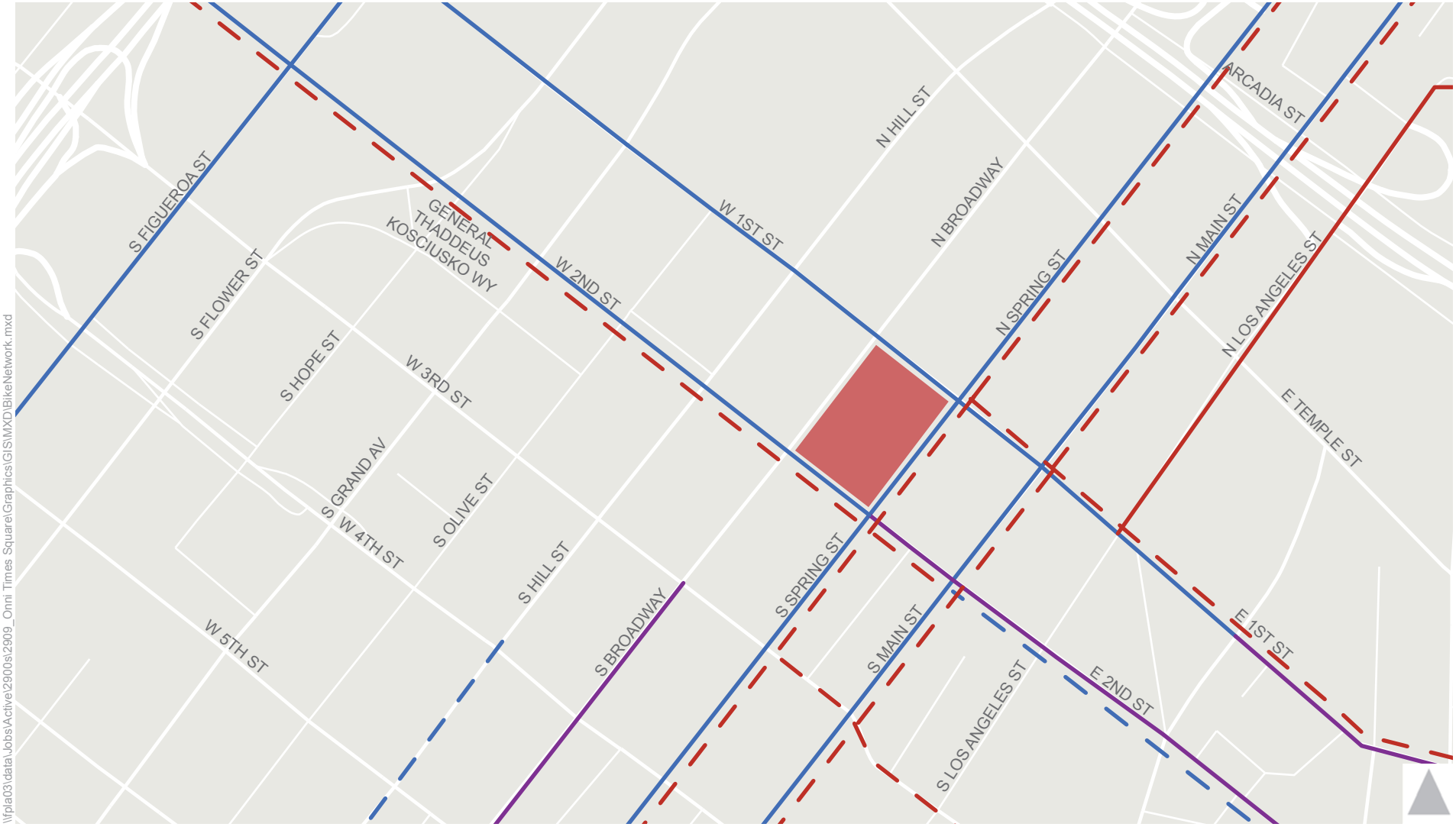
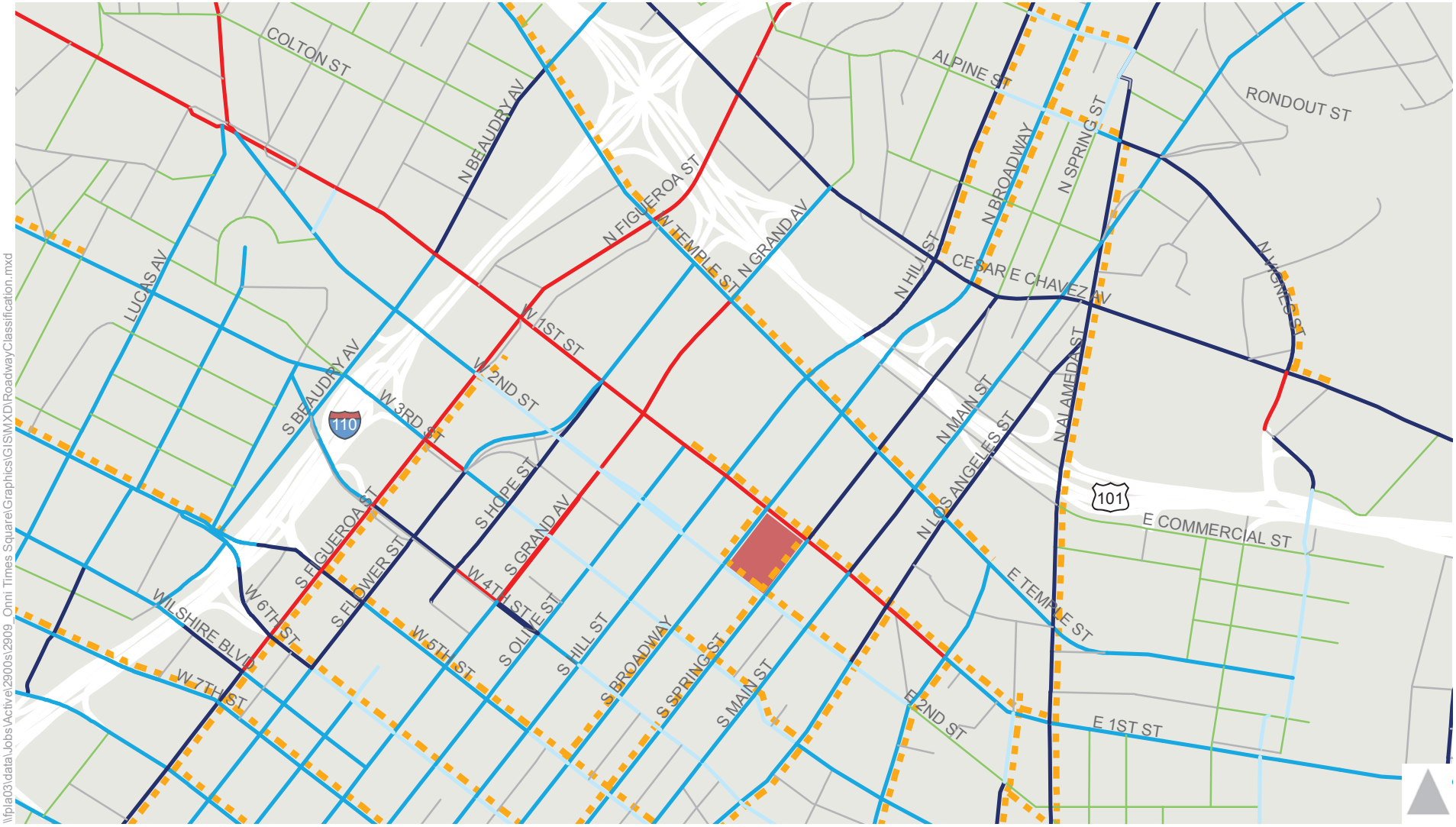


Figure 4

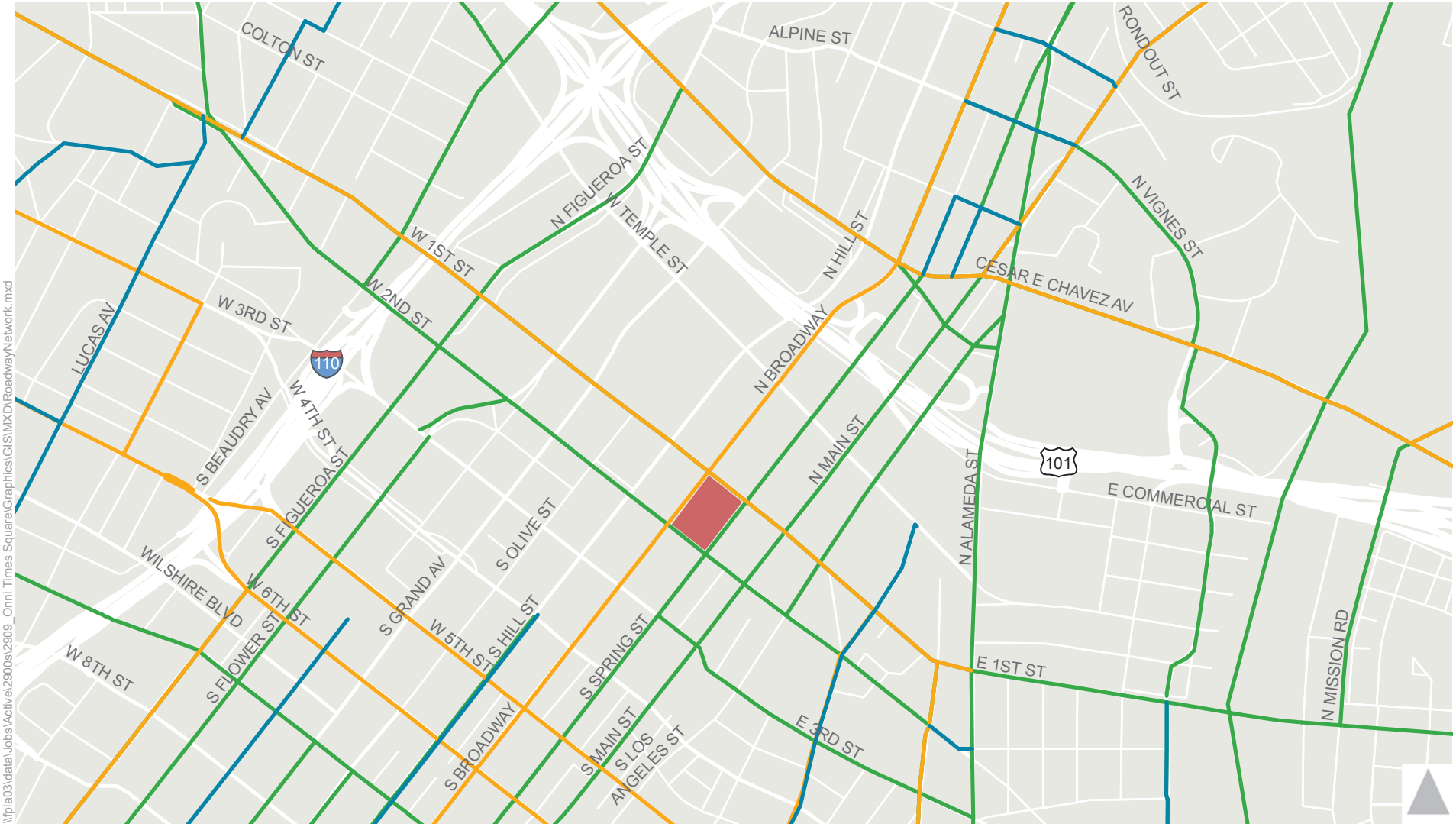
Existing and Planned Bicycle Facilities



Project Site
HIN
Boulevard II
Avenue I
Avenue II
Avenue III
Collector Streets
Local/Other Streets

Figure 5A

Roadway Classifications & High Injury Network



Project Site
Bicycle Enhanced Network
Neighborhood Enhanced Network
Transit Enhanced Network

Figure 5B

Mobility Plan 2035 Enhanced Street Networks

EXISTING TRAFFIC VOLUMES AND LEVEL OF SERVICE

This section presents existing base peak hour traffic volumes, describes the methodology used to assess the traffic conditions at each intersection, and analyzes the resulting operating conditions at each, indicating volume-to-capacity (V/C) ratios and levels of service (LOS).

EXISTING TRAFFIC VOLUMES

New weekday AM and PM peak hour turning movement counts were collected at the study intersections on Thursday, March 23, 2017 and Tuesday, October 17, 2017. The existing weekday morning and afternoon peak hour volumes at the study intersections are provided in Appendix B. Count sheets for these intersections are contained in Appendix C.

LEVEL OF SERVICE METHODOLOGY

A variety of standard methodologies are available to analyze LOS. According to *Transportation Impact Study Guidelines* (LADOT, December 2016), this study is required to use the Critical Movement Analysis (CMA) method of intersection capacity calculation (Transportation Research Board, 1980) to analyze signalized intersections in the City of Los Angeles. The V/C ratio is then used to find the corresponding LOS based on the definitions in Table 2A. Under the CMA methodology, a V/C ratio is generated for each study intersection based on factors such as the volume of traffic and the number of lanes providing for such vehicle movement and an LOS grade.

For the driveway analysis in Chapter 6, the *Highway Capacity Manual* (HCM) (Transportation Research Board, 2010) methodology was used to analyze the delay. Under HCM methodology, delay is calculated in seconds and given an LOS grade, as shown in Table 2B.

The City of Los Angeles' Automated Traffic Surveillance and Control (ATSAC) system is a computer-based traffic signal control system that monitors traffic conditions and system performance to allow ATSAC-operations to manage signal timing to improve traffic flow conditions. The Adaptive Traffic Control System (ATCS) is an enhancement to ATSAC and provides fully traffic-adaptive signal control based on real-time traffic conditions. All of the study intersections located in the City of Los Angeles are currently operating under the City's ATSAC system and ATCS control. ATSAC and ATCS provide improved operating conditions. Therefore, in accordance with City of Los Angeles procedures, a credit of 0.07 V/C reduction was applied at each intersection where ATSAC is implemented and an additional 0.03 V/C reduction was applied at each intersection where ATCS is implemented.

EXISTING LEVELS OF SERVICE

Existing year traffic volumes presented in Appendix B were analyzed using the intersection capacity analysis methodology described above to determine the existing operating conditions at the study intersections. Table 3 summarizes the results of the analysis of the existing weekday morning and afternoon peak hour V/C ratio and corresponding LOS at each of the analyzed intersections. All of the 28 intersections operate at LOS C or better during both peak periods. Analysis sheets are provided in Appendix D.

TABLE 2A
LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS
CMA METHODOLOGY

Level of Service	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	>0.600 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel somewhat what restricted within groups of vehicles.
C	>0.700 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	>0.800 - 0.900	FAIR. Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	>0.900 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	> 1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths

Source: *Transportation Research Circular No. 212, Interim Materials on Highway Capacity,* Transportation Research Board, 1980.

TABLE 2B
LEVEL OF SERVICE DEFINITIONS FOR
STOP-CONTROLLED INTERSECTIONS

Level of Service	Average Control Delay (seconds/vehicle)
A	$\leq$ 10.0
B	> 10.0 and $\leq$ 15.0
C	> 15.0 and $\leq$ 25.0
D	> 25.0 and $\leq$ 35.0
E	> 35.0 and $\leq$ 50.0
F	> 50.0

Source: *Highway Capacity Manual,* Transportation Research Board, 2010.

TABLE 3
TIMES MIRROR SQUARE
EXISTING CONDITIONS INTERSECTION LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	EXISTING (2017)	
			V/C	LOS
1	S Figueroa Street &	AM	0.534	A
	W 2nd Street	PM	0.761	C
2	S Grand Avenue &	AM	0.517	A
	W 1st Street	PM	0.628	B
3	S Olive Street &	AM	0.347	A
	W 1st Street	PM	0.418	A
4	N Hill Street &	AM	0.757	C
	W Temple Street	PM	0.706	C
5	Hill Street &	AM	0.757	C
	W 1st Street	PM	0.760	C
6	Hill Street &	AM	0.397	A
	W 2nd Street	PM	0.433	A
7	Hill Street &	AM	0.664	B
	W 3rd Street	PM	0.551	A
8	N Broadway &	AM	0.336	A
	Aliso Street	PM	0.403	A
9	N Broadway &	AM	0.620	B
	W Temple Street	PM	0.627	B
10	Broadway &	AM	0.591	A
	W 1st Street	PM	0.630	B
11	S Broadway &	AM	0.329	A
	W 2nd Street	PM	0.496	A
12	S Broadway &	AM	0.474	A
	W 3rd Street	PM	0.457	A
13	S Broadway &	AM	0.283	A
	W 4th Street	PM	0.427	A
14	N Spring Street &	AM	0.260	A
	Aliso Street	PM	0.172	A
15	N Spring Street &	AM	0.424	A
	W Temple Street	PM	0.364	A
16	Spring Street &	AM	0.579	A
	W 1st Street	PM	0.429	A
17	S Spring Street &	AM	0.365	A
	W 2nd Street	PM	0.139	A
18	S Spring Street &	AM	0.427	A
	W 3rd Street	PM	0.304	A
19	S Spring Street &	AM	0.271	A
	W 4th Street	PM	0.347	A
20	N Main Street &	AM	0.355	A
	E Temple Street	PM	0.619	B
21	Main Street &	AM	0.400	A
	1st Street	PM	0.648	B
22	S Main Street &	AM	0.251	A
	2nd Street	PM	0.483	A
23	S Main Street &	AM	0.364	A
	3rd Street	PM	0.443	A
24	Los Angeles Street &	AM	0.482	A
	E 1st Street	PM	0.621	B
25	S Los Angeles Street &	AM	0.645	B
	E 2nd Street	PM	0.500	A
26	N Figueroa Street &	AM	0.771	C
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B
27	S Beaudry Avenue &	AM	0.685	B
	W 2nd Street	PM	0.651	B
28	S Figueroa Street	AM	0.751	C
	W 3rd Street	PM	0.614	B

EXISTING BASE CONDITIONS

As discussed previously, existing counts were collected during the construction of the Regional Connector transit project, resulting in the closure of 2nd Street between Spring Street and Broadway during the time of the traffic counts. This construction resulted in temporary lane configuration changes at the following study intersections:

11. South Broadway & West 2nd Street
16. Spring Street & West 1st Street
17. South Spring Street & West 2nd Street

When Regional Connector construction is completed in 2021, 2nd Street will reopen to through traffic and the lane geometry configuration will revert to pre-construction conditions. As the build out year for the Times Mirror Square Project is 2023, the Regional Connector project will be completed; therefore, an Existing Base Conditions configuration was established as the basis for developing forecast future conditions. Under the Existing Base Conditions, the lane geometry for the three intersections outlined above reflect the pre- and post- Regional Connector lane geometry.

In addition to the change in lane configurations, the temporary closure also resulted in the shift of traffic volumes to parallel streets due to the closure of eastbound and westbound traffic on 2nd Street between Spring Street and Broadway. Therefore, traffic counts for eastbound and westbound traffic, as well as related turning movements, were replaced with pre-construction counts from 2009 at the following study intersections:

11. South Broadway & West 2nd Street
17. South Spring Street & West 2nd Street
22. South Main Street & 2nd Street
25. South Los Angeles Street & East 2nd Street

Volumes were not adjusted at the intersection of Spring Street & West 1st Street due to the absence of suppressed existing traffic counts, when compared with pre-construction volumes. An ambient growth rate of 1% per year was applied to the 2009 counts to reflect 2017 Existing Base Conditions absent the Regional Connector construction activity. Additional localized adjustments to traffic volumes were included to reflect pre- and post- Regional Connector traffic volumes. Level of service results for Existing plus Project conditions will be compared to Existing Base conditions for the purpose of impact analysis. Table 4 summarizes the results of the analysis of Existing Base conditions V/C ratio and corresponding LOS at each of the analyzed intersections. All of the 28 intersections operate at LOS C or better during both peak periods. Analysis sheets are provided in Appendix D.

TABLE 4
TIMES MIRROR SQUARE
EXISTING BASE CONDITIONS INTERSECTION LEVELS OF SERVICE

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE	
			V/C	LOS
1	S Figueroa Street &	AM	0.534	A
	W 2nd Street	PM	0.761	C
2	S Grand Avenue &	AM	0.517	A
	W 1st Street	PM	0.628	B
3	S Olive Street &	AM	0.347	A
	W 1st Street	PM	0.418	A
4	N Hill Street &	AM	0.757	C
	W Temple Street	PM	0.706	C
5	Hill Street &	AM	0.757	C
	W 1st Street	PM	0.760	C
6	Hill Street &	AM	0.397	A
	W 2nd Street	PM	0.433	A
7	Hill Street &	AM	0.664	B
	W 3rd Street	PM	0.551	A
8	N Broadway &	AM	0.336	A
	Aliso Street	PM	0.403	A
9	N Broadway &	AM	0.620	B
	W Temple Street	PM	0.627	B
10	Broadway &	AM	0.591	A
	W 1st Street	PM	0.630	B
11	S Broadway &	AM	0.701	C
	W 2nd Street	PM	0.784	C
12	S Broadway &	AM	0.474	A
	W 3rd Street	PM	0.457	A
13	S Broadway &	AM	0.283	A
	W 4th Street	PM	0.427	A
14	N Spring Street &	AM	0.260	A
	Aliso Street	PM	0.172	A
15	N Spring Street &	AM	0.424	A
	W Temple Street	PM	0.364	A
16	Spring Street &	AM	0.468	A
	W 1st Street	PM	0.399	A
17	S Spring Street &	AM	0.491	A
	W 2nd Street	PM	0.403	A
18	S Spring Street &	AM	0.427	A
	W 3rd Street	PM	0.304	A
19	S Spring Street &	AM	0.271	A
	W 4th Street	PM	0.347	A
20	N Main Street &	AM	0.355	A
	E Temple Street	PM	0.619	B
21	Main Street &	AM	0.400	A
	1st Street	PM	0.648	B
22	S Main Street &	AM	0.285	A
	2nd Street	PM	0.587	A
23	S Main Street &	AM	0.364	A
	3rd Street	PM	0.443	A
24	Los Angeles Street &	AM	0.482	A
	E 1st Street	PM	0.621	B
25	S Los Angeles Street &	AM	0.711	C
	E 2nd Street	PM	0.627	B
26	N Figueroa Street &	AM	0.771	C
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B
27	S Beaudry Avenue &	AM	0.685	B
	W 2nd Street	PM	0.651	B
28	S Figueroa Street	AM	0.751	C
	W 3rd Street	PM	0.614	B

3. TRAFFIC PROJECTIONS

PROJECT TRAFFIC

PROJECT TRIP GENERATION

As discussed in Chapter 1, the proposed Project consists of 1,127 apartment units, 307,288 square feet of office space, 50,000 square feet of supermarket space, and 53,389 square feet of quality restaurant space. This development is located within one of the denser urban environments in the City of Los Angeles where alternative travel mode opportunities (i.e., auto, bike, pedestrian and transit) are readily available. If vehicle trip reduction of mixed-use dense urban developments such as this are understated, the result can be excessive traffic impacts and mitigation that can discourage development of otherwise desirable projects or transportation infrastructure that is not sized to the urban setting of the development. Trip generation rates from *Trip Generation, 9th Edition* (Institute of Transportation Engineers [ITE], 2012) were used to estimate the number of trips associated with the Project and are presented in Table 5 The total number of trips generated by the new development were adjusted to account for internalization, transit, pass-by, and trips generated by the existing land uses.

Internal trip credits are a reduction to the trip generation estimates for individual land uses in a mixed-use development to account for trips internal to the site. These are trips usually made via walking within the site. Transportation Research Board (TRB) National Cooperative Highway Research Program (NCHRP) Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* was used to determine the internal trip credits for each of the land uses. Based on the NCHRP analysis, the internal trip credits shown in Appendix A were used.

According to the *Transportation Impact Study Guidelines* (LADOT, December 2016), projects above or adjacent to Metro Rail, Metrolink, or Orange Line station, or to a similar dedicated transit line station with convenient pedestrian access to the station may qualify for a maximum 25% transit credit. The Project will be located adjacent to the future Historic Broadway Station of the Regional Connector, which is set to open in 2021. As such, a 25% transit credit was applied to all land uses, except the high-rise residential land use as the ITE trip generation rates for this land use already account for travel behavior in urban environments with access to high frequency fixed transit.

Pass-by trips measure the level of traffic that was already on the roadway system that became customers of new retail or restaurant uses. These trips are not considered new trips generated by the project because they were already on adjacent roadways, though they are accounted for at driveway access locations. Per LADOT's *Transportation Impact Study Guidelines,* Attachment I Policy on Pass-By Trips, pass-by credits were applied to portions of the development. A 40% pass-by credit was applied to the proposed supermarket use, and a 10% pass-by credit was applied to the proposed quality restaurant use.

Lastly, an existing credit was applied to the trip generation to account for the existing office space and bank uses and their associated vehicle trips. At the time of the traffic counts, the existing office space was approximately 60% occupied; therefore, the existing use credit for the office space reflects only trip generated by the occupied portion of the office space. A 15% transit credit was applied to these existing uses during the peak hour as they are currently only within ¼-mile walking distance to a transit station or Rapid Bus service. A 20% pass-by credit was applied to the existing bank use. The existing trips of 454 AM peak hour trips (397 inbound/57 outbound) and 522 PM peak hour trips (125 inbound/397 outbound) were subtracted from the Project's overall trip generation as an existing use credit. Table 5 provides a summary of the proposed Project trip generation. With the existing land use credit, the Project is estimated to generate a net increase of 6,994 daily trips; 300 AM peak hour trips (9 inbound, 291 outbound) and 279 PM peak hour trips (253 inbound, 26 outbound).

TABLE 5
TIMES MIRROR SQUARE
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	1,127 DU	4.20	0.34	19%	81%	0.38	62%	38%	4,733	73	310	383	265	163	428
Less: Internal Capture [b]			*18%*		*3%*	*5%*		*40%*	*43%*	*(852)*	*(2)*	*(15)*	*(17)*	*(107)*	*(70)*	*(177)*
Net External Vehicle Trips										3,881	71	295	366	158	93	251
Office	710	307.288 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,389	422	57	479	78	380	458
Less: Internal Capture [b]			*10%*		*8%*	*43%*		*28%*	*12%*	*(339)*	*(35)*	*(24)*	*(59)*	*(22)*	*(45)*	*(67)*
Less: Transit Credit [c]			*16%*	*25%*			*25%*			*(488)*	*(97)*	*(8)*	*(105)*	*(14)*	*(84)*	*(98)*
Net External Vehicle Trips										2,562	290	25	315	42	251	293
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*31%*		*15%*	*32%*		*40%*	*57%*	*(1,585)*	*(15)*	*(20)*	*(35)*	*(98)*	*(132)*	*(230)*
Less: Transit Credit [c]			*11%*	*25%*			*25%*			*(388)*	*(23)*	*(11)*	*(34)*	*(36)*	*(25)*	*(61)*
Total Driveway Trips										3,139	67	34	101	108	75	183
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,255)*	*(26)*	*(13)*	*(39)*	*(43)*	*(30)*	*(73)*
Net External Vehicle Trips										1,884	41	21	62	65	45	110
Quality Restaurant [h]	931	53.389 ksf	89.95	0.81	55%	45%	7.49	67%	33%	4,802	24	19	43	268	132	400
Less: Internal Capture [b]			*36%*		*76%*	*47%*		*38%*	*62%*	*(1,729)*	*(18)*	*(9)*	*(27)*	*(101)*	*(82)*	*(183)*
Less: Transit Credit [c]			*10%*	*25%*			*25%*			*(307)*	*(2)*	*(3)*	*(5)*	*(42)*	*(13)*	*(55)*
Total Driveway Trips										2,766	4	7	11	125	37	162
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(276)*	*0*	*0*	*0*	*(12)*	*(3)*	*(15)*
Net External Vehicle Trips										2,490	4	7	11	113	34	147
TOTAL PROJECT DRIVEWAY TRIPS										12,348	432	361	793	433	456	889
TOTAL PROJECT EXTERNAL TRIPS										10,817	406	348	754	378	423	801
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										6,994	9	291	300	253	26	279

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook*, 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines*, December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be located directly adjacent to the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines*, December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

PROJECT TRAFFIC DISTRIBUTION

The geographic distribution of trips generated by the proposed Project is dependent on characteristics of the street system serving the Project site; the level of accessibility of routes to and from the proposed Project site; locations of employment and commercial centers to which residents of the Project would be drawn; and residential areas from which the commercial visitors and office employees would be drawn. A select zone analysis was conducted for the proposed uses using the City of Los Angeles Travel Demand Model to inform the general distribution pattern for this study. The distribution of Project trips is illustrated in Figure 6.

PROJECT TRAFFIC ASSIGNMENT

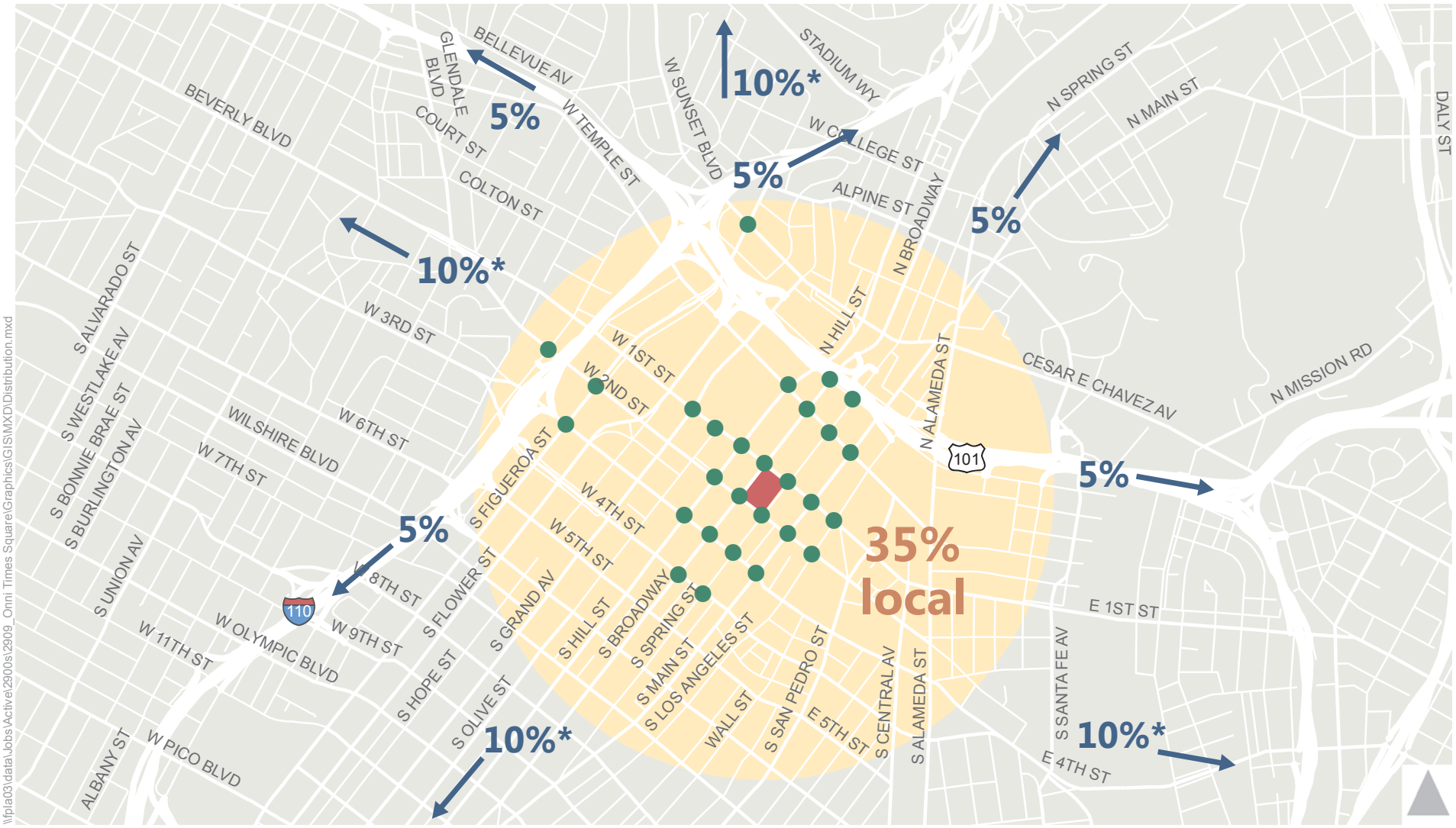
The traffic to be generated by the proposed Project was assigned to the street network using the distribution pattern described in Figure 6. Appendix B provides the assignment of the proposed Project-generated peak hour traffic volumes at the analyzed intersections during the AM and PM peak hours. The assignment of traffic volumes took into consideration the locations of the proposed Project driveways on Broadway and West 2nd Street, as well as peak hour turning movement restrictions in the vicinity of the site.

PROJECT DRIVEWAYS

Three driveways will provide access to the Project, with one driveway on West 2nd Street and two on Broadway. All driveways will provide full access to and from the site. The north driveway on Broadway will provide one ingress lane and two egress lanes (one left-turn and one right-turn). The 2nd Street driveway will provide one ingress lane and one egress lane. All three driveways will provide access to all project land uses. Loading will be accommodated internally to the site.

EXISTING PLUS PROJECT TRAFFIC CONDITIONS

The Project traffic estimated and assigned to the study intersections was added to the Existing Base traffic volumes to estimate Existing plus Project traffic volumes. Turning movement traffic volumes for the Existing plus Project scenario are provided in Appendix B. Analysis sheets are provided in Appendix D.



Project Site Study Intersections

*Some trips ultimately distributed onto freeways.

Figure 6

Trip Distribution

FUTURE YEAR 2023 TRAFFIC CONDITIONS

To evaluate the potential impacts of the proposed Project on Future (Year 2023) conditions, it was necessary to develop estimates of future traffic conditions in the area both without and with Project traffic. First, estimates of traffic growth were developed for the study area to forecast Future conditions without the Project. These forecasts included traffic increases as a result of both regional ambient traffic growth and traffic generated by specific developments in the vicinity of the Project (related projects).

These projected traffic volumes, identified herein as the Future Base conditions, represent the future conditions without the proposed Project. The traffic generated by the proposed Project was then estimated and assigned to the surrounding street system. Project traffic was added to the Future Base conditions to form Future (Year 2023) plus Project traffic conditions, which were analyzed to determine the incremental traffic impacts attributable to the Project itself.

The assumptions and analysis methodology used to develop each of the future year scenarios discussed above are described in more detail in the following sections.

BACKGROUND OR AMBIENT GROWTH

Based on historic trends and at the direction of LADOT, it was established that an ambient growth factor of 1% per year should be applied to adjust the existing base year traffic volumes to reflect the effects of regional growth and development by year 2023. This adjustment was applied to the Existing (Year 2017) traffic volume data to reflect the effect of ambient growth by the year 2023.

RELATED PROJECT TRAFFIC GENERATION AND ASSIGNMENT

Future Base traffic forecasts include the effects of known specific projects, called related projects, expected to be implemented in the vicinity of the proposed Project site prior to the buildout date of the proposed Project. The list of related projects was prepared based on data from LADOT and the City of Los Angeles Department of City Planning. A total of 170 related projects were identified in the study area; these projects are listed in Table 6 and illustrated in Figure 7.

Trip Generation

Trip generation estimates for the related projects were calculated using a combination of previous study findings, publicly available environmental documentation, and trip generation rates contained in *Trip Generation, 9th Edition*. Table 6 presents the resulting trip generation estimates for these related projects. These projections are conservative in that they do not in every case account for either the existing uses to be removed or the possible use of non-motorized travel modes (transit, walking, etc.). Traffic mitigation measures associated with the related projects are also not in every case accounted for in the analysis.

TABLE 6
TIMES MIRROR SQUARE
TRIP GENERATION ESTIMATES FOR CUMULATIVE PROJECTS

ID	PROJECT ADDRESS	LAND USE	SIZE		TRIP GENERATION ESTIMATES						
					DAILY	AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
1	454 E Commercial St	Bus Facility	2	acres	N/A	22	8	30	9	1	10
2	225 S Los Angeles St	Condominiums	300	du	1,910	88	136	224	75	52	127
		Retail	3.4	ksf							
3	1101 N Main	Condominiums	318	du	1,102	-9	80	71	75	12	87
4	1133 S Hope St	Apartments	208	du	1,543	20	74	94	91	50	141
		Retail	5.069	ksf							
5	1115 S Hill St	Condominiums	172	du	543	-45	40	-5	50	-7	43
		Restaurant	6.85	ksf							
6	1102 W 6th St	Apartments	649	du	4,200	61	195	256	232	155	387
		Retail	39.996	ksf							
7	609 W 8th St	Condominiums	225	du	4,908	90	104	194	242	159	401
		Hotel	200	rooms							
		Retail	30	ksf							
		Restaurant	32	ksf							
8	1050 S Grand Ave	Condominiums	151	du	1,084	15	54	69	64	35	99
		Retail	3.472	ksf							
		Restaurant	2.2	ksf							
9	848 S Grand Ave	Condominiums	420	du	3,882	66	144	210	212	165	377
		Supermarket	38.5	ksf							
10	1430 W Beverly Blvd	Apartments	243	du	780	13	49	62	47	25	72
		Commercial	3.5	ksf							
11	900 W Wilshire Blvd	Condominiums	100	du	3,624	725	75	800	94	764	858
		Hotel	560	rooms							
		Fitness Facility	20	ksf							
		Office	1,500	ksf							
		Retail/Restaurant	50	ksf							
12	2000 Stadium Way	Condominiums	800	du	4,486	61	238	299	242	137	379
		Hospital	56	beds							
		Retail	15	ksf							
13	1435 W 3rd St	Apartments	122	du	711	11	42	53	41	25	66
		Retail	3.5	ksf							
14	237 S Grand Ave (100 S. Grand Ave; Grand Ave Project) [a]	Apartments	412	du	21,631	919	632	1,551	1,120	1,344	2,464
		Condominiums	1,648	du							
		Supermarket	53	ksf							
		Restaurant	67	ksf							
		Health Club	50	ksf							
		Event Facility	250	seats							
		Hotel	275	rooms							
		Retail	225.25	ksf							
		Office	681	ksf							
15	899 S Francisco St	Condominiums	836	du	8,010	307	318	625	387	512	899
		Office	988.225	ksf							
		Hotel	480	rooms							
		Retail/Restaurant	46	ksf							
16	150 N Los Angeles St	Office	712.5	ksf	13,534	930	118	1,048	435	942	1,377
		Retail	35	ksf							
		Child care	2.5	ksf							
17	1027 S Olive St	Apartments	100	du	632	9	39	48	38	21	59
18	1300 S Hope St	Apartments	419	du	4,280	88	105	193	136	102	238
		Retail	42.2	ksf							
19	928 S Broadway	Apartments	662	du	4,715	21	229	250	272	109	381
		Retail	47	ksf							
		Live/Work	11	ksf							
		Office	34.824	ksf							
20	1200 S Grand Ave	Apartments	640	du	4,886	92	148	240	181	134	315
		Retail	45	ksf							
21	1329-1419 W 7th St	Apartments	87	du	662	16	37	53	39	22	61
22	534 S Main St	Apartments	160	du	2,213	52	75	127	87	58	145
		Retail	18	ksf							
		Restaurant	7	ksf							
23	840 S Olive St	Condominiums	303	du	3,071	81	166	247	174	96	270
		Restaurant	9.68	ksf							
		Retail	1.5	ksf							
24	950 E 3rd St	School	532	students	6,372	162	177	339	245	213	458
		Retail	30.062	ksf							
		Apartments	635	du							
25	201 S Broadway	Mixed Use	27.675	ksf	N/A	-40	-41	-81	53	17	70
26	1057 S San Pedro St	Office	549.141	ksf	N/A	837	434	1,271	632	957	1,589
		Retail	224.862	ksf							
		Cinema	744	seats							
		Apartments	877	du							
		Condominiums	68	du							
		Hotel	210	rooms							
27	400 S Broadway	Apartments	450	du	3,292	50	187	237	193	112	305
		Retail	6.904	ksf							
		Bar	5	ksf							
28	1001 S Olive St	Apartments	225	du	1,581	22	79	101	94	51	145
		Restaurant	5	ksf							
29	955 S Broadway	Apartments	163	du	1,275	21	72	93	74	43	117
		Retail	6.406	ksf							

30	801 S Olive	Apartments	363	du	2,557	33	129	162	140	83	223
		Retail	2.5	ksf							
		Restaurant	7.5	ksf							
31	1212 S Flower St	Condominiums	730	du	3,956	78	233	311	229	121	350
		Retail	7.873	ksf							
32	820 S Olive St	Apartments	589	du	3,309	63	202	265	195	106	301
		Retail	4.5	ksf							
33	601 S Main St	Condominiums	452	du	2,686	36	144	180	152	87	239
		Retail	25	ksf							
34	2051 E 7th St	Apartments	320	du	2,310	17	127	144	145	64	209
		Retail	15	ksf							
		Restaurant	5	ksf							
35	1111 S Broadway	Apartments	391	du	5,198	144	176	320	258	274	532
		Office	39.725	ksf							
		Retail	49	ksf							
36	1148 S Broadway	Apartments	94	du	553	8	30	38	32	18	50
		Retail	2.5	ksf							
37	1120 S. Grand Avenue & 1155 S. Olive Street	Apartments	666	du	2,730	42	127	169	136	93	229
		Retail	20.6	ksf							
38	1230 S Olive St	Apartments	360	du	2,114	31	126	157	127	69	196
		Retail	6.4	ksf							
39	1247 S Grand Ave	Apartments	115	du	763	10	41	51	42	25	67
		Retail	4.61	ksf							
40	527 N Spring St	Apartments	345	du	3,585	49	118	167	189	131	320
		Retail	44	ksf							
		Restaurant	11	ksf							
41	1036 S Grand Ave	Restaurant	7.149	ksf	492	2	3	5	27	14	41
42	963 E 4th St	Office	78.6	ksf	2,512	106	22	128	113	138	251
		Retail	25	ksf							
		Restaurant	20	ksf							
43	1345 W 1st St	Apartments	102	du	714	10	40	50	42	24	66
		Retail	3.463	ksf							
44	401 N Boylston St	Apartments	121	du	561	8	35	43	34	18	52
45	737 S Spring St	Apartments	320	du	3,942	72	141	213	167	116	283
		Pharmacy	25	ksf							
46	1218 W Ingraham St	Apartments	80	du	532	8	33	41	33	17	50
47	555 S Mateo St	Retail	153	ksf	4,300	5	30	35	220	205	425
48	732 S Spring St	Apartments	400	du	3,409	59	152	211	164	104	268
		Pharmacy	15	ksf							
49	340 S Hill St	Apartments	428	du	2,253	36	129	165	133	75	208
		Retail	2.894	ksf							
50	1145 W 7th St	Condominiums	241	du	1,084	4	66	70	67	35	102
		Retail	7.291	ksf							
51	540 S Santa Fe Ave	Office	89.825	ksf	726	90	12	102	17	81	98
52	360 S Alameda St	Apartments	55	du	670	25	33	58	35	26	61
		Restaurant	2.5	ksf							
		Office	6.3	ksf							
53	118 S Astronaut E.S. Onizuka St	Apartments	77	du	97	-1	20	19	19	6	25
54	765 W College St	Office	100	ksf	3,422	178	48	226	78	198	276
55	959 E Stadium Way	Apartments	158	du	1,051	16	65	81	64	34	98
56	700 W Cesar Chavez Ave	Apartments	299	du	1,511	7	89	96	99	54	153
		Retail	8	ksf							
57	1525 E Industrial St	Apartments	328	du	2,288	58	73	131	86	69	155
		Office	27.3	ksf							
		Retail	6.4	ksf							
		Restaurant	5.7	ksf							
58	649 S Wall St	Medical Office	66	employees	104	24	5	29	3	24	27
		Assisted Living	55	beds							
59	410 N Center St	Office	110	ksf	1,165	87	0	87	0	79	79
60	500 S Mateo St	Restaurant	12.882	ksf	1,052	48	41	89	50	31	81
61	300 S Main St	Apartments	471	du	4,691	143	243	386	257	153	410
		Restaurant	27.78	ksf							
		Retail	5.19	ksf							
62	850 S Hill St	Apartments	300	du	1,970	28	106	134	116	65	181
		Retail	3.5	ksf							
		Restaurant	3.5	ksf							
63	340 N Patton St	Apartments	44	du	267	4	16	20	17	8	25
64	400 S Alameda St	Hotel	66	rooms	508	19	17	36	23	14	37
		Restaurant	2.13	ksf							
		Retail	0.84	ksf							
65	700 W 9th St	Apartments	341	du	2,624	37	146	183	143	95	238
		Retail	11.687	ksf							
66	649 S Olive St	Hotel	241	rooms	1,674	65	44	109	63	60	123
67	1111 W 6th St	Apartments	362	du	587	-71	117	46	104	-51	53
		Retail	25.805	ksf							
68	1185 W Sunset Blvd	Apartments	214	du	2,474	70	131	201	105	70	175
		Single Family	6	du							
		Commercial Condominium	6	du							
69	1229 S Grand Ave	Condominiums	161	du	1,116	23	62	85	62	33	95
		Restaurant	3	ksf							

70	675 S Bixel St	Hotel	126	rooms	3,461	74	173	247	184	116	300
		Apartments	422	du							
		Retail	4.874	ksf							
71	740 S Hartford Ave	Apartments	80	du	479	7	30	37	29	15	44
72	1235 W 7th St	Condominiums	304	du	1,725	23	95	118	100	54	154
		Retail	5.699	ksf							
73	940 S Hill St	Apartments	232	du	1,881	20	80	100	115	53	168
		Restaurant	14	ksf							
74	719 E 5th St	Apartments	160	du	1,033	15	58	73	59	37	96
		Retail	7.5	ksf							
75	1340 S Olive St	Apartments	156	du	1,700	51	82	133	89	57	146
		Retail	5	ksf							
		Restaurant	10	ksf							
76	929 E 2nd St	Retail	37.974	ksf	2,153	68	12	80	105	96	201
		Other	71.078	ksf							
77	633 S Spring St	Hotel	176	rooms	2,045	83	33	116	97	99	196
		Restaurant	8.43	ksf							
		Bar	5.29	ksf							
78	1020 S Figueroa St	Hotel	300	rooms	6,583	204	274	478	312	227	539
		Condominiums	435	du							
		Retail	58.959	ksf							
79	1800 E 7th St	Apartments	122	du	1,536	42	74	116	74	46	120
		Restaurant	4.605	ksf							
		Retail	3.245	ksf							
80	1013 N Everett Pl	Apartments	49	du	310	5	19	24	19	9	28
81	708 N Hill St	Apartments	162	du	980	16	57	73	57	33	90
		Retail	5	ksf							
82	211 W Alpine St	Apartments	122	du	566	9	42	51	37	18	55
		Retail	7.5	ksf							
83	106-136 S. Beaudry	Apartments	220	du	1,159	8	76	84	76	29	105
84	495 S Hartford Ave	Apartments	218	du	1,033	16	63	79	62	34	96
85	1316 W Court St	Apartments	60	du	745	11	46	57	45	24	69
86	744 S Figueroa St	Apartments	436	du	2,972	38	148	186	176	94	270
		Retail	10.043	ksf							
87	1201 N Broadway	Apartments	118	du	682	-9	49	40	48	8	56
		Commercial	8.8	ksf							
88	811, 813, 815 W Olympic Blvd	Hotel	373	rooms	4,423	166	170	336	189	185	374
		Condominiums	374	du							
		Retail	65.074	ksf							
		Office	33.498	ksf							
89	433 S Main	Condominiums	161	du	1,859	85	147	232	66	48	114
		Mixed Use	6.9	ksf							
90	926 W James M Woods Blvd	Hotel	247	rooms	1,562	59	42	101	59	56	115
91	459 S Hartford Ave	Apartments	101	du	361	15	15	30	22	22	44
92	520 S Mateo St	Apartments	600	du	4,995	157	220	377	274	223	497
		Office	30	ksf							
		Retail	15	ksf							
		Restaurant	15	ksf							
93	920 S. Hill St.	Apartments	239	du	1476	23	84	107	87	50	137
		Retail	5.4	ksf							
94	527 Colyton St	Condominiums	310	du	3,121	155	167	322	154	178	332
		Retail	11.375	ksf							
		Art Production Space	11.736	ksf							
95	330 South Alameda	Apartments	186	du	1,662	36	76	112	91	65	156
		Office	10.415	ksf							
		Retail	11.925	ksf							
96	668 South Alameda	Apartments	475	du	4,002	107	182	289	216	145	361
		Office	43	ksf							
		Retail	9	ksf							
		Supermarket	15	ksf							
		Restaurant	17.000	ksf							
97	717 Maple Ave [b]	Apartments	452	du	3,587	54	190	244	206	124	330
		Retail	14	ksf							
98	445 South Colyton [b]	Shopping Center	24.950	ksf	3,883	103	115	218	132	54	186
		Restaurant	25.380	ksf							
		Hotel	113	rooms							
		Residential	129	du							
		Art Gallery/School	13.500	ksf							
99	1100 East 5th St	Apartments	220	du	2,583	79	119	198	133	74	207
		Office	20.021	ksf							
		Restaurant	19.609	ksf							
		Retail	9.250	ksf							
100	640 South Alameda Street [b]	Hotel	412	rooms	23,975	1,199	1,369	2,568	1,246	1,133	2,379
		Art Space	22.429	ksf							
101	676 Mateo Street [b]	Apartments	172	du	2,163	93	152	245	134	88	222
		Retail	23.025	ksf							

102	670 Mesquit Street [b]	Hotel	236	rooms	26,489	1,513	451	1,964	698	1,316	2,014
		Apartments	308	du							
		Retail	79.240	ksf							
		Restaurant	89.576	ksf							
		Grocery	56.912	ksf							
		Office	944.055	ksf							
103	732-765 Wall Street	Apartments	323	du	2,499	108	82	191	164	141	305
		Retail	4.4	ksf							
		Event space	125	persons							
		Office	53.2	ksf							
		Restaurant	4.420	ksf							
104	1248 S Figueroa Street	Restaurant	13.145	ksf	5,720	192	125	317	203	212	415
		Hotel	1,162	rooms							
105	924 N. Spring Street [b]	Condominiums	770	du	6,677	87	299	386	360	231	591
		Retail	51.592	ksf							
106	1100 S. Main St.	Apartments	379	du	385	9	103	112	78	14	92
		Commercial	25.810	ksf							
107	1340 S. Hill St.	Apartments	233	du	1,755	11	103	114	108	30	138
108	845 S. Olive St.	Apartments	208	du	1,305	25	76	101	77	42	119
		Retail	0.810	ksf							
		Restaurant	1.620	ksf							
109	755 S. Los Angeles St.	Retail	16.694	ksf	2,482	110	57	167	105	100	205
		Office	60.243	ksf							
		Restaurant	26.959	ksf							
110	222 W. 2nd St.	Apartments	107.0	du	4,006	467	93	560	294	38	332
		Office	534.044	ksf							
		Retail	7.200	ksf							
111	333 West 5th St.	Condominiums	100	du	5,712	233	214	447	259	184	443
		Hotel	200	rooms							
		Restaurant	27.5	ksf							
112	1246 W. Court St.	Apartments	54	du	359	6	22	28	22	12	34
113	1101 E. 5th St.	Live/Work Units	129	du	4,674	130	140	270	157	69	226
		Retail	26.979	ksf							
		Restaurant	31.719	ksf							
		Hotel	113	rooms							
		Arts uses	13.771	ksf							
114	333 S. Alameda St.	Apartments	994	du	8,445	134	260	394	390	329	719
		Retail	99.3	ksf							
115	401 S. Hewitt St.	Office	255.5	ksf	4,006	336	75	441	100	322	422
116	1001 W. Olympic Blvd.; 911-955 S. Georgia St.; 1000-1015 W. James M. Wood Blvd.; 936-950 S. Bixel St.; 1013-1025 W. Olympic Blvd.	Restaurant	20	ksf	5,216	86	297	383	283	115	398
117	609 E. 5th St.	Apartments	151	du	1,004	15	62	77	61	33	94
118	713 E. 5th St.	Apartments	51	du	339	5	21	26	21	11	32
119	911 S. Figueroa St.	Apartments	200	du	7,145	143	162	305	315	290	605
		Commercial	94.080	ksf							
		Hotel	220	rooms							
120	1800 W. Beverly Blvd.	Apartments	243	du	1,585	36	93	129	92	51	143
		Restaurant	3.5	ksf							
121	940 E. 4th St.	Apartments	93	du	788	14	37	51	44	31	75
		Office	6.000	ksf							
		Retail	14.248	ksf							
122	810 E Pico Bl [b]	Retail	181.62	ksf	1,889	54	34	88	59	63	122
123	643 N Spring St [b]	Apartments	203	du	1,610	61	122	183	38	91	129
		Retail	21.049	ksf							
124	215 W 14th Street [b]	Apartments	154	du	1,481	22	67	89	81	54	135
		Retail	10.7	ksf							
125	1201 S Grand Avenue [b]	Condominiums	126	du	732	9	46	55	44	22	66
126	888 S Hope Street [b]	Apartments	526	du	3,498	54	215	269	212	114	326
127	755 S Figueroa Street [b]	Apartments	781	du	5,480	84	320	404	327	182	509
		Retail	6.7	ksf							
128	825 S Hill Street [b]	Condominiums	589	du	3,614	46	217	263	213	110	323
		Retail	4.5	ksf							
129	1000 W Temple Street [b]	Apartments	1,500	du	11,256	170	622	792	658	383	1,041
		Retail	30	ksf							
130	237 S Los Angeles St [b]	Sports Complex	43.453	ksf	2,131	85	44	129	85	88	173
131	450 N Main Street [b]	TV Studio	18	ksf	125	15	2	17	2	15	17
		Auditorium	50	Seat							
132	640 S Santa Fe Avenue [b]	Office	107.127	ksf	4,569	61	37	98	191	206	397
133	1745 E 7th Street [b]	Apartments	57	du	635	9	25	34	34	24	58
		Commercial	6	ksf							
134	430 S. Hewitt Street [b]	Condominiums	72	du	418	6	26	32	25	12	37

135	437 W. 5th Street [b]	Condominiums	660	du	4,707	71	273	344	279	158	437
		Restaurant	13.742	ksf							
136	508 E. 4th St. [b]	Apartments	41	du	273	4	17	21	16	9	25
137	552-554 S. San Pedro St. [b]	Apartments	407	du	2,807	45	169	214	168	92	260
		Retail	12.3	ksf							
138	601 S. Central Ave. [b]	Apartments	236	du	2,082	31	100	131	117	74	191
		Commercial	12	ksf							
139	600 S. San Pedro St. [b]	Apartments	303	du	4,433	55	141	196	189	137	326
		Retail	20	ksf							
140	508 E. 4th Street [b]	Apartments	41	du	273	4	17	21	16	9	25
141	655 S. San Pedro Street [b]	Apartments	81	du	539	8	33	41	33	17	50
142	656 S. Stanford Ave. [b]	Apartments	82	du	545	8	34	42	33	18	51
143	754 S. Hope St. [b]	Apartments	409	du	2,720	42	167	209	165	89	254
144	900 N. Alameda Street [b]	Office	179.9	ksf	1,984	70	9	79	16	78	94
145	1027 W. Wilshire Blvd	Retail	5	ksf	5,457	113	248	361	286	217	503
		Office	5	ksf							
		Condominiums	356	du							
146	1000 S. Hill St. [b]	Apartments	498	du	3,683	56	206	262	216	125	341
		Commercial	8.707	ksf							
147	1018 W. Ingraham St. [b]	Apartments	43	du	602	8	21	29	31	23	54
		Retail	7.4	ksf							
148	1030-1380 N. Broadway [b]	Apartments	920	du	7,032	106	383	489	409	241	650
		Commercial	21.405	ksf							
149	1219 S. Hope St [b]	Hotel	75	room	1,592	70	53	123	69	52	121
		Restaurant	7.7	ksf							
150	1323 S. Grand Ave. [b]	Apartments	284	du	2,158	33	118	151	126	74	200
		Retail	6.3	ksf							
151	222 E. 7th St. [b]	Apartments	452	du	3,749	82	199	281	211	124	335
		Commercial	13.655	ksf							
152	354 S. Spring Street [b]	Apartments	212	du	1,410	22	87	108	85	46	131
153	361 S. Spring Street [b]	Hotel	315	room	2,574	99	68	167	96	93	189
154	400-402 W. 7th Street; 701-715 S. Hill Street [b]	Apartments	165	du	4,395	171	193	364	219	138	357
		Restaurant	25.934	ksf							
155	1625 W. Palo Alto St.	Hotel	88	room	727	28	19	47	27	26	53
156	641 Imperial Street	Residential	140	du	1,093	34	60	94	61	48	109
		Office	14.749	ksf							
157	550 S Main St	Apartments	159	du	2,039	30	73	103	105	79	184
		Retail	23	ksf							
158	110 11th Street	Office	52	ksf	574	71	10	81	13	64	77
159	1011 North Broadway	Hotel	92	rooms	821	36	26	62	31	33	64
160	905 E. 2nd St.	Condominiums	320	du	1,207	-6	70	64	69	23	92
		Retail	18.716	ksf							
161	1334 South Flower Street	Apartments	188	du	1,038	-3	63	60	67	22	89
		Retail/Restaurant	10.096	ksf							
162	1410 South Flower Street	Apartments	152	du	1,062	17	62	79	63	35	98
		Retail	1.184	ksf							
163	1300 South Figueroa Street	Hotel	1,024	rooms	9,134	398	288	686	351	366	717
164	1346 West Court Street	Apartments	43	du	286	4	18	22	18	9	27
165	1322 West Maryland Street	Apartments	47	du	345	6	19	25	20	12	32
		Retail	0.76	ksf							
166	Alameda District Plan	Residential	22	du	25,312	862	527	1,389	734	1,042	1,776
		Office	7,443.2	ksf							
		Retail	645	ksf							
		Hotel	750	room							
		Restaurant	20	ksf							
		Museum	70	ksf							
167	Los Angeles Sports & Entertainment District [a]	Convention Center [c]	250	ksf	27,007	1,254	721	1,975	1,085	1,637	2,722
		Hotel	183	rooms							
		Office	601.8	ksf							
		Apartment	1,152	du							
		Retail	214.583	ksf							
168	Regional Connector Project	2nd St Construction Closure	--	--	--	--	--	--	--	--	--
169	Main Spring Forward	Cycle Track Project	--	--	--	--	--	--	--	--	--
170	1st and Broadway Park	Park	--	--	--	--	--	--	--	--	--

Notes:

du = dwelling units

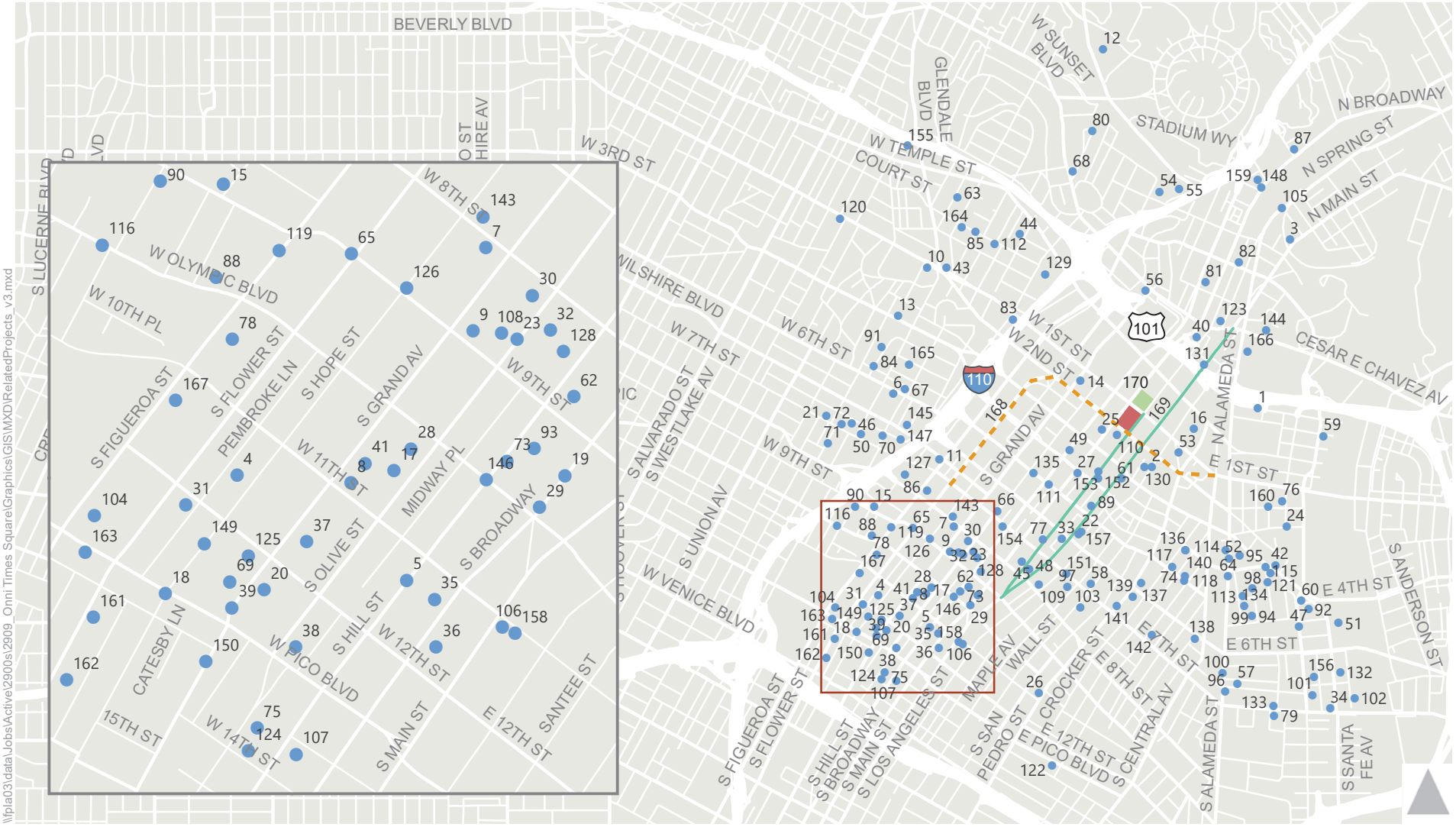
ksf = one thousand square feet

Related projects list is based on information provided by LADOT on July 5, 2017

[a] Project trip generation was reduced for the portion of the project that was already built by July 2017.

[b] Projects were not included in information provided by LADOT. Projects and land use from third party research. Trip generation estimates based on ITE rates.

[c] Convention Center trip generation rate based on Los Angeles Sports & Entertainment District Specific Plan.



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Project Site

Related Projects

Future Regional Connector

Main Spring Forward Project

1st and Broadway Park

Figure 7

Related Projects

Trip Distribution

The geographic distribution of the traffic generated by the related projects is dependent on several factors. These factors include the type and density of the proposed land uses, the geographic distribution of population from which employees and potential patrons of proposed commercial developments may be drawn, the locations of employment and commercial centers to which residents of residential projects may be drawn, and the location of the projects in relation to the surrounding street system. Additionally, if the traffic study or environmental document for a related project was available, the trip distribution from that study was used.

Traffic Assignment

Using the estimated trip generation and trip distribution patterns described above, traffic generated by the related projects was assigned to the street network.

TRANSPORTATION INFRASTRUCTURE PROJECTS

Network changes related to the planned Main and Spring Forward project are included in the Future Year analysis. This project results in future lane configuration changes to the following study intersections:

16. Spring Street & West 1st Street
17. South Spring Street & West 2nd Street
18. South Spring Street & West 3rd Street
19. South Spring Street & West 4th Street
20. North Main Street & East Temple Street
21. Main Street & 1st Street
22. South Main Street & 2nd Street
23. South Main Street & 3rd Street

As previously discussed, the Project site is located adjacent to the future Historic Broadway Station for the Regional Connector Transit Corridor that will connect the Blue and Exposition Light Rail lines to the current Gold Line and Union Station. When completed, the 1.9 mile alignment will allow transit riders to transfer between Blue, Expo, Red and Purple Lines, bypassing Union Station. Passengers will also be able to travel from Azusa to Long Beach and from East Los Angeles to Santa Monica without transferring lines. Forecasted opening for the Regional Connector is 2021.

FUTURE YEAR 2023 BASE TRAFFIC VOLUMES

Future (Year 2023) Base weekday AM and PM peak hour traffic volumes and lane geometries for the analyzed intersections are provided in Appendix B. The Future Base traffic conditions represent an estimate of future conditions without the proposed Project inclusive of the ambient background growth and related projects traffic.

FUTURE PLUS PROJECT TRAFFIC PROJECTIONS

The proposed Project traffic volumes were added to the year 2023 Future Base traffic projections, resulting in Future (Year 2023) plus Project AM and PM peak hour traffic volumes. As provided in Appendix B, the Future (Year 2023) plus Project scenario presents future traffic conditions with the completion of the proposed Project.

4. INTERSECTION TRAFFIC IMPACT ANALYSIS

The traffic impact analysis evaluates the projected LOS at each study intersection under the Existing plus Project and Future (Year 2023) plus Project conditions to estimate the incremental increase in the V/C ratio caused by the proposed Project. This provides the information needed to assess the potential impact of the Project using significance criteria established by LADOT.

CRITERIA FOR DETERMINATION OF SIGNIFICANT TRAFFIC IMPACT

The City of Los Angeles has established threshold criteria to determine significant traffic impact of a proposed project in its jurisdiction. Under the LADOT guidelines, an intersection would be significantly impacted with an increase in V/C ratio equal to or greater than 0.04 for intersections operating at LOS C, equal to or greater than 0.02 for intersections operating at LOS D, and equal to or greater than 0.01 for intersections operating at LOS E or F after the addition of project traffic. Intersections operating at LOS A or B after the addition of the project traffic are not considered significantly impacted regardless of the increase in V/C ratio. The following summarizes the impact criteria:

LOS	Final V/C Ratio	Project-Related Increase in V/C
C	> 0.700 - 0.800	equal to or greater than 0.040
D	> 0.800 - 0.900	equal to or greater than 0.020
E or F	> 0.900	equal to or greater than 0.010

EXISTING PLUS PROJECT IMPACT ANALYSIS

EXISTING PLUS PROJECT TRAFFIC LEVEL OF SERVICE

The Existing plus Project traffic volumes presented in Appendix B were analyzed to determine the projected V/C ratios and LOS for each of the analyzed intersections under this scenario. Table 7 summarizes the Existing plus Project LOS. Analysis sheets are provided in Appendix D. As indicated in Table 7, all 28 study intersections are projected to operate at LOS D or better during both peak hours under Existing plus Project conditions.

EXISTING PLUS PROJECT INTERSECTION IMPACTS

As shown in Table 7, after applying the aforementioned City of Los Angeles significant impact criteria, it is determined that the proposed Project would result in a significant impact under Existing plus Project conditions at one study intersection, when compared to the Existing Base results:

11. South Broadway & West 2nd Street (AM & PM peak hours)

TABLE 7
TIMES MIRROR SQUARE
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE [a]		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.534	A	0.000	No
	W 2nd Street	PM	0.761	C	0.784	C	0.023	No
2	S Grand Avenue &	AM	0.517	A	0.524	A	0.007	No
	W 1st Street	PM	0.628	B	0.629	B	0.001	No
3	S Olive Street &	AM	0.347	A	0.347	A	0.000	No
	W 1st Street	PM	0.418	A	0.419	A	0.001	No
4	N Hill Street &	AM	0.757	C	0.761	C	0.004	No
	W Temple Street	PM	0.706	C	0.707	C	0.001	No
5	Hill Street &	AM	0.757	C	0.771	C	0.014	No
	W 1st Street	PM	0.760	C	0.763	C	0.003	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.460	A	0.027	No
7	Hill Street &	AM	0.664	B	0.673	B	0.009	No
	W 3rd Street	PM	0.551	A	0.551	A	0.000	No
8	N Broadway &	AM	0.336	A	0.336	A	0.000	No
	Aliso Street	PM	0.403	A	0.404	A	0.001	No
9	N Broadway &	AM	0.620	B	0.629	B	0.009	No
	W Temple Street	PM	0.627	B	0.628	B	0.001	No
10	Broadway &	AM	0.591	A	0.621	B	0.030	No
	W 1st Street	PM	0.630	B	0.633	B	0.003	No
11	S Broadway &	AM	0.701	C	0.747	C	0.046	**Yes**
	W 2nd Street	PM	0.784	C	0.843	D	0.059	**Yes**
12	S Broadway &	AM	0.474	A	0.481	A	0.007	No
	W 3rd Street	PM	0.457	A	0.473	A	0.016	No
13	S Broadway &	AM	0.283	A	0.289	A	0.006	No
	W 4th Street	PM	0.427	A	0.437	A	0.010	No
14	N Spring Street &	AM	0.260	A	0.260	A	0.000	No
	Aliso Street	PM	0.172	A	0.173	A	0.001	No
15	N Spring Street &	AM	0.424	A	0.430	A	0.006	No
	W Temple Street	PM	0.364	A	0.376	A	0.012	No
16	Spring Street &	AM	0.468	A	0.468	A	0.000	No
	W 1st Street	PM	0.399	A	0.415	A	0.016	No
17	S Spring Street &	AM	0.491	A	0.503	A	0.012	No
	W 2nd Street	PM	0.403	A	0.404	A	0.001	No
18	S Spring Street &	AM	0.427	A	0.436	A	0.009	No
	W 3rd Street	PM	0.304	A	0.305	A	0.001	No
19	S Spring Street &	AM	0.271	A	0.279	A	0.008	No
	W 4th Street	PM	0.347	A	0.347	A	0.000	No
20	N Main Street &	AM	0.355	A	0.359	A	0.004	No
	E Temple Street	PM	0.619	B	0.625	B	0.006	No
21	Main Street &	AM	0.400	A	0.407	A	0.007	No
	1st Street	PM	0.648	B	0.649	B	0.001	No
22	S Main Street &	AM	0.285	A	0.285	A	0.000	No
	2nd Street	PM	0.587	A	0.597	A	0.010	No
23	S Main Street &	AM	0.364	A	0.364	A	0.000	No
	3rd Street	PM	0.443	A	0.451	A	0.008	No
24	Los Angeles Street &	AM	0.482	A	0.482	A	0.000	No
	E 1st Street	PM	0.621	B	0.622	B	0.001	No
25	S Los Angeles Street &	AM	0.711	C	0.711	C	0.000	No
	E 2nd Street	PM	0.627	B	0.633	B	0.006	No
26	N Figueroa Street &	AM	0.771	C	0.777	C	0.006	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.662	B	0.007	No
27	S Beaudry Avenue &	AM	0.685	B	0.685	B	0.000	No
	W 2nd Street	PM	0.651	B	0.653	B	0.002	No
28	S Figueroa Street	AM	0.751	C	0.754	C	0.003	No
	W 3rd Street	PM	0.614	B	0.614	B	0.000	No

[a] Existing Base results reflects typical intersection operations without the effects of Regional Connector construction.

FUTURE PLUS PROJECT IMPACT ANALYSIS

FUTURE BASE TRAFFIC CONDITIONS

The year 2023 Future Base peak hour traffic volumes were analyzed to determine the projected V/C ratio and LOS for each of the analyzed intersections. Table 8 summarizes the future LOS. Twenty of the 28 study intersections are projected to operate at LOS D or better during the morning and afternoon peak hours under Future Base conditions. The following eight intersections are projected to operate at LOS E or worse during one or both of the peak hours under Future Base conditions:

1. South Figueroa Street & West 2nd Street (LOS E during PM)
5. Hill Street & West 1st Street (LOS F during AM & PM)
7. Hill Street & West 3rd Street (LOS E during AM)
10. Broadway & West 1st Street (LOS E during AM & LOS F during PM)
11. South Broadway & West 2nd Street (LOS E during AM and LOS F during PM)
17. South Spring Street & West 2nd Street (LOS E during AM)
22. South Main Street & 2nd Street (LOS E during PM)
25. South Los Angeles Street & East 2nd Street (LOS E during AM & LOS F during PM)

FUTURE PLUS PROJECT TRAFFIC CONDITIONS

The resulting Future (Year 2023) plus Project peak hour traffic volumes, provided in Appendix B, were analyzed to determine the projected future operating conditions with the addition of the proposed Project traffic. The results of the Future (Year 2023) plus Project analysis are also presented in Table 8, with analysis sheets provided in Appendix D. Nineteen of the 28 study intersections are projected to operate at LOS D or better during the morning and afternoon peak hours under Future (Year 2023) plus Project conditions. The following nine intersections are projected to operate at LOS E or worse during one or both of the peak hours under Future (Year 2023) plus Project conditions:

1. South Figueroa Street & West 2nd Street (LOS E during PM)
4. North Hill Street & West Temple Street (LOS E during PM)
5. Hill Street & West 1st Street (LOS F during AM & PM)
7. Hill Street & West 3rd Street (LOS E during AM)
10. Broadway & West 1st Street (LOS E during AM & LOS F during PM)
11. South Broadway & West 2nd Street (LOS F during AM & PM)
17. South Spring Street & West 2nd Street (LOS E during AM)
22. South Main Street & 2nd Street (LOS E during PM)
25. South Los Angeles Street & East 2nd Street (LOS E during AM & LOS F during PM)

FUTURE (YEAR 2023) PLUS PROJECT INTERSECTION IMPACTS

As shown in Table 8, using the criteria for determination of significant impacts, the proposed Project is expected to result in significant impacts at six intersections under Future (Year 2023) plus Project conditions:

1. South Figueroa Street & West 2nd Street (PM peak hour)
5. Hill Street & West 1st Street (AM peak hour)
10. Broadway & West 1st Street (both peak hours)
11. South Broadway & West 2nd Street (both peak hours)
12. South Broadway & West 3rd Street (AM peak hour)
17. South Spring Street & West 2nd Street (AM peak hour)

TABLE 8
TIMES MIRROR SQUARE
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.661	B	0.002	No
	W 2nd Street	PM	0.974	E	0.997	E	0.023	**Yes**
2	S Grand Avenue &	AM	0.821	D	0.823	D	0.002	No
	W 1st Street	PM	0.884	D	0.885	D	0.001	No
3	S Olive Street &	AM	0.517	A	0.529	A	0.012	No
	W 1st Street	PM	0.691	B	0.692	B	0.001	No
4	N Hill Street &	AM	0.894	D	0.899	D	0.005	No
	W Temple Street	PM	0.900	D	0.901	E	0.001	No
5	Hill Street &	AM	1.077	F	1.090	F	0.013	**Yes**
	W 1st Street	PM	1.118	F	1.120	F	0.002	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.687	B	0.027	No
7	Hill Street &	AM	0.911	E	0.920	E	0.009	No
	W 3rd Street	PM	0.838	D	0.839	D	0.001	No
8	N Broadway &	AM	0.445	A	0.445	A	0.000	No
	Aliso Street	PM	0.541	A	0.543	A	0.002	No
9	N Broadway &	AM	0.762	C	0.772	C	0.010	No
	W Temple Street	PM	0.860	D	0.861	D	0.001	No
10	Broadway &	AM	0.906	E	0.936	E	0.030	**Yes**
	W 1st Street	PM	1.002	F	1.038	F	0.036	**Yes**
11	S Broadway &	AM	0.998	E	1.044	F	0.046	**Yes**
	W 2nd Street	PM	1.181	F	1.240	F	0.059	**Yes**
12	S Broadway &	AM	0.699	B	0.816	D	0.117	**Yes**
	W 3rd Street	PM	0.804	D	0.819	D	0.015	No
13	S Broadway &	AM	0.488	A	0.488	A	0.000	No
	W 4th Street	PM	0.757	C	0.761	C	0.004	No
14	N Spring Street &	AM	0.350	A	0.350	A	0.000	No
	Aliso Street	PM	0.233	A	0.240	A	0.007	No
15	N Spring Street &	AM	0.622	B	0.628	B	0.006	No
	W Temple Street	PM	0.534	A	0.548	A	0.014	No
16	Spring Street &	AM	0.765	C	0.766	C	0.001	No
	W 1st Street	PM	0.733	C	0.753	C	0.020	No
17	S Spring Street &	AM	0.943	E	0.959	E	0.016	**Yes**
	W 2nd Street	PM	0.785	C	0.787	C	0.002	No
18	S Spring Street &	AM	0.711	C	0.724	C	0.013	No
	W 3rd Street	PM	0.685	B	0.687	B	0.002	No
19	S Spring Street &	AM	0.519	A	0.528	A	0.009	No
	W 4th Street	PM	0.624	B	0.625	B	0.001	No
20	N Main Street &	AM	0.466	A	0.471	A	0.005	No
	E Temple Street	PM	0.871	D	0.876	D	0.005	No
21	Main Street &	AM	0.588	A	0.595	A	0.007	No
	1st Street	PM	0.852	D	0.858	D	0.006	No
22	S Main Street &	AM	0.560	A	0.560	A	0.000	No
	2nd Street	PM	0.987	E	0.993	E	0.006	No
23	S Main Street &	AM	0.631	B	0.631	B	0.000	No
	3rd Street	PM	0.744	C	0.747	C	0.003	No
24	Los Angeles Street &	AM	0.783	C	0.783	C	0.000	No
	E 1st Street	PM	0.841	D	0.841	D	0.000	No
25	S Los Angeles Street &	AM	0.997	E	0.997	E	0.000	No
	E 2nd Street	PM	1.028	F	1.029	F	0.001	No
26	N Figueroa Street &	AM	0.873	D	0.880	D	0.007	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.760	C	0.767	C	0.007	No
27	S Beaudry Avenue &	AM	0.790	C	0.790	C	0.000	No
	W 2nd Street	PM	0.819	D	0.821	D	0.002	No
28	S Figueroa Street	AM	0.843	D	0.845	D	0.002	No
	W 3rd Street	PM	0.693	B	0.693	B	0.000	No

MITIGATION MEASURES

This section describes the proposed transportation mitigation program for the Project and evaluates the effectiveness of the program in mitigating the significant project impacts described in the previous section. The mitigation program has been developed in discussions with LADOT, which has approved the approaches, analysis methods, and assumptions used to complete this analysis.

MITIGATION PROGRAM ELEMENTS

The mitigation program for the Project consists of a travel demand management (TDM) program to reduce Project-generated vehicle trips. Physical and operational improvements to study intersections were investigated but were determined to be infeasible.

TRANSPORTATION DEMAND MANAGEMENT PLAN

A TDM program will be implemented as part of the mitigation package for the Project. Several TDM program elements are project design features that are currently proposed for implementation. Other TDM program elements would be developed as part of preparation of a detailed TDM plan, to be approved by LADOT prior to approval of a final certificate of occupancy for the Project.

Several project design features will encourage the usage of walking, biking, and transit modes as alternatives to the automobile, including the following:

- Wide sidewalks and pedestrian plazas/paseos accessible to the neighborhood
- Street trees and landscaped pathways between buildings
- Improved street and pedestrian lighting

Additional TDM program elements could include unbundled parking, rideshare programs, discounted transit passes, etc., although the exact measures to be implemented will be determined when the plan is prepared, prior to issuance of a final certificate of occupancy for the Project. The TDM programs identified as applicable for the residential and office land uses include the following:

- Unbundled Parking (Residential) – Unbundled parking (also known as decoupled parking) separates the cost of parking from property costs, requiring those who wish to purchase parking spaces to do so at an additional cost beyond the rent. This removes the burden from those who do not wish to utilize a parking space and provides a financial incentive for residents to lease only the amount of parking they need, which in turn may prompt some residents to reduce the number of cars that they own and prompt residents to make more trips by other modes. Unbundled residential parking can also provide a substantial financial benefit that increases housing affordability. Studies indicate that charging separately for parking can be a highly effective strategy to reduce vehicle trips (California Air Pollution Control Officers Association, 2010).

- Car Share Program – The Project could allow space for a car share service within its proposed parking facilities. A car share program is a model of car rental where people rent cars for short periods of time, often by the hour. The programs are attractive to customers who make only occasional use of a vehicle, as well as others who would like occasional access to a vehicle of a different type than they use day-to-day.

- Rideshare Programs – Rideshare programs typically include the provision of an on-site transit and rideshare information center that provides assistance to help people form carpools or access transit alternatives. Rideshare programs often also include priority parking for carpools.

- Commute Trip Reduction (CTR) Marketing – The Project could implement marketing strategies to reduce commute trips. Information sharing and marketing are important components to successful commute trip reduction strategies. Marketing strategies may include:

    - New employee orientation of trip reduction and alternative mode options
    - Event promotions
    - Publications

- Bicycle Parking – As described in Chapter 7, the Project will provide both long term and short term bicycle parking. In addition, the Project could provide complementary amenities such as a self-service bike repair area.

While the overall reduction in the trips due to these TDM measures could be high, to maintain a conservative approach, a TDM credit was not applied to the incremental V/C increase attributable to the Project.

PHYSICAL IMPROVEMENTS DETERMINED TO BE INFEASIBLE

Provided below is a discussion of physical measures that were explored, but due to physical constraints or potential secondary impacts, these mitigation measures have been determined by LADOT to be infeasible. However, this summary is provided to provide the opportunity for further public input on potential improvements explored:

1. South Figueroa Street & West 2nd Street

A mitigation measure was analyzed at this location that would modify the northbound approach on Figueroa Street to convert the existing dedicated right-turn lane to a shared through/right-turn lane. The shared through/right-turn lane would enable right-turns onto 2nd Street and the through vehicles would proceed directly to the ramp up to 1st Street. This mitigation would necessitate an additional receiving lane. To accommodate a third receiving lane for northbound through traffic, the raised median would need to be removed and narrowed. This mitigation measure was determined by LADOT to be infeasible as the proposed design was non-standard.

5. Hill Street & West 1st Street

A mitigation measure was analyzed at this location that would modify the southbound approach on Hill Street to convert the existing dedicated right-turn lane to a shared through/right-turn lane. This mitigation would necessitate an additional receiving lane. To accommodate a third receiving lane for southbound through traffic, the existing bicycle lane striping would need to be removed from the south leg of the intersection. This mitigation measure was determined to be infeasible by LADOT due to the presence of existing on-street bicycle facilities.

10. Broadway & West 1st Street

A mitigation measure was analyzed at this location that would modify the southbound approach on Broadway to convert the existing dedicated right-turn lane to a shared through/right-turn lane. This mitigation would necessitate an additional receiving lane. To accommodate a third receiving lane for southbound through traffic, the existing loading zone would need to be removed from the south leg

of the intersection. This mitigation measure was determined to be infeasible by LADOT due to the presence of the existing on-street loading zone.

11. South Broadway & West 2nd Street

A mitigation measure was analyzed at this location that would modify Broadway by restriping the roadway to add dedicated left-turn lanes in both the northbound and southbound directions. The intersection of South Broadway & West 2nd Street falls within the boundaries of the City of Los Angeles Broadway Streetscape Master Plan, which was adopted by the Los Angeles City Planning Commission on February 14, 2013 (City of Los Angeles Broadway Streetscape Master Plan, February 2013). The Plan outlines streetscape strategies focused on creating a "multi-modal, pedestrian-focused street that will support a thriving, revitalized historic theatre district." The City has implemented Phase I of this project, which includes roadway right-of-way reconfigurations, such as paint and bollard curb extensions to replace travel lanes and left-turn prohibitions. Phase II of this project will replace the paint and bollard curb extensions with permanent features on a block-by-block basis as new construction projects are approved and/or public funding becomes available. During Phase I of this project, the northbound and southbound left-turn lanes were removed at the Broadway & 2nd Street intersection. This mitigation measure was determined to be infeasible as it would conflict with the existing Broadway Streetscape project which required the removal of the northbound and southbound left-turn lanes as part of the project.

12. *South Broadway & West 3rd Street*

A mitigation measure was analyzed at this location that would modify the westbound approach on 3rd Street to convert the existing dedicated left-turn lane to a shared through/left-turn lane. This mitigation would necessitate an additional receiving lane. To accommodate a fourth receiving lane for westbound through traffic, an existing loading zone and three metered spaces would need to be removed from the west leg of the intersection. This mitigation measure was determined to be infeasible by LADOT due to the loss of existing on-street parking.

17. South Spring Street & West 2nd Street

A mitigation measure was analyzed at this location that would modify the eastbound approach on 2nd Street to convert the existing dedicated right-turn lane to a shared through/right-turn lane. This mitigation would necessitate an additional receiving lane. To accommodate a second receiving lane for eastbound through traffic, the existing loading zone and five metered spaces would need to be removed from the east leg of the intersection. This mitigation measure was determined to be infeasible by LADOT due to the loss of existing on-street parking.

5. REGIONAL TRANSPORTATION SYSTEM IMPACT ANALYSIS

This section presents an analysis of potential impacts on the regional transportation system. This analysis was conducted in accordance with the procedures outlined in *Congestion Management Program for Los Angeles County* (CMP) (Metro, 2010). The CMP requires that, when an environmental impact report is prepared for a project, traffic and transit impact analyses be conducted for select regional facilities based on the quantity of project traffic expected to use those facilities.

In addition, *Agreement Between City of Los Angeles and Caltrans District 7 on Freeway Impact Analysis Procedures* sets forth criteria for when a freeway impact analysis should be conducted. LADOT determined as part of the MOU (see Appendix A) that the Project would not meet these criteria for requiring a freeway impact analysis. In December 2015, the City of Los Angeles and Caltrans District 7 signed an extension of the agreement and adjusted the ramp capacity to 850 vehicles per hour per lane for the freeway ramp screening analysis. Under this amended agreement, the Project would also not qualify for a freeway analysis.

REGIONAL TRAFFIC IMPACT ANALYSIS

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips during either the AM or PM peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips, in either direction, during either the AM or PM peak hours.

Significant Traffic Impact Criteria

The CMP traffic impact analysis guidelines establish that a significant project impact occurs when a certain threshold is exceeded. If the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$), causing LOS F ($V/C > 1.00$), a significant impact would occur. If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2% of capacity ($V/C \geq 0.02$).

ARTERIAL MONITORING ANALYSIS

The CMP arterial monitoring station closest to the proposed project site is at Wilshire Boulevard & Alvarado Street located approximately 1.7 miles west of the proposed Project site. Based on the Project trip distribution and trip generation, the proposed Project would not exceed the arterial analysis criteria of 50 vehicle trips at the above-mentioned location. The Project would increase traffic by less than three trips in the PM peak hour (which is the CMP analysis hour with the greatest proposed project trip generation). Since the Project adds fewer than 50 trips at Wilshire Boulevard & Alvarado Street, no further CMP arterial analysis is required.

FREEWAY ANALYSIS

Regional access to the Project site is provided by the US 101 Freeway located approximately one quarter-mile north of the project site, and the Interstate 110 (I-110) located approximately one half-mile to the west of the project site, respectively. The CMP freeway monitoring stations closest to the Project site include the I-110 freeway south of Stadium Way, I-110 freeway south of West Temple Street, and the US-101 freeway east of North Alameda Street.

Based on the Project distribution patterns shown in Figure 6, approximately 5% of Project traffic is expected to travel through the US-101 freeway monitoring station at N Alameda Street, 5% is expected to travel through the I-110 freeway monitoring station at Figueroa Street, and 5% is expected to travel through the I-110 freeway monitoring station at W Temple Street. The Project is projected to result in an increase of 15 trips in the morning peak hour and 14 trips in the evening peak hour through the CMP freeway monitoring stations described above.

Since fewer than 150 trips would be added during the AM or PM peak hours in either direction at any of the freeway segments in the vicinity of the study area, no further analysis of the freeway segments is required for CMP purposes.

REGIONAL TRANSIT IMPACT ANALYSIS

Potential increases in transit person trips generated by the proposed Project were estimated. Appendix B-4 of the 2010 CMP provides a methodology for estimating the number of transit trips expected to result from a proposed project based on the projected number of vehicle trips. This methodology assumes an average vehicle ridership (AVR) factor of 1.4 in order to estimate the number of person trips to and from the project and then provides guidance regarding the percentage of person trips assigned to public transit depending on the type of use (commercial/other versus residential) and the proximity to transit services. Appendix B-4 of the 2004 CMP recommends observing the fixed-route local bus services within ¼ mile of the project site and express bus routes and rail service within two miles of the project site.

Due to its location in downtown Los Angeles, the Project is served by a wide variety of transit options, ranging from heavy rail, rapid bus, local bus, and express bus services. The Project is located within a ¼-mile walking distance of the Metro Red and Purple Lines at the Civic Center/Grand Park Station, and just over a ½-mile walk from Union Station, where patrons can access the Gold Line as well as Metrolink commuter rail services. Table 1 details the transit service near the Project site.

Excluding the transit credit in Table 5, the proposed Project would have an estimated increase in vehicle trip generation of approximately 362 net vehicle trips during the AM peak hour and 396 during the PM peak hour before the transit credit. Applying the AVR factor of 1.4 to the estimated vehicle trips would result in an estimated increase of approximately 507 and 554 person trips during the AM and PM peak hours, respectively. As discussed in Chapter 3, a 25% transit credit was applied to Project trip generation estimates to account for trips made to and from the Project site using modes other than automobiles. Following this approach, the Project would generate an estimated increase of 127 transit trips during the AM peak hour and 139 transit trips during the PM peak hour.

The Project location is well served by numerous established local and regional transit routes (including the Metro Red/Purple Line, the future Metro Regional Connector at 2nd and Broadway, and 64 bus lines within one-quarter mile); therefore, Project-related impacts are not expected to be significant. The headway service for local, commuter routes, rapid and express routes are on average every 15 minutes during both peak periods. DASH operates with 25- to 30-minute headways during the peak hours and other shuttles operate on 60 minute headways. The bus services have an estimated seating capacity of approximately 10,330 persons during the peak hours based on a bus seating capacity of 30 persons for a DASH bus and shuttles, 40 persons for a standard and commuter bus, and 65 persons for a Rapid articulated bus. The Metro Red Line and Purple Line, with 10-minute headways in both AM and PM peak hours has an estimated capacity of over 6,000 persons and 4,000 persons, respectively, during the peak periods. With a total estimated seating capacity of approximately 20,330 persons in the peak hours, the proposed Project would utilize less than one-percent of available transit capacity during the peak hours. Given the high quality and frequency of the transit service in close proximity to the Project site, the incremental transit riders resulting from the project are not anticipated to result in a significant impact on the transit lines serving the area.

6. SITE ACCESS

Three driveways will provide access to the Project:

- A full-access driveway on Broadway approximately mid-block between West 1st Street and West 2nd Street, with one ingress lane and two egress lanes (one left-turn and one right-turn)
- A full-access driveway on Broadway near West 2nd Street with one ingress lane and one egress lane
- A full-access driveway on West 2nd Street with one ingress lane and one egress lane

Loading for the site will be served internally to the site. The project will also provide a two-way left turn lane on Broadway between 1st Street and 2nd Street to accommodate left-turn vehicles entering the site from Broadway. Figure 8 shows the conceptual design of the two-way left-turn lane on Broadway.

LEVEL OF SERVICE ANALYSIS FOR PROJECT DRIVEWAYS

A level of service analysis was conducted to evaluate the ability of the Project's access plan to accommodate the anticipated traffic levels at the driveway access points.

The driveway locations below will be unsignalized and stop-controlled and were analyzed using the 2-way Stop methodology from the HCM. The HCM methodology determines the average vehicle delay for the stop-controlled approach to find the corresponding LOS based on the definitions presented in Table 2B. Driveway analysis LOS worksheets are included in Appendix D. Table 9 shows the results of the LOS analysis at the unsignalized driveways.

TABLE 9 – DRIVEWAY LOS ANALYSIS

Driveway Location	Movement	Peak Hour	Existing plus Project (2017)		Future plus Project (2023)	
			Delay (seconds)	LOS	Delay (seconds)	LOS
Broadway Driveway North	Outbound Westbound Right-Turn	AM	13.4	B	16.5	C
		PM	23.3	C	33.4	D
	Outbound Westbound Left-Turn	AM	18.8	C	29.8	D
		PM	32.7	D	66.2	F
	Inbound Southbound Left-Turn	AM	11.7	B	14.7	B
		PM	17.8	C	23.8	C
Broadway Driveway South	Outbound Westbound	AM	16.2	C	23.9	C
		PM	34.9	D	84.6	F
	Inbound Southbound Left-Turn	AM	11.9	B	14.9	B
		PM	17.2	C	22.7	C
2nd Street Driveway	Outbound Southbound	AM	21.3	C	37.2	E
		PM	34.6	D	105.5	F
	Inbound Eastbound Left-Turn	AM	9.1	A	9.6	A
		PM	10	A	11	B

The northern Broadway driveway would provide a separate outbound left-turn and right-turn lane. The right-turns out of the northern Broadway driveway are projected to operate at LOS B and C under the Existing plus Project and at LOS C and D under Future plus Project scenarios. The outbound left-turns are projected to operate at LOS C in the AM peak hour and LOS D in the PM peak hour under Existing plus Project conditions. Under the Future plus Project scenario, the outbound left-turns would operate at LOS D in the AM peak hour and LOS F in the PM peak hour. These delays would be experienced by vehicles queuing on-site, not in the public street.

The inbound southbound left-turn movement on Broadway will operate at LOS B and C under both Existing plus Project and Future plus Project conditions in the AM and PM peak hours, respectively. Vehicles waiting to turn left into the site would be able to queue in the proposed two-way continuous left-turn lane.

The southern Broadway driveway would provide a single outbound lane for left- and right-turn movements. The outbound movement is projected to operate at LOS C in the AM peak hour and LOS D in the PM peak hour under the Existing plus Project conditions. In the Future plus Project scenario, the outbound lane would operate at LOS C in the AM peak hour and LOS F in the PM peak hour. These delays would be experienced by vehicles queuing on-site, not in the public street. The inbound southbound left-turn movement on Broadway will operate at LOS B and C under both Existing plus Project and Future plus Project conditions in the AM and PM peak hours, respectively.

The 2nd Street driveway would provide a single outbound lane for left- and right-turn movements. The 2nd Street southbound outbound movement is projected to operate at LOS C and LOS D under Existing plus Project, and at LOS E and LOS F under Future plus Project conditions, in the AM and PM peak hours, respectively. The LOS F conditions at the driveway would be experienced by vehicles making a left or right out of the 2nd Street driveway. 2nd Street does not provide a two-way center left-turn lane in front of the Project; therefore, eastbound left-turn vehicles entering the site may queue on 2nd Street. The inbound eastbound left-turn movement on 2nd Street is projected to operate at LOS A in the AM and PM peak hours under Existing plus Project, while operating at LOS A in the AM peak hour and LOS B in the PM peak hour under Future plus Project conditions.

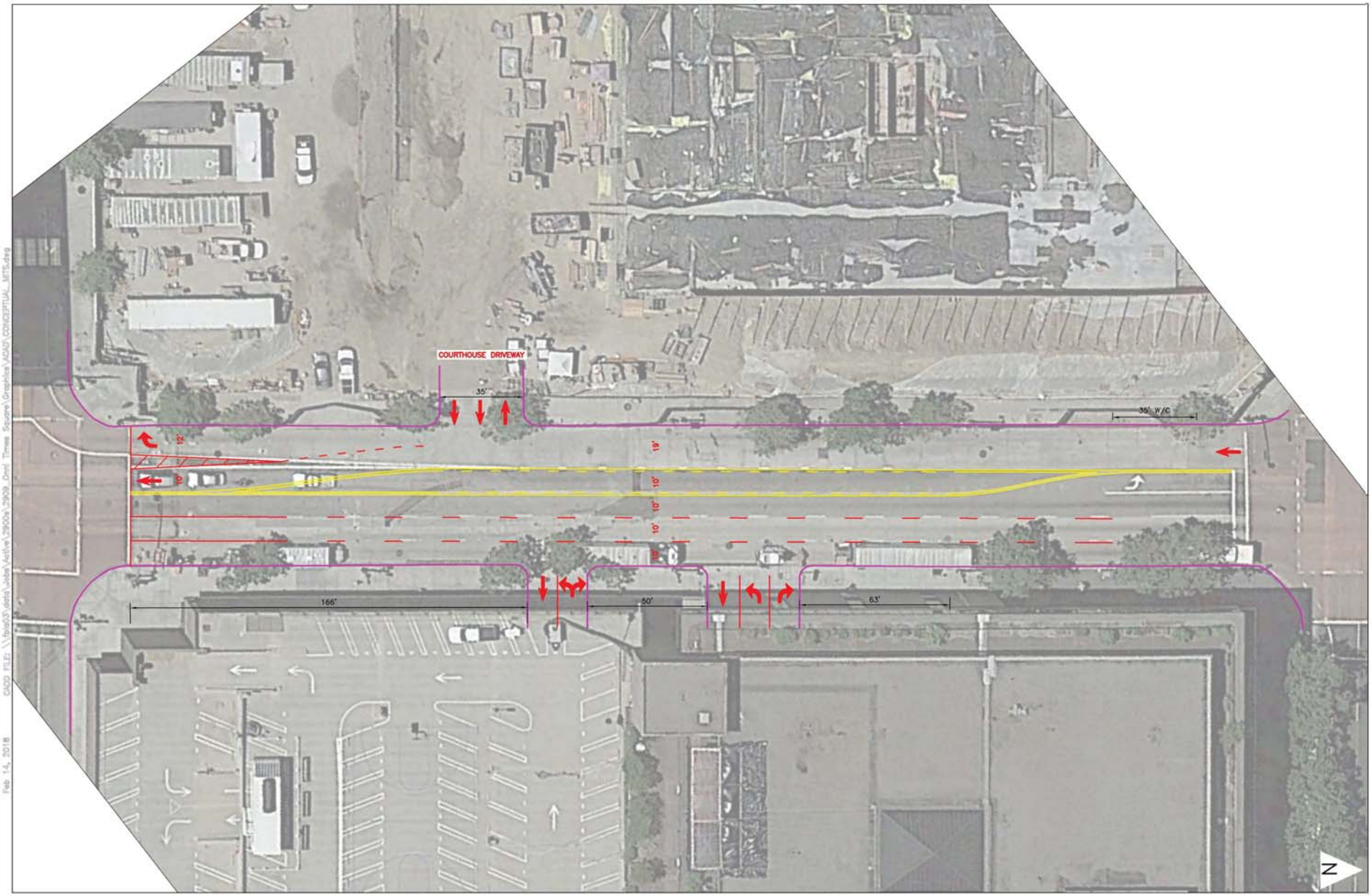

Figure 8

Conceptual Center Left-Turn Median
Project Driveways on Broadway

7. PARKING

This section presents the analysis of the Project's parking requirements using the City of Los Angeles' municipal parking code (LAMC). The LAMC contains a series of provisions affecting the required parking supply for the Times Mirror Square Project. The applicable LAMC code requirements are as follows:

- LAMC Section 12.21A4, which establishes the basic ratios for required vehicle parking spaces for various land uses. The Project is located in the Central City Area per LAMC Section 12.21A.4(p). As such, the Project qualifies to use one space per unit with three or fewer habitable rooms, and 1.25 spaces per unit with four or more habitable rooms, for residential uses.

- LAMC Section 12.21A.4(i), establishes the required parking spaces for office, commercial and business space in the Downtown Business District. For each of these uses, a rate of one space per 1,000 square feet applies.

- LAMC Section 12.21A16, which implements the City's Ordinance No. 182386 by establishing minimum requirements for bicycle parking spaces. It also permits reductions in the required number of vehicle spaces at a ratio of one vehicle space reduced for every four bicycle spaces provided, up to a maximum of 15% of the required vehicle spaces for residential uses and 30% of the required vehicle spaces for non-residential uses within 1,500 feet of a portal to a fixed-rail transit station. Bicycle parking space requirements do not apply to the existing rehabilitated building.

Table 10A summarizes the basic vehicle parking requirement for the Project per LAMC. As shown in Table 10A, the basic code requirement for the proposed Project is 1,661 vehicle spaces. Table 10B summarizes the bicycle parking requirement for the Project per LAMC Section 12.21A16. As shown in the table, the Project would be required to provide a minimum of 1,274 bicycle parking spaces (130 short-term and 1,144 long-term) for the new uses. As indicated in Table 10C, the number of required vehicle spaces could be reduced by 196 spaces with the provision of bicycle spaces. With this reduction, the total number of required vehicle spaces would be 1,465.

SB 743 as implemented in California Public Resources Code Section 21099 provides that parking impacts of a residential, mixed- use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. This guidance supersedes the significance guidance in the *LA CEQA Threshold Guide*.

TABLE 10A
TIMES MIRROR SQUARE
VEHICLE PARKING SPACES REQUIRED BY CITY CODE
BASED ON APARTMENTS

Land Use	Size	Vehicle Parking Ratio [a]	Required Vehicle Spaces
North and South Towers			
Apartment [b]	636 3 or less habitable rooms	1 space per unit	636
	491 4+ habitable rooms	1.25 spaces per unit	614
	1,127 units		1,250
Restaurant [c]	34.572 ksf	1 space per unit	35
Rehabilitated Existing Buildings			
Office [c]	307.288 ksf	1 space per unit	307
Restaurant [c]	18.817 ksf	1 space per unit	19
Grocery [c]	50.0 ksf	1 space per unit	50
Project Total			1,661

TABLE 10B
TIMES MIRROR SQUARE
BICYCLE PARKING SPACES REQUIRED BY CITY CODE

		Short-Term Bicycle Parking		Long-Term Bicycle Parking		Total
Land Use	Size	Bicycle Parking Ratio [d]	Required Bicycle Spaces	Bicycle Parking Ratio [d]	Required Bicycle Spaces	Required Bicycle Spaces
North and South Towers						
Apartment	1,127 units	1 per 10 du	113	1 per 1 du	1,127	1,240
Restaurant	34.572 ksf	1 per 2,000 sf	17	1 per 2,000 sf	17	34
Rehabilitated Existing Buildings						
Office		[e]		[e]		
Restaurant		[e]		[e]		
Grocery		[e]		[e]		
Project Total			130		1,144	1,274

TABLE 10C
TIMES MIRROR SQUARE
POTENTIAL REDUCTION IN VEHICLE SPACES DUE TO BICYCLE SPACES

Land Use	Reduction Potential at 1 per 4 Bicycle Spaces	Max. % Reduction of Vehicle Spaces [d]	Max. Reduction Based on Vehicle Spaces	Capped # (Lower of Reduction Potential or Max. %)	Code Required Vehicle Spaces With Reduction
North and South Towers					
Apartment	310	15%	187	187	1,063
Restaurant	9	30%	11	9	26
Rehabilitated Existing Buildings					
Office					307
Restaurant					19
Grocery					50
Project Total	319		198	196	1,465

Notes:

[a] Source: City of Los Angeles Municipal Code, Section 12.21A.4.

[b] Per LAMC 12.21A.4(p), project site is located in the Central City Area. As such, reduced parking rates of 1 space per dwelling unit with three or less habitable rooms, and 1.25 spaces per unit with four or more habitable rooms apply.

[c] Per LAMC 12.21A.4(i), project site is located in the Downtown Business District. As such, reduced parking rates of 1 spaces per 1,000 sf of office, commercial, and business space applies.

[d] Source: City of Los Angeles Municipal Code, Section 12.21A.16.

[e] Bicycle parking analysis provided for new uses only. The rehabilitated existing buildings are not required to provide bicycle parking.

8. CONSTRUCTION PERIOD IMPACT ANALYSIS

Analysis of this proposed Project is provided in the context of significant construction throughout downtown Los Angeles generated by the Regional Connector project. Given that the proposed Project is immediately adjacent to the under-construction Historic Broadway Station, it is important to note that there are ongoing effects of construction (from both the station and accompanying subway tunnel) in the vicinity of the proposed Project. Regional Connector construction is expected to last through 2021, and thus would occur concurrently with construction of the proposed Project for up to two years.

CONSTRUCTION IMPACT CRITERIA

LADOT generally considers construction-related traffic to cause adverse but not significant impacts because, while sometimes inconvenient, construction-related traffic effects are temporary. LADOT requires implementation of worksite traffic control plans to ensure that any construction-related effects are minimized to the greatest extent possible.

The *LA CEQA Thresholds Guide* provides four categories be considered in regards to in-street construction impacts: temporary traffic impacts, temporary loss of access, temporary loss of bus stops or rerouting of bus lines, and temporary loss of on-street parking (*LA CEQA Threshold Guide*, pages L.8-2 through L.8-4). The factors in each of these categories as established in the *LA CEQA Threshold Guide* are as follows:

- Temporary Traffic Impacts:
  - The length of time of temporary street closures or closures of two or more traffic lanes;
  - The classification of the street (major arterial, state highway) affected;
  - The existing traffic levels and LOS on the affected street segments and intersections;
  - Whether the affected street directly leads to a freeway on- or off-ramp or other state highway;
  - Potential safety issues involved with street or lane closures;
  - The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.
- Temporary Loss of Access:
  - The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area;
  - The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access;
  - The type of land uses affected, and related safety, convenience, and/or economic issues.
- Temporary Loss of Bus Stops or Rerouting of Bus Lines:
  - The length of time that an existing bus stop would be unavailable or that existing service would be interrupted;
  - The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated;
  - The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes;
  - Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).
- Temporary Loss of On-Street Parking:
  - The current utilization of existing on-street parking;

- The availability of alternative parking locations or public transit options (e.g. bus, train) within ¼ mile of the project site;
- The length of time that existing parking spaces would be unavailable.

It should be noted, however, that SB 743 as implemented in California Public Resources Code Section 21099 provides that parking impacts of a residential, mixed- use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. This guidance supersedes the significance guidance in the *LA CEQA Threshold Guide*. The proposed Project falls within a transit priority area, as shown in the map included in the City of Los Angeles Department of City Planning Zoning Information File Number 2452.

The LAMC provides that construction activities are limited to the hours from 7:00 AM to 9:00 PM on weekdays and from 8:00 AM to 6:00 PM on Saturdays and holidays. No construction is permitted on Sundays.

CONSTRUCTION TRAFFIC

Construction activities are expected to begin in 2019 and are anticipated to take a total of approximately 4 years to complete. The construction is anticipated to involve six key phases:

1. Demolition, implementation of off-site utilities, excavation
2. Renovation of existing buildings that will remain (may overlap with any other phases)
3. Site preparation: establishing site boundaries, setting up operations, establishing access for trucks
4. Grading: includes excavation, grading, and shoring
5. Foundation/concrete pour
6. Construction: including paving and architectural coating

CONSTRUCTION TRUCKS

Haul Trucks

Hauling activity is expected to occur during Phase 1 demolition and Phase 4 grading. Up to 10 haul trucks per day are anticipated on peak haul days during Phase 1. Up to 140 haul trucks per day are anticipated on peak haul days during Phase 4.

Hauling hours are anticipated to begin between 7:00-9:00 AM and end between 3:00-5:00 PM depending on the approval haul hours, Monday through Friday. The delivery/equipment trucks are anticipated to arrive and depart between 7:00 AM and 5:00 PM, Monday through Friday. The haul route for the Project will most likely proceed westbound on 1st Street, northbound on Broadway to the US-101 Freeway. Trucks are expected to be staged off-site and dispatched to the Project site as needed.

Equipment and Delivery Trucks

In addition to haul trucks, concrete trucks would access the site during the foundation/concrete pour in Phase 5 and the site is also expected to generate delivery truck activity during Phase 6. Materials could include plumbing supplies, electrical fixtures, and items used in furnishing the buildings. These materials would be delivered to the site and stored on-site. These deliveries are expected to occur in variously sized vehicles including small delivery trucks to concrete mixer trucks and 18-wheel trucks. Phase 5, which is

expected to occur over the course of four days, is anticipated to involve 703 concrete trucks on the peak activity day. Phase 6 is anticipated to involve 179 delivery trucks per day on peak activity days.

In addition to delivery trucks, occasional equipment delivery is expected to occur during all phases. This equipment could include cranes, bulldozers, excavators, and other large items of machinery. Most of the heavy equipment is expected to be transported to the site on large trucks such as 18-wheelers or other similar vehicles.

CONSTRUCTION EMPLOYEES

The number of construction workers would vary throughout the construction period with the building construction phase generating the highest number of trips. Phases 1 is expected to involve a total of 29 workers on site daily; Phase 2 is expected to involve a total of 62 workers on site daily and could overlap with any of the other phases; Phase 3 will involve approximately 29 workers daily; Phase 4 will involve 30 workers daily; Phase 5 will involve 19 workers daily; and Phase 6 will involve up to 728 workers daily.

CONSTRUCTION WORKER PARKING

Construction employees will park offsite during all construction phases.

CONSTRUCTION IMPACT ASSESSMENT

The *LA CEQA Thresholds Guide* provides four categories to be considered in regards to in-street construction impacts: temporary traffic impacts, temporary loss of access, temporary loss of bus stops or rerouting of bus lines, and temporary loss of on-street parking (*LA CEQA Threshold Guide*, pages L.8-2 through L.8-4). The factors to be considered in each of these categories, and the assessment of the project against these factors, is presented in Table 11 and discussed below.

TEMPORARY TRAFFIC IMPACTS

Temporary travel lane and bike lane closures during the period of construction are anticipated on Broadway, 1st Street, and Spring Street. Because of Regional Connector construction, any closures that may occur on 2nd Street will be subject to Metro's review and approval before they can go forward.

The streets that may be affected by any temporary lane or sidewalk closures are Broadway and Spring Street (Avenue II), 1st Street (Boulevard II), and 2nd Street (Avenue III). The intersection of Broadway & 1st currently operates at LOS A in the AM and LOS B in the PM. The intersection of Broadway & 2nd currently operates at LOS A in the AM and PM. The intersection of Spring & 1st currently operates at LOS A in the AM and PM. The Intersection of Spring & 2nd currently operates at LOS A in the AM and PM.

Worksite traffic control plans would be prepared for any temporary vehicle lane, bicycle lane, or sidewalk closures in accordance with applicable City and California Manual of Uniform Traffic Control Devices (MUTCD) guidelines.

TEMPORARY LOSS OF ACCESS

Full-time closures to the sidewalk are anticipated for the Project along 1st Street, 2nd Street, Broadway, and Spring Street during construction. Pedestrian and vehicular access to existing uses on the Project site will be maintained for the duration of construction and protective canopies around entrances will be provided,

as required. Pedestrian and vehicular access to nearby businesses will remain open during the construction period. Temporary loss of access impacts would be less than significant.

TEMPORARY LOSS OF BUS STOPS OR REROUTING OF BUS LINES

There are four existing bus stops along the Project frontage. The stop on Broadway at 1st Street serves the Metro 30, 40 and 330 lines. The stop on 1st Street at Broadway serves the LADOT Commuter Express Route 534 and Metro line 442. The stop on 1st Street at Spring Street serves the Dash Route A. The stop on Spring between 1st and 2nd Streets serves the Dash Route D, Metro lines 28, 30, 40, 45, 330, and 745, as well as Montebello Express commuter services. Additional bus stops are located on all adjacent blocks and could serve as temporary bus stops without service interruptions or detours, should Project frontage bus stops need to be temporarily closed due to construction. As such, temporary bus impacts would be less than significant.

TEMPORARY LOSS OF ON-STREET PARKING

Construction may require temporary parking restrictions along the Project frontage on 1st Street to accommodate the construction area footprint. A total of six metered spaces would require temporary parking restrictions. 2nd Street, Broadway, and Spring Street would be unaffected since there is no on-street parking on these streets.

Per the provisions in the California Public Resources Code Section 21099, which implements SB 743, parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment (City of Los Angeles Department of City Planning Zoning Information File No. 2452). As such, temporary parking impacts would be less than significant.

TABLE 11
TIMES MIRROR SQUARE
CONSTRUCTION IMPACT SIGNIFICANCE FACTORS

Significance Factor [a]	**Assessment**	**Conclusion**
Per the *LA CEQA Thresholds Guide* , the determination of significance shall be made on a case-by-case basis, considering the following factors:		
Temporary Traffic Impacts:		
• The length of time of temporary street closures or closures of two or more traffic lanes; • The classification of the street (major arterial, state highway) affected; • The existing traffic levels and level of service (LOS) on the affected street segments and intersections; • Whether the affected street directly leads to a freeway on- or off-ramp or other state highway; • Potential safety issues involved with street or lane closures; • The presence of emergency services (fire, hospital, etc.) located nearby that regularly use the affected street.	• Temporary full street closures or closures of two or more traffic lanes are not anticipated. • The streets that may be affected by any temporary traffic lane, bicycle lane, or sidewalk closures are Broadway and Spring Street (Avenue II), 1st Street (Boulevard II), and 2nd Street (Avenue III). • The intersection of Broadway/1st currently operates at LOS A in the AM and LOS B in the PM. The intersection of Broadway/2nd currently operates at LOS A in the AM and PM. The intersection of Spring/1st currently operates at LOS A in the AM and PM. The Intersection of Spring/1st currently operates at LOS A in the AM and PM. • None of the affected streets directly lead to a freeway on- or off-ramp or other state highways. • Worksite traffic control plans would be prepared for any temporary lane or sidewalk closures in accordance with applicable City and Manual of Uniform Traffic Control Devices (MUTCD) guidelines. • The adjacent Los Angeles Police Department Headquarters will retain full access to the driveway on Spring Street.	• Less than significant.
Temporary Loss of Access:		
• The length of time of any loss of vehicular or pedestrian access to a parcel fronting the construction area; • The availability of alternative vehicular or pedestrian access within ¼ mile of the lost access; • The type of land uses affected, and related safety, convenience, and/or economic issues.	• Blockage of existing vehicle or pedestrian access to parcels fronting the construction area is not anticipated. Pedestrian and vehicular access to nearby businesses will remain open during the construction period. Existing uses on the Project site will have their access maintained by providing protective canopies around the entrances when required.	• Less than significant.
Temporary Loss of Bus Stops or Rerouting of Bus Lines:		
• The length of time that an existing bus stop would be unavailable or that existing service would be interrupted; • The availability of a nearby location (within ¼ mile) to which the bus stop or route can be temporarily relocated; • The existence of other bus stops or routes with similar routes/ destinations within a ¼mile radius of the affected stops or routes; • Whether the interruption would occur on a weekday, weekend or holiday, and whether the existing bus route typically provides service that/those day(s).	• There are four existing bus stops along the Project frontage. The stop on Broadway at 1st Street, which serves the Metro 30, 40 and 330 lines. The stop on 1st Street at Broadway serves the LADOT Commuter Express Route 534 and Metro line 442. The stop on 1st Street at Spring Street serves the Dash Route A. The stop on Spring between 1st and 2nd Streets serves the Dash Route D, Metro lines 28, 30, 40, 45, 330, and 745, as well as Montebello Express commuter services. Additional bus stops are located on all adjacent blocks and could serve as temporary bus stops without service interruptions or detours, should Project frontage bus stops need to be temporarily closed due to construction.	• Less than significant.
Temporary Loss of On-Street Parking:		
• The current utilization of existing on-street parking; • The availability of alternative parking locations or public transit options (e.g. bus, train) within ¼ mile of the project site; • The length of time that existing parking spaces would be unavailable.	• Construction may require temporary parking restrictions along the project frontage on 1st Street to accommodate the construction area footprint. A total of six metered spaces would require temporary parking restrictions for the duration of construction. • Public transit options are available within 1/4 mile of the Project site, including: Civic Center/Grand Park Metro Station, and local and regional bus routes on Broadway, 1st Street, Spring Street, Hill Street, and Main Street. In addition, there are various off-street parking lot locations nearby, such as the Grand Park public parking lot located on Broadway north of 1st Street and two public lots located directly south of 2nd Street.	• Less than significant in accordance with SB 743/Public Resources Code Section 21099.
Note: SB 743 as implemented in California Public Resources Code Section 21099 provides that parking impacts of a residential, mixed- use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment. This guidance supersedes the significance guidance in the *LA CEQA Threshold Guide* .		

CONSTRUCTION PERIOD TRIP GENERATION

Based on the aforementioned information, a construction period trip generation analysis was conducted for each phase of construction to estimate daily, morning and evening peak hour passenger car equivalent (PCE) trips. Construction workers often travel to and from a worksite outside of the typical peak commute hours. For the purpose of the analysis, it was assumed that up to 40% of the construction workers will arrive during the peak morning commute hour and 40% will depart during the peak evening commute hour. Haul and delivery/equipment trucks were assumed to occur evening throughout the hauling and delivery periods. For the purposes of the trip generation analysis, the hauling hours were assumed to occur from 7:00 AM to 5:00 PM, a 10-hour period, which would generate the highest number of haul trips in the peak hours. Should the hauling hours be restricted to begin at 9:00 AM and end at 3:00 PM, the project would not generate any peak hour hauling truck trips. However, restricting the duration of the hauling period may extend the construction schedule. The delivery/equipment trucks are anticipated to arrive and depart between 7:00 AM and 5:00 PM, a 10-hour period, except during Phase 5, which will require a 12-hour delivery period to facilitate the concrete pour.. A PCE factor of 2.0 was used for vendor and delivery trucks and a PCE factor of 2.5 was assumed for haul trucks.

Table 12 shows a summary of construction period trip generation under each phase of construction. As shown, the peak construction activity day would occur during the Phase 5 foundation/concrete pour, with the potential for the renovation phase to be conducted concurrently. On a peak construction activity day during Phase 5 with the Phase 2 renovation trips, a total of up to 2,974 daily PCE trips are estimated to occur. If the renovation phase occurs concurrently with Phase 6, the highest level of activity during peak hours is anticipated to result in 388 PCE trips occurring during each of the morning and evening peak hours. As such, the peak construction activity would generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied.

Although significant construction impacts are not anticipated, the influx of this material and equipment could create less than significant impacts on the adjacent roadway network based on the following considerations:

- There may be intermittent periods when large numbers of material deliveries are required, such as when concrete trucks will be needed for the parking garage and the buildings.
- Some of the materials and equipment could require the use of large trucks (18-wheelers), which could create additional congestion on the adjacent roadways.
- Delivery vehicles may need to park temporarily on adjacent roadways as they deliver their items. Based on experience, it is not uncommon for these types of deliveries to result in temporary lane closures.

TABLE 12
TIMES MIRROR SQUARE
CONSTRUCTION PERIOD TRIP GENERATION

Peak Daily Activity Under Each Phase

	Phase 1: Demolition	Phase 2: Renovation	Phase 3: Site Preparation	Phase 4: Grading	Phase 5. Foundation/Concrete Pour	Phase 6. Construction
Construction Workers	*29*	*62*	*29*	*30*	*19*	*728*
Passenger Car Equivalent (PCE) factor	1.0	1.0	1.0	1.0	1.0	1.0
Haul Trucks	*10*	*0*	*0*	*140*	*0*	*0*
Passenger Car Equivalent (PCE) factor	2.5	2.5	2.5	2.5	2.5	2.5
Delivery/Equipment Trucks	*0*	*0*	*0*	*0*	*703*	*179*
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0	2.0	2.0

CONSTRUCTION PERIOD TRIP GENERATION

Phase	Daily PCE Trips [1]	Morning Peak Hour PCE Trips			Evening Peak Hour PCE Trips		
		In	Out	Total	In	Out	Total
Phase 1. Demolition							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	50	3	3	6	3	3	6
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 1 Total	***108***	***15***	***3***	***18***	***3***	***15***	***18***
Phase 2. Renovation [4]							
Construction Worker Trips [2]	124	25	0	25	0	25	25
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 2 Total	***124***	***25***	***0***	***25***	***0***	***25***	***25***
Phase 3. Site Preparation							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 3 Total	***58***	***12***	***0***	***12***	***0***	***12***	***12***
Phase 4. Grading							
Construction Worker Trips [2]	60	12	0	12	0	12	12
Haul Truck Trips [3]	700	35	35	70	35	35	70
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 4 Total	***760***	***47***	***35***	***82***	***35***	***47***	***82***
Phase 5. Foundation/Concrete Pour							
Construction Worker Trips [2]	38	8	0	8	0	8	8
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	2,812	117	117	234	117	117	234
Phase 5 Total	***2,850***	***125***	***117***	***242***	***117***	***125***	***242***
Phase 6. Construction							
Construction Worker Trips [2]	1,456	291	0	291	0	291	291
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	716	36	36	72	36	36	72
Phase 5 Total	***2,172***	***327***	***36***	***363***	***36***	***327***	***363***

PCE - Passenger car equivalent

Notes:

[1] - Daily trips were calculated by counting two trips, one inbound and one outbound trip for each vehicle

[2] - Up to 40% of the construction workers were assumed to arrive during the morning peak hour of adjacent street traffic. A total of up to 40% worker were assumed to depart during the evening peak hour.

[3] - Daily haul, delivery/equipment, and trash truck trips were assumed to occur evenly throughout an 10-hour construction day. Trips for the concrete pour were assumed to occur on a 12-hour day. Therefore, the daily truck trips for haul and delivery/equipment were divided by 10 hours to calculate morning and evening peak hour truck trips. The daily concrete truck trips were divided by 12 hours to calculate peak hour truck trips.

[4] The Renovation phase is expected to last approximately two years and may occur concurrently with any other phases.

CONSTRUCTION MITIGATION MEASURES

As shown in Table 12, impacts related to construction traffic were found to be less than significant. In addition, the peak construction activity will generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied. While mitigation measures are not required to mitigate significant impacts, to be conservative a Construction Traffic Management Plan and Construction Worker Parking Plan should be implemented.

A Construction Traffic Management Plan will be developed by the Project applicant for approval by the City of Los Angeles to alleviate construction period impacts. The Construction Traffic Management Plan may include but is not limited to the following measures:

- Provide off-site truck staging in a legal area furnished by the construction truck contractor. Anticipated truck access to the project site will be off Broadway and 2nd Street.
- Schedule deliveries and pick-ups of construction materials during non-peak travel periods to the extent possible and coordinate to reduce the potential of trucks waiting to load or unload for protracted periods.
- As parking lane and/or sidewalk closures are anticipated, worksite traffic control plan(s), approved by the City of Los Angeles, should be implemented to route vehicular traffic, bicyclists, and pedestrians around any such closures.
- Establish requirements for loading/unloading and storage of materials on the project site, where parking spaces would be encumbered, length of time traffic travel lanes can be encumbered, sidewalk closings or pedestrian diversions to ensure the safety of the pedestrian and access to local businesses and residences.
- Ensure that access will remain unobstructed for land uses in proximity to the project site during project construction.
- Coordinate with the City and emergency service providers to ensure adequate access is maintained to the project site and neighboring businesses and residences.
- Coordinate with affected transit providers (Metro, LADOT Dash, Montebello) to temporarily relocate bus stops as necessary.

A Construction Worker Parking Plan will also be developed by the Project applicant for approval by the City of Los Angeles to identify and enforce parking location requirements for construction workers. The Construction Worker Parking Plan could include but is not limited to the following measures:

- During construction activities when construction worker parking cannot be accommodated on the project site, the plan shall identify alternate parking location(s) for construction workers and the method of transportation to and from the project site (if beyond walking distance) for approval by the City 30 days prior to commencement of construction.
- Provide all construction contractors with written information on where their workers and their subcontractors are permitted to park, and provide clear consequences to violators for failure to follow these regulations.
- The Construction Traffic Management Plan and the Construction Worker Parking Plan will need to be approved by LADOT prior to the issuance of building permits. LADOT will be the responsible agency for monitoring and enforcement of the plans.

9. SUMMARY AND CONCLUSIONS

This study was undertaken to analyze the potential traffic impacts of the proposed development of the Times Mirror Square Project. The following summarizes the results of this analysis:

- The Project involves the construction of 1,127 apartment units, 307,288 square feet of office space, 50,000 square feet of grocery space, and 53,389 square feet of quality restaurant. The Project will preserve three existing historic structures and include the construction of two mixed-use towers, as well as a five-level parking podium with ground-floor commercial space. A pedestrian paseo will be provided, linking 1st Street and 2nd Street through the site.

- Three driveways will provide access to the Project, with two driveways on Broadway and one driveway on West 2nd Street. All three driveways will provide full access to and from the site.

- The Project would generate an estimated net increase of 6,994 daily vehicle trips, including 300 trips during the AM peak hour and 279 trips during the PM peak hour.

- The LOS analysis for the Existing plus Project scenario determined that the Project would result in a significant impact during both the AM and PM peak hours at the intersection of Broadway & West 2nd Street. The LOS analysis for the Future plus Project scenario determined that the Project would result in significant impacts at six study area intersections as shown on Table 8. Physical mitigations were considered, but cannot be implemented at the impacted locations, due to roadway width and on-street facility constraints. The Project would, however, implement a TDM program to reduce Project-generated vehicle trips. All six intersections would remain significantly and unavoidably impacted.

- The Project is required to provide a total of 1,661 vehicle parking spaces using the basic code requirements. With the provision 1,274 total bicycle spaces, the required parking would be reduced to 1,465 vehicle spaces. The Project will meet the required vehicular and bicycle according to the LAMC.

- Significant CMP arterial, CMP freeway or transit impacts would not be created by the Project; therefore, no mitigation measures would be required.

- Impacts related to construction traffic were found to be less than significant. In addition, the peak construction activity will generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied. While mitigation measures are not required to mitigate significant impacts, a Construction Traffic Management Plan and Construction Worker Parking Plan should be implemented.

REFERENCES

2010 Highway Capacity Manual, Transportation Research Board, 2010.

Broadway Streetscape Master Plan, City of Los Angeles, February 14, 2013.

City of Los Angeles Department of City Planning Zoning Information File Number 2452

City of Los Angeles Municipal Code

Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association, 2010.

Transportation Impact Study Guidelines, LADOT, December 2016.

Trip Generation, 9th Edition, Institute of Transportation Engineers, 2012.

APPENDIX A:
LADOT MOU

LADOT

Transportation Impact Study Memorandum of Understanding (MOU)

This MOU acknowledges that the Transportation Impact Study for the following Project will be prepared in accordance with the latest version of LADOT's Transportation Impact Study Guidelines:

I. PROJECT INFORMATION

Project Name: Times Mirror Square

Project Address: 202 W. 1st Street, Los Angeles, CA 90012

Project Description: See Figure 1. Project includes 1,127 residential units, 285,088 square feet of office space, a 50,000 square foot grocery store, 22,200 square feet of quality restaurant, and 53,389 square feet of high-turnover restaurant.

LADOT Project Case Number: _____ Project Site Plan attached? *(Required)* ■ Yes ☐ No

II. TRIP GENERATION See figure 2

Geographic Distribution: N _____ % S _____ % E _____ % W _____ %

Illustration of Project trip distribution percentages at Study intersections attached? *(Required)* ■ Yes ☐ No

Trip Generation Adjustments *(Exact amount of credit subject to approval by LADOT)*

	Yes	No
Transit Usage	■	☐
Transportation Demand Management	☐	■
Existing Active Land Use	■	☐
Previous Land Use	☐	■
Internal Trip	■	☐
Pass-By Trip	■	☐

Source of Trip Generation Rate(s)? ■ ITE 9th Edition ☐ Other: _____

Trip generation table including a description of the proposed land uses, ITE rates, estimated morning and afternoon peak hour volumes (ins/outs/totals), proposed trip credits, etc. attached? *(Required)* ■ Yes ☐ No See Table 1

	IN	OUT	TOTAL
AM Trips	94	341	435
PM Trips	294	38	332

III. STUDY AREA AND ASSUMPTIONS

Project Buildout Year: 2022 Ambient or CMP Growth Rate: 1 % Per Yr.

Related Projects List, researched by the consultant and approved by LADOT, attached? *(Required)* ■ Yes ☐ No See Table 2 and Figure 3

Subject to Freeway Impact Analysis, in addition to CMP Analysis? *(Freeway analysis screening filter must be included in this MOU; selecting "yes" implies that at least one criteria was satisfied)* ☐ Yes ■ No See Attachment A

Map of Study Intersections attached? *(May be subject to LADOT revision after initial impact analysis)* ■ Yes ☐ No See Figure 4

Is this Project located on a street within the High Injury Network? ■ Yes ☐ No

IV. CONTACT INFORMATION

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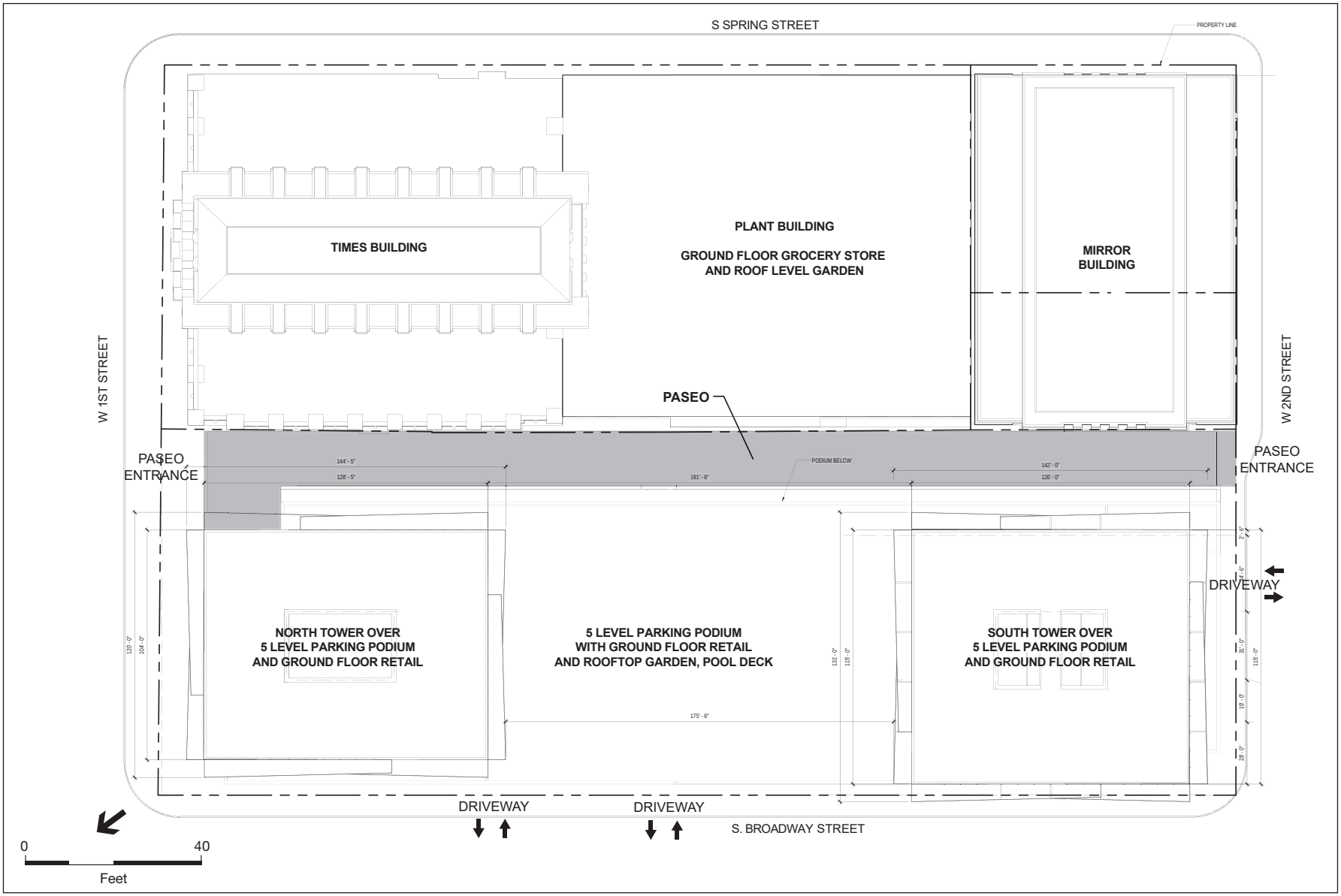
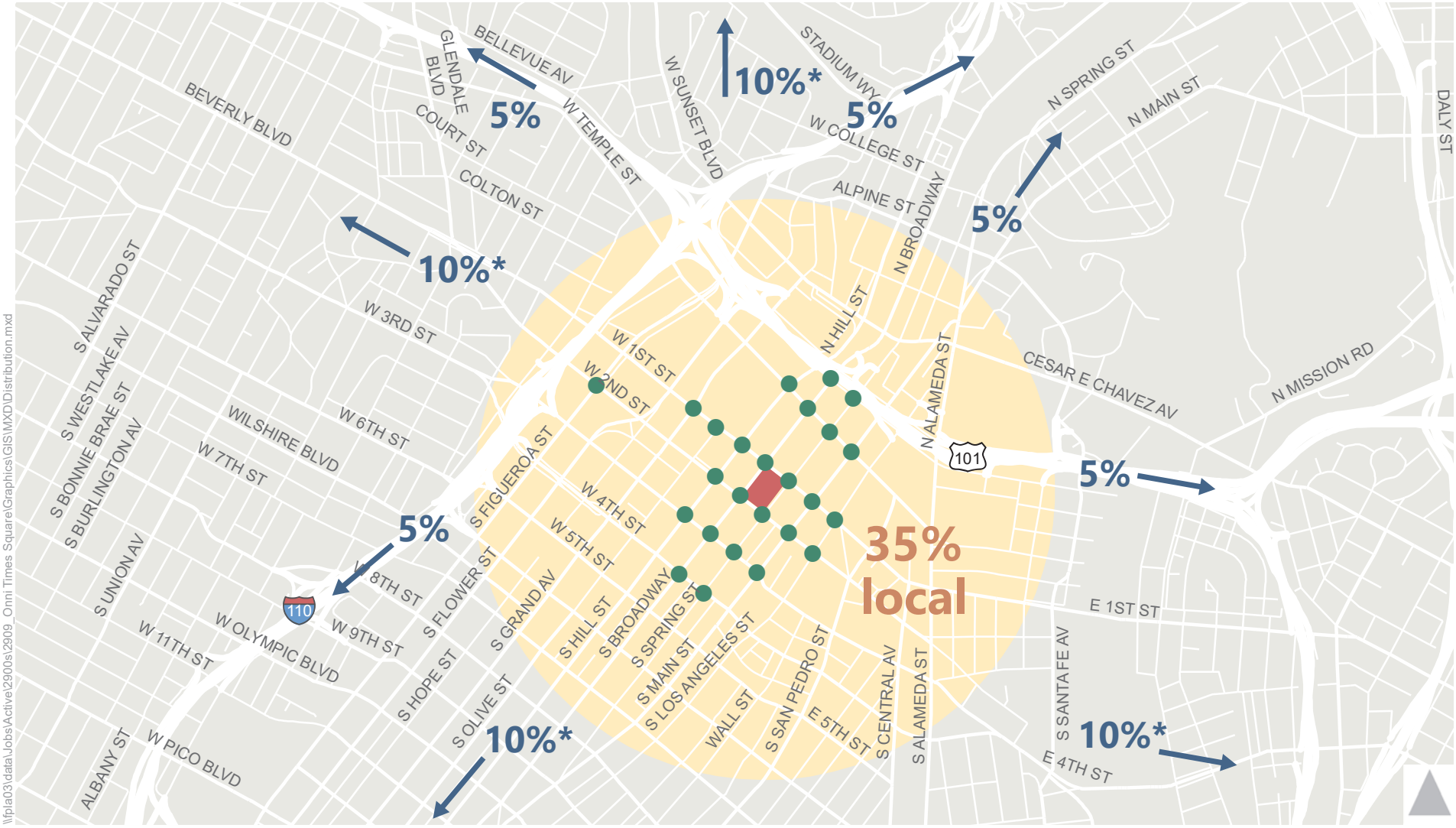
Approved by:	x	3/29/17	x	3-30-17
	Consultant's Representative	Date	LADOT Representative	Date



SOURCE: AC Martin Partners, Inc, 2017

Figure 1

Site Plan



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- Study Intersections
- Project Site

*Some trips ultimately distributed onto freeways.

Figure 2

Trip Distribution

TABLE 1
TIMES MIRROR SQUARE
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	1,127 DU	4.20	0.34	19%	81%	0.38	62%	38%	4,733	73	310	383	265	163	428
Less: Internal Capture [b]			*25%*		*7%*	*23%*		*46%*	*43%*	*(1,183)*	*(5)*	*(71)*	*(76)*	*(121)*	*(70)*	*(191)*
Net External Vehicle Trips										3,550	68	239	307	144	93	237
Office	710	285.088 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,145	392	53	445	72	353	425
Less: Internal Capture [b]			*18%*		*20%*	*91%*		*39%*	*14%*	*(566)*	*(78)*	*(48)*	*(126)*	*(28)*	*(51)*	*(79)*
Less: Transit Credit [c]			*14%*	*25%*			*25%*			*(361)*	*(79)*	*(1)*	*(80)*	*(11)*	*(76)*	*(87)*
Net External Vehicle Trips										2,218	235	4	239	33	226	259
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*38%*		*19%*	*30%*		*63%*	*57%*	*(1,943)*	*(20)*	*(19)*	*(39)*	*(153)*	*(132)*	*(285)*
Less: Transit Credit [c]			*9%*	*25%*			*25%*			*(285)*	*(21)*	*(12)*	*(33)*	*(22)*	*(25)*	*(47)*
Total Driveway Trips										2,884	64	34	98	67	75	142
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,153)*	*(25)*	*(13)*	*(38)*	*(26)*	*(30)*	*(56)*
Net External Vehicle Trips										1,731	39	21	60	41	45	86
Quality Restaurant [h]	931	22.200 ksf	89.95	0.81	55%	45%	7.49	67%	33%	1,997	10	8	18	111	55	166
Less: Internal Capture [b]			*25%*		*25%*	*17%*		*24%*	*57%*	*(499)*	*(2)*	*(1)*	*(3)*	*(27)*	*(31)*	*(58)*
Less: Transit Credit [c]			*13%*	*25%*			*25%*			*(195)*	*(2)*	*(2)*	*(4)*	*(21)*	*(6)*	*(27)*
Total Driveway Trips										1,303	6	5	11	63	18	81
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(130)*	*0*	*0*	*0*	*(6)*	*(1)*	*(7)*
Net External Vehicle Trips										1,173	6	5	11	57	17	74
High-Turnover Restaurant	932	53.389 ksf	127.15	10.81	55%	45%	9.85	60%	40%	6,788	317	260	577	316	210	526
Less: Internal Capture [b]			*22%*		*25%*	*17%*		*24%*	*57%*	*(1,493)*	*(79)*	*(45)*	*(124)*	*(77)*	*(120)*	*(197)*
Less: Transit Credit [c]			*13%*	*25%*			*25%*			*(688)*	*(60)*	*(54)*	*(114)*	*(60)*	*(23)*	*(83)*
Total Driveway Trips										4,607	178	161	339	179	67	246
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(921)*	*(35)*	*(32)*	*(67)*	*(35)*	*(13)*	*(48)*
Net External Vehicle Trips										3,686	143	129	272	144	54	198
TOTAL PROJECT EXTERNAL TRIPS										12,358	491	398	889	419	435	854
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										8,535	94	341	435	294	38	332

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook*, 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines*, December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines*, December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

TABLE 2
TIMES MIRROR SQUARE
TRIP GENERATION ESTIMATES FOR CUMULATIVE PROJECTS

ID	PROJECT ADDRESS	LAND USE	SIZE		TRIP GENERATION ESTIMATES						
					DAILY	AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
1	454 E Commercial St	Bus Facility	2	acres	N/A	22	8	30	9	1	10
2	225 S Los Angeles St	Condominiums	300	du	1,910	88	136	224	75	52	127
		Retail	3.4	ksf							
3	1101 N Main	Condominiums	300	du	1,102	-9	80	71	75	12	87
4	1133 S Hope St	Apartments	208	du	1,543	20	74	94	91	50	141
		Retail	5.029	ksf							
5	437 S Hill St	Apartments	615	du	3,088	44	122	166	162	97	259
		Restaurant	16.309	ksf							
6	1115 S Hill St	Condominiums	172	du	543	-45	40	-5	50	-7	43
		Restaurant	6.85	ksf							
7	1102 W 6th St	Apartments	649	du	4,200	61	195	256	232	155	387
		Retail	39.996	ksf							
8	609 W 8th St	Condominiums	225	du	4,908	90	104	194	242	159	401
		Hotel	200	rooms							
		Retail	30	ksf							
		Restaurant	32	ksf							
9	1130 Wilshire Blvd	Office	88.224	ksf	964	92	12	104	28	61	89
		Child Care	2	ksf							
		Restaurant	5.623	ksf							
10	1050 S Grand Ave	Condominiums	151	du	1,084	15	54	69	64	35	99
		Retail	3.472	ksf							
		Restaurant	2.2	ksf							
11	848 S Grand Ave	Condominiums	420	du	3,882	66	144	210	212	165	377
		Supermarket	38.5	ksf							
12	1430 W Beverly Blvd	Apartments	157	du	780	13	49	62	47	25	72
13	250 S Hill St	Condominiums	330	du	1,217	21	73	94	66	42	108
		Retail/Restaurant	12	ksf							
14	900 W Wilshire Blvd	Mixed Use			3,624	725	75	800	94	764	858
15	2000 Stadium Way	Condominiums	800	du	4,486	61	238	299	242	137	379
		Hospital	56	beds							
		Retail	15	ksf							
16	1435 W 3rd St	Apartments	122	du	711	11	42	53	41	25	66
		Retail	5	ksf							
17	237 Grand	Apartments	412	du	21,631	929	611	1,540	1,067	1,348	2,415
		Condominiums	1648	du							
		Retail	449	ksf							
		Office	681	ksf							
18	899 S Francisco St	Condominiums	836	du	8,010	307	318	625	387	512	899
		Office	988.225	office							
		Hotel	480	rooms							
		Retail/Restaurant	46	ksf							
19	301 W Olympic Blvd	Apartments	300	du	2,496	30	104	134	143	82	225
		Retail	14.5	ksf							
		Restaurant	8.5	ksf							
20	150 N Los Angeles St	Office	712.5	ksf	13,534	930	118	1,048	435	942	1,377
		Retail	35	ksf							
		Child care	2.5	ksf							
21	1027 S Olive St	Apartments	100	du	632	9	39	48	38	21	59
22	1300 S Hope St	Apartments	419	du	4,280	88	105	193	136	102	238
		Retail	42.2	ksf							
23	928 S Broadway	Apartments	662	du	4,715	21	229	250	272	109	381
		Retail	47	ksf							
		Live/Work	11	ksf							
		Office	34.824	ksf							
24	1200 S Grand Ave	Apartments	640	du	4,886	92	148	240	181	134	315
		Retail	45	ksf							
25	1329 W 7th St	Apartments	94	du	662	16	37	53	39	22	61
		Retail	2	ksf							
26	534 S Main St	Apartments	160	du	2,213	52	75	127	87	58	145
		Retail	18	ksf							
		Restaurant	7	ksf							
27	840 S Olive St	Condominiums	303	du	3,071	81	166	247	174	96	270
		Restaurant	9.68	ksf							
		Retail	1.5	ksf							
28	950 E 3rd St	School	532	students	6,372	162	177	339	245	213	458
		Retail	30.062	ksf							
		Apartments	635	du							

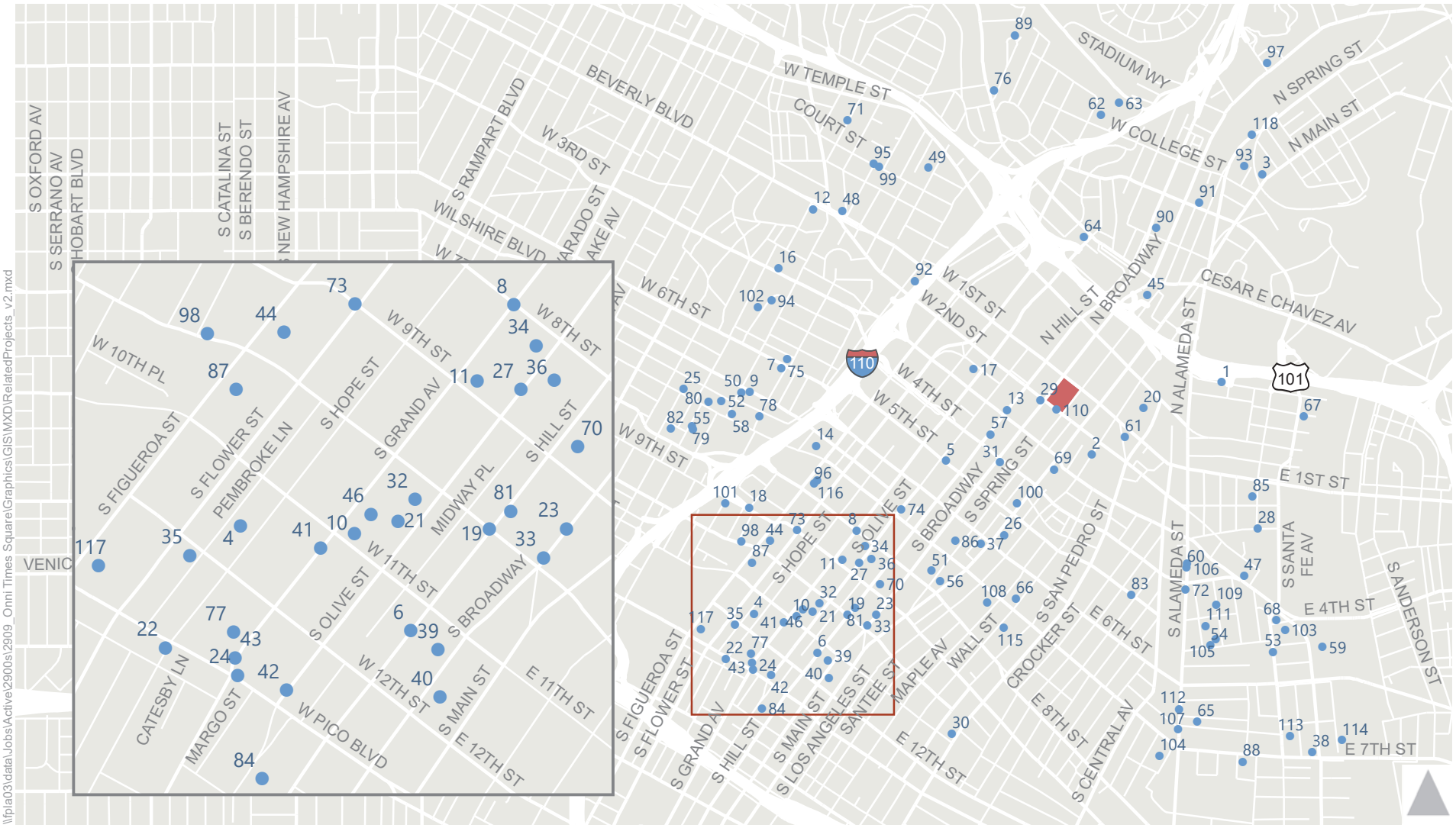
ID	PROJECT ADDRESS	LAND USE	SIZE		TRIP GENERATION ESTIMATES						
					DAILY	AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
29	201 S Broadway	Mixed Use	27.675	ksf	0	-40	-41	-81	53	17	70
30	1057 S San Pedro St	Office	540.141	ksf	N/A	837	434	1,271	632	957	1,589
		Retail	224.862	ksf							
		Cinema	744	seats							
		Apartments	877	du							
		Condominiums	68	du							
		Hotel	210	rooms							
31	400 S Broadway	Apartments	430	du	2,266	36	147	183	139	73	212
		Retail	10	ksf							
		Bar	5	ksf							
32	1001 S Olive St	Apartments	225	du	1,581	22	79	101	94	51	145
		Restaurant	5	ksf							
33	955 S Broadway	Apartments	218	du	1,275	21	72	93	74	43	117
		Retail	7	ksf							
34	801 S Olive	Apartments	331	du	2,557	33	129	162	140	83	223
		Restaurant	10	ksf							
35	1212 S Flower St	Condominiums	730	du	3,956	78	233	311	229	121	350
		Retail	10.5	ksf							
		Office	70.465	ksf							
36	820 S Olive St	Apartments	589	du	3,309	63	202	265	195	106	301
		Retail	4.5	ksf							
37	601 S Main St	Condominiums	452	du	2,686	36	144	180	152	87	239
		Retail	25	ksf							
38	2051 E 7th St	Apartments	240	du	2,196	9	97	106	138	55	193
		Retail	8	ksf							
		Restaurant	12	ksf							
39	1111 S Broadway	Apartments	391	du	5,198	144	176	320	258	274	532
		Office	39.725	ksf							
		Retail	49	ksf							
40	1148 S Broadway	Apartments	94	du	553	8	30	38	32	18	50
		Retail	2.5	ksf							
41	1120 S Grand Ave	Apartments	461	du	2,730	42	127	169	136	93	229
		Hotel	300	rooms							
		Retail	8.7	ksf							
42	1230 S Olive St	Apartments	362	du	2,114	31	126	157	127	69	196
		Retail	4	ksf							
43	1247 S Grand Ave	Apartments	118	du	763	10	41	51	42	25	67
		Retail	5.125	ksf							
44	940 S Figueroa St	Theater	1942	seats	2,237	5	4	9	99	35	134
		Restaurant	10.056	ksf							
		Bar	5.119	ksf							
45	527 N Spring St	Apartments	345	du	3,585	49	118	167	189	131	320
		Retail	44	ksf							
		Restaurant	11	ksf							
46	1036 S Grand Ave	Restaurant	7.149	ksf	492	2	3	5	27	14	41
47	963 E 4th St	Office	75	ksf	2,512	106	22	128	113	138	251
		Retail	25	ksf							
		Restaurant	20	ksf							
48	1335 W 1st St	Apartments	101	du	714	10	40	50	42	24	66
		Retail	3.514	ksf							
49	401 N Boylston St	Apartments	101	du	561	8	35	43	34	18	52
50	1150 W Wilshire Blvd	Apartments	80	du	511	-22	26	4	39	-5	34
		Restaurant	4.589	ksf							
51	737 S Spring St	Apartments	320	du	3,942	72	141	213	167	116	283
		Pharmacy	25	ksf							
52	1218 W Ingraham St	Apartments	90	du	532	8	33	41	33	17	50
53	555 S Mateo St	Retail	153	ksf	4,300	5	30	35	220	205	425
54	1147 E Palmetto	Apartments	120	du	2,908	73	141	214	147	83	230
		Hotel	141	rooms							
		Restaurant	20	ksf							
55	742 S Hartford Ave	Condominiums	58	du	333	5	21	26	20	11	31
56	732 S Spring St	Apartments	400	du	3,409	59	152	211	164	104	268
		Pharmacy	15	ksf							
57	340 S Hill St	Apartments	428	du	2,361	34	129	163	141	79	220
		Restaurant	6.7	ksf							
58	1145 W 7th St	Condominiums	126	du	1,084	4	66	70	67	35	102
		Apartments	100	du							
		Retail	7.2	ksf							
59	540 S Santa Fe Ave	Office	73.455	ksf	726	90	12	102	17	81	98
60	360 S Alameda St	Apartments	55	du	670	25	33	58	35	26	61
		Restaurant	2.5	ksf							

ID	PROJECT ADDRESS	LAND USE	SIZE		TRIP GENERATION ESTIMATES						
					DAILY	AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
		Office	6.3	ksf							
61	118 S Astronaut e.s. onizuka st	Apartments	77	du	97	-1	20	19	19	6	25
62	765 W College St	Office	100	ksf	3,422	178	48	226	78	198	276
63	959 E Stadium Way	Apartments	158	du	1,051	16	65	81	64	34	98
64	700 W Cesar Chavez Ave	Apartments	300	du	1,511	7	89	96	99	54	153
		Retail	8	ksf							
65	1525 E Industrial St	Apartments	328	du	2,288	58	73	131	86	69	155
		Office	27.3	ksf							
		Retail	6.4	ksf							
		Restaurant	5.7	ksf							
66	649 S Wall St	Medical Office	66	employees	104	24	5	29	3	24	27
		Assisted Living	55	beds							
67	410 N Center St	Office	110	ksf	1,165	87	0	87	0	79	79
68	500 S Mateo St	Restaurant	12.882	ksf	1,052	48	41	89	50	31	81
69	300 S Main St	Apartments	471	du	4,691	143	243	386	257	153	410
		Restaurant	27.78	ksf							
		Retail	5.19	ksf							
70	850 S Hill St	Apartments	300	du	1,970	28	106	134	116	65	181
		Retail	3.5	ksf							
		Restaurant	3.5	ksf							
71	340 N Patton St	Apartments	43	du	267	4	16	20	17	8	25
72	400 S Alameda St	Hotel	66	rooms	508	19	17	36	23	14	37
		Restaurant	2.13	ksf							
		Retail	0.84	ksf							
73	700 W 9th St	Apartments	689	du	2,624	37	146	183	143	95	238
		Retail	22.963	ksf							
74	649 S Olive St	Hotel	241	rooms	1,674	6	44	50	63	60	123
75	1111 W 6th St	Apartments	369	du	587	-71	117	46	104	-51	53
		Shopping Center	18.6	ksf							
		Restaurant	2.2	ksf							
		Coffee Shop	1.2	ksf							
76	1185 W Sunset Blvd	Apartments	204	du	2,474	70	131	201	105	70	175
		Coffee Shop	1.9	ksf							
		Single Family	6	du							
		Retail	9.434	ksf							
77	1229 S Grand Ave	Condominiums	161	du	1,116	23	62	85	62	33	95
		Restaurant	3	ksf							
78	675 S Bixel St	Hotel	126	rooms	3,461	74	173	247	184	116	300
		Apartments	425	du							
		Retail	4.874	ksf							
79	740 S Hartford Ave	Apartments	80	du	479	7	30	37	29	15	44
80	1235 W 7th St	Condominiums	303	du	1,725	23	95	118	100	54	154
		Retail	5.959	ksf							
81	940 S Hill St	Apartments	232	du	1,881	20	80	100	115	53	168
		Restaurant	14	ksf							
82	1322 W Linwood Ave	Apartments	84	du	449	5	30	35	28	14	42
83	719 E 5th St	Apartments	160	du	1,033	15	58	73	59	37	96
		Retail	10.057	ksf							
84	1340 S Olive St	Apartments	156	du	1,700	51	82	133	89	57	146
		Retail	5	ksf							
		Restaurant	10	ksf							
85	929 E 2nd St	Retail	41.019	ksf	2,014	61	9	70	101	88	189
		Event Space	7.843	ksf							
		Bar	10.369	ksf							
		Office	40.249	ksf							
		Health Club	5.383	ksf							
		Movie Theater	49	seats							
86	633 S Spring St	Hotel	176	rooms	2,045	83	33	116	97	99	196
		Restaurant	8.43	ksf							
		Bar	5.29	ksf							
87	1020 S Figueroa St	Hotel	300	rooms	6,583	204	274	478	312	227	539
		Condominiums	650	du							
		Retail	40	ksf							
		Restaurant	40	ksf							
88	1800 E 7th St	Apartments	122	du	816	26	45	71	45	37	82
		Office	13.6	ksf							
89	1013 N Everett Pl	Apartments	49	du	310	5	19	24	19	9	28
90	708 N Hill St	Apartments	162	du	980	16	57	73	57	33	90
		Retail	5	ksf							
91	211 W Alpine St	Apartments	122	du	566	9	42	51	37	18	55
		Retail	7.5	ksf							

ID	PROJECT ADDRESS	LAND USE	SIZE	TRIP GENERATION ESTIMATES						
				DAILY	AM PEAK HOUR			PM PEAK HOUR		
					IN	OUT	TOTAL	IN	OUT	TOTAL
92	130 S Beaudry Ave	Apartments	230 du	1,159	8	76	84	76	29	105
		Retail	9 ksf							
93	129 W College St	Apartments	770 du	6,583	169	290	459	307	201	508
		Grocery	34.52 ksf							
		Restaurant	8 ksf							
		Retail	5.87 ksf							
94	495 S Hartford Ave	Apartments	218 du	1,033	16	63	79	62	34	96
95	1316 W Court St	Apartments	112 du	745	11	46	57	45	24	69
96	744 S Figueroa St	Apartments	436 du	2,972	38	148	186	176	94	270
		Retail	10.165 ksf							
97	1201 N Broadway	Apartments	136 du	682	-9	49	40	48	8	56
		Office	9 ksf							
98	815 W Olympic Blvd	Hotel	346 rooms	3,915	137	133	270	167	165	332
		Retail	61.149 ksf							
		Office	36.256 ksf							
99	1300 W Court St	Apartments	43 du	286	4	18	22	17	10	27
100	433 S Main	Condominiums	161 du	1,859	85	147	232	66	48	114
		Mixed Use	6.9 ksf							
101	926 W James M Woods Blvd	Hotel	225 rooms	1,562	59	42	101	59	56	115
102	459 S Hartford Ave	Apartments	101 rooms	361	15	15	30	22	22	44
103	520 S Mateo St	Apartments	600 du	4,314	77	227	304	255	133	388
		Office	30 ksf							
		Retail	15 ksf							
		Restaurant	15 ksf							
104	747 Warehouse St [a]	Office	1300 ksf	25,014	1,928	330	2,258	774	2,091	2,865
		Retail	250 ksf							
105	527 Colyton St [a]	Condominiums	310 du	3,121	155	167	322	154	178	332
		Retail	11.400 ksf							
		Production Space	117 ksf							
106	330 South Alameda [a]	Apartments	186 du	2,227	92	155	248	138	90	227
		Retail	22.300 ksf							
107	668 South Alameda [a]	Apartments	475 du	5,174	198	356	553	319	204	523
		Commercial	45.500 ksf							
108	717 Maple Ave [a]	Apartments	452 du	3,587	54	190	244	206	124	330
		Retail	14 ksf							
109	445 South Colyton [a]	Shopping Center	24.950 ksf	3,883	103	115	218	132	54	186
		Restaurant	25.380 ksf							
		Hotel	113 rooms							
		Residential	129 du							
		Art Gallery/School	13.500 ksf							
110	232 West 2nd St [a]	Condominiums	107 du	6,686	743	150	893	183	684	867
		Office	534.044 ksf							
		Retail	7.200 ksf							
111	1100 East 5th St [b]	Apartments	218 du	1,450	22	89	111	131	83	214
		Gallery/Open Space	22.000 ksf							
112	640 South Alameda Street [b]	Hotel	412 rooms	23,975	1,199	1,369	2,567	1,246	1,133	2,379
		Apartments	1305 du							
		Condominiums	431 du							
		Office	253.514 ksf							
		School	29.316 ksf							
		Retail	127.609 ksf							
		Art Space	22.429 ksf							
113	676 Mateo Street [b]	Apartments	172 du	2,163	93	152	245	134	88	222
		Retail	23.025 ksf							
114	670 Mesquit Street [a]	Hotel	236 rooms	26,489	1,513	451	1,964	698	1,316	2,014
		Apartments	308 du							
		Retail	79.240 ksf							
		Restaurant	89.576 ksf							
		Event Space	93.617 ksf							
		Gym	62.148 ksf							
		Grocery	56.912 ksf							
		Office	944.055 ksf							
115	732-765 Wall Street [b]	Apartments	290 du	2,499	108	82	191	164	141	305
		Retail/Wholesale/Event/Restaurant	149.482 ksf							

ID	PROJECT ADDRESS	LAND USE	SIZE		TRIP GENERATION ESTIMATES						
					DAILY	AM PEAK HOUR			PM PEAK HOUR		
						IN	OUT	TOTAL	IN	OUT	TOTAL
116	734-744 S Figueroa Street & 817 W 8th Street [b]	Apartments	438	du	2,972	38	148	186	176	94	270
		Retail	10.200	ksf							
117	1248 S Figueroa Street [b]	Hotel	1024	rooms	5,949	266	185	451	272	261	532
118	924 N. Spring Street [b]	Apartments	645	du	5,838	168	383	551	358	213	571
		Live/Work Units	33	du							
		Commercial/Retail Space	30	ksf							

Notes:
du = dwelling units
ksf = one thousand square feet
Related projects list is based on information provided by LADOT on January 27, 2017.
[a] Projects were not included in information provided by LADOT. Projects and land use from third party research. Trip generation estimates based on ITE rates.
[b] Projects were not included in information provided by LADOT. Projects and land use from City of Los Angeles Department of City Planning Major Projects list: https://ladcp.maps.arcgis.com/apps/MapJournal/index.html?appid=b06f97ccf94741fdaad27443013eead1. Trip generation estimates based on ITE rates.



Related Projects Project Site

\\fpla03\data\Jobs\Active\2900s\2909_Onni Times Square\Graphics\GIS\MXD\RelatedProjects_v2.mxd

Figure 3

Related Projects

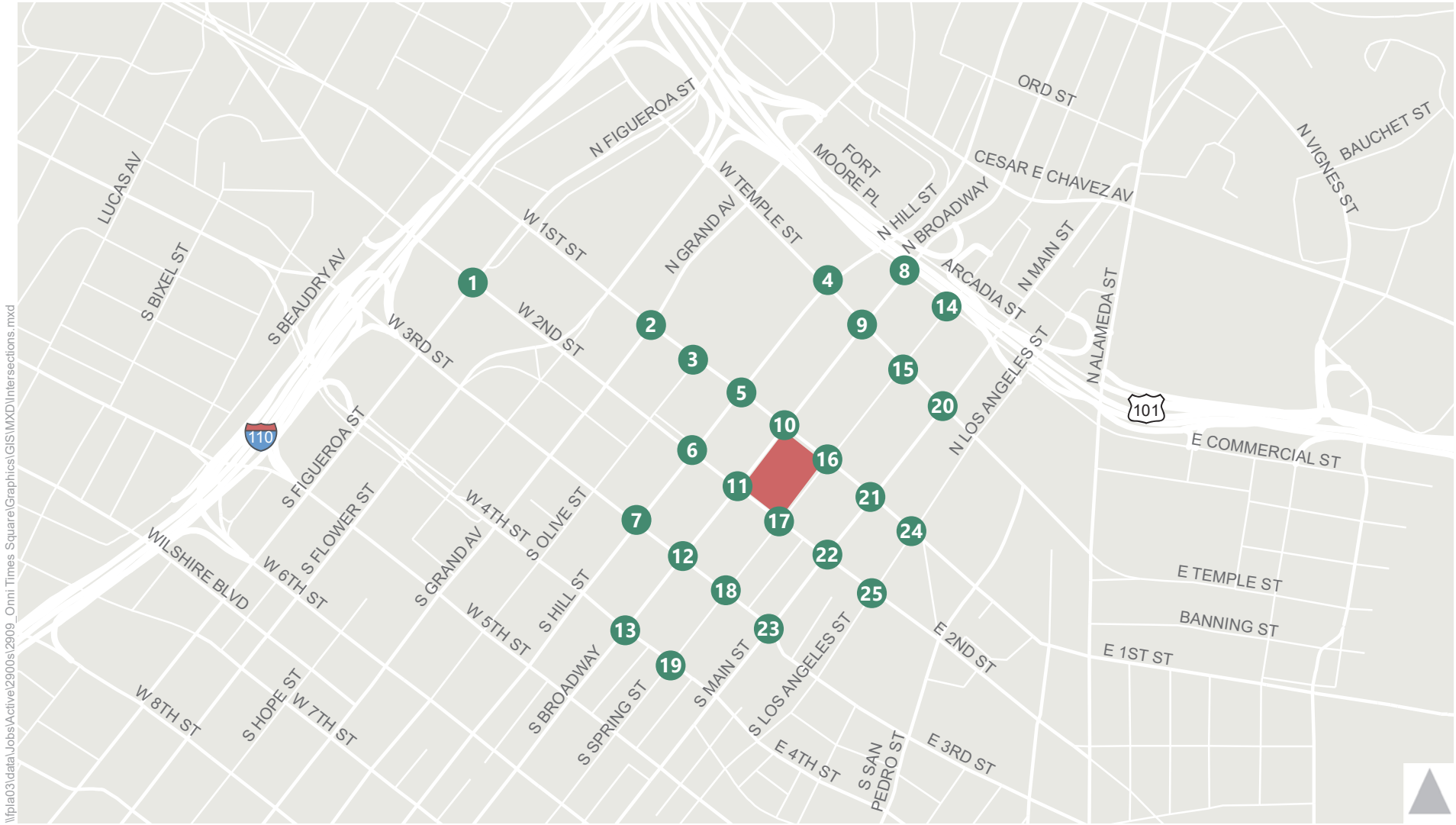


Figure 4

Study Intersections

FEHR PEERS

MOU ATTACHMENT A
FREEWAY SCREENING FOR TIMES MIRROR SQUARE PROJECT IN ACCORDANCE WITH SCREENING CRITERIA DESCRIBED IN SECTION 3 OF THE "AGREEMENT BETWEEN CITY OF LOS ANGELES AND CALTRANS DISTRICT 7 ON FREEWAY IMPACT ANALYSIS PROCEDURES" (DECEMBER 2015)

INTRODUCTION

Section 3.1 of the "Agreement Between City of Los Angeles and Caltrans District 7 On Freeway Impact Analysis Procedures" originally dated October 2013 specifies the freeway mainline and ramp screening criteria for development projects in the City of Los Angeles. Section 3.1 was amended in December of 2015 with the following threshold criteria:

> "City will require Project applicants to work with Caltrans and prepare a Freeway Impact Analysis, utilizing Caltrans' "Guide for the Preparation of Traffic Impact Studies" ("TIS Guide"), for land use proposals that meet any of the following criteria:
> - The project's peak hour trips would result in a 1-percent or more increase to the freeway mainline capacity of a freeway segment operating at level-of-service (LOS) E or F (based on an assumed capacity of 2,000 vehicles per hour per lane); or
> - The project's peak hour trips would result in a 2-percent or more increase to the freeway mainline capacity of a freeway segment operating at LOS D (based on an assumed capacity of 2,000 vehicles per hour per lane); or
> - The project's peak hour trips would result in a 1-percent or more increase to the capacity of a freeway off-ramp operating at LOS E or F (based on an assumed ramp capacity of 850 vehicles per hour per lane); or
> - The project's peak hour trips would result in a 2-percent or more increase to the capacity of a freeway off-ramp operating at LOS D (based on an assumed ramp capacity of 850 vehicles per hour per lane)."

The purpose of this analysis is to apply the screening criteria to determine whether a Freeway Impact Analysis would be required for the project. The methodologies used to conduct the screening analysis for the project, and the results of the screening, are described below.

FREEWAY MAINLINE SEGMENT SCREENING

The Times Mirror Square project is located at 202 W 1st Street, Los Angeles, CA 90012 with direct regional access provided by two freeways: Interstate 110 (I-110) and the United States 101 (US 101) freeway. Four sections of these two freeways were selected for a freeway screening analysis:

- US 101 Freeway south of Spring Street – 4 lanes northbound and 4 lanes southbound
- US 101 Freeway north of I-110 – 4 lanes northbound and 4 lanes southbound
- I-110 Freeway south of 4th Street – 3 lanes northbound and 5 lanes southbound
- I-110 Freeway north of Hill Street – 4 lanes northbound and 4 lanes southbound

Project trips on the freeway facilities are shown in Table A1 and the mainline screening analysis is shown in Table A2. As shown in Table A2, the freeway capacity is 10,000 for 5 lanes, 8,000 vph for 4 lanes, and 6,00 vph for 3 lanes. The most rigorous trigger criteria for LOS E/F operations was used for the screening analysis. For LOS E or F operations, the threshold test is whether the project would use 1% of the available capacity (1,400 vph for 7 lanes, 1,200 vph for 6 lanes, 100 vph for 5 lanes, and 80 vph for 4 lanes). Because no more than 22 project trips are expected to occur in any analyzed peak hour on any particular segment, the mainline screening threshold is not met and therefore a Freeway Impact Analysis is not required.

FREEWAY RAMP SCREENING

Project trips on the freeway off-ramp facilities are shown in Table A1 and the freeway off-ramp screening analysis is shown in Table A3. Four freeway off-ramps were selected for a freeway screening analysis. The most rigorous trigger criteria for LOS E/F operations was used for the screening analysis. To provide a conservative freeway ramp screening analysis, traffic volumes were consolidated onto just one off-ramp per direction of travel on the US 101 and I-110 freeways. For LOS E or F operations, the threshold test is whether the project would use 1% of the capacity (based on an assumed ramp capacity of 850 vehicles per hour per lane), or approximately 9 vph for 1 lane, 17 vph for 2-lanes, and 26 vph for 3-lanes. Peak hour project trips do not exceed the trigger for analysis at the Hill, Broadway and Spring off-ramps. At the 4th Street off-ramp, the ramp does not terminate at an intersection, but rather results in a lane addition onto 4th Street, and therefore the project trips on that ramp do not exceed the analysis trigger. The freeway off-ramp screening thresholds are not met at any of the ramp locations and a Freeway Impact Analysis is not required.

TABLE A1
TIMES MIRROR SQUARE PROJECT
TRIP GENERATION AND FREEWAY SEGMENT AND RAMP TRIPS

Freeway Trip Percentage		Freeway Trips					
		AM Peak Hour			PM Peak Hour		
Direction	%	In	Out	Total	In	Out	Total
PROPOSED PROJECT TRIPS		94	341	435	294	38	332
Freeway Ramps							
I-110 NB 4th St Off	5%	5	17	22	15	2	17
I-110 SB Hill Off	5%	5	17	22	15	2	17
US 101 SB Broadway/Aliso Off	5%	5	17	22	15	2	17
US 101 NB Spring Off	5%	5	17	22	15	2	17
Freeway Segments							
US 101 s/o Spring Street	5%	5	17	22	15	2	17
US 101 n/o I-110	5%	5	17	22	15	2	17
I-110 s/o 4th Street	5%	5	17	22	15	2	17
I-110 n/o Hill Street	5%	5	17	22	15	2	17

TABLE A2

TIMES MIRROR SQUARE - FREEWAY IMPACT ANALYSIS - FREEWAY MAINLINE SCREENING

PROJECT TRIP GENERATION

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Project Trip Generation	94	341	294	38

MAINLINE SCREENING

	AM Peak Hour		PM Peak Hour	
Freeway Segment	In	Out	In	Out
US 101 s/o Spring Street	**NB**	**SB**	**NB**	**SB**
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	**E/F**	**E/F**	**E/F**	**E/F**
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	5	17	15	2
Exceed Trigger?	no	no	no	no
US 101 n/o I-110	**SB**	**NB**	**SB**	**NB**
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	**E/F**	**E/F**	**E/F**	**E/F**
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	5	17	15	2
Exceed Trigger?	no	no	no	no
I-110 s/o 4th Street	**NB**	**SB**	**NB**	**SB**
# of Lanes [a]	3	5	3	5
Capacity	6,000	10,000	6,000	10,000
Worst-case LOS	**E/F**	**E/F**	**E/F**	**E/F**
Trigger % [b]	1%	1%	1%	1%
Trigger	60	100	60	100
Project Trips	5	17	15	2
Exceed Trigger?	no	no	no	no
I-110 n/o Hill Street	**SB**	**NB**	**SB**	**NB**
# of Lanes [a]	4	4	4	4
Capacity	8,000	8,000	8,000	8,000
Worst-case LOS	**E/F**	**E/F**	**E/F**	**E/F**
Trigger % [b]	1%	1%	1%	1%
Trigger	80	80	80	80
Project Trips	5	17	15	2
Exceed Trigger?	no	no	no	no

Notes:

a. # of lanes does not include auxiliary or HOV lanes.

b. The worst-case assumption of LOS was used with the most strigent trigger thresholds: LOS E/F Threshold: 1% of capacity if LOS E or F, 2% of capacity if LOS D, using 2,000 vphpl capacity

TABLE A3
TIMES MIRROR SQUARE - FREEWAY IMPACT ANALYSIS - FREEWAY RAMP SCREENING

PROJECT TRIP GENERATION

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Project Trip Generation	94	341	294	38

RAMP SCREENING

Off-Ramp	Peak Hour	Worst-Case Off-Ramp LOS [a]	Ramp Terminus # of Lanes	Ramp Terminus Trigger	Project Trips	Exceed Trigger?
I-110 NB 4th St Off	AM	Freeflow		n/a	5	no [b]
	PM	Freeflow		n/a	15	no [b]
I-110 SB Hill Off	AM	E/F	2	17	5	no
	PM	E/F		17	15	no
US 101 SB Broadway/Aliso Off	AM	E/F	3	26	5	no
	PM	E/F		26	15	no
US 101 NB Spring Off	AM	E/F	2	17	5	no
	PM	E/F		17	15	no

Notes:

a. The worst-case assumption of LOS was used with the most stringent trigger thresholds: LOS E/F Threshold: 1% of capacity if ramp at LOS E or F, 2% if ramp at LOS D, using 850 vphpl ramp capacity

b. The I-110 NB 4th Street Off-Ramp terminus is a freeflow ramp that results in a lane-add onto 4th Street, and thus does not exceed the capacity trigger. The downstream intersection is located at 4th Street and Olive Street.

ATTACHMENT B - NCHRP INTERNAL CAPTURE

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Times Mirror Square	**Organization:**	Fehr & Peers
Project Location:	202 W. 1st Street	**Performed By:**	EF
Scenario Description:	Project	**Date:**	3/20/2017
Analysis Year:	2022	**Checked By:**	TG
Analysis Period:	**AM Street Peak Hour**	**Date:**	3/27/2017

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	285	ksf	445	392	53
Retail	850	50	ksf	170	105	65
Restaurant	932, 931	76	ksf	595	327	268
Cinema/Entertainment				0		
Residential	222, 232	1,127	du	383	73	310
Hotel				0		
All Other Land Uses[2]				0		
Total				1593	897	696

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		16	37	0	0	0
Retail	17		14	0	2	0
Restaurant	60	14		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	9	4	87	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	2,327	1,268	1,059
Internal Capture Percentage	23%	21%	25%
External Vehicle-Trips[3]	1,225	713	512
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	20%	91%
Retail	19%	30%
Restaurant	25%	17%
Cinema/Entertainment	N/A	N/A
Residential	7%	23%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Times Mirror Square
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	392	431	1.10	53	58
Retail	1.70	105	179	1.70	65	111
Restaurant	1.70	327	556	1.70	268	456
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	73	102	1.40	310	434
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		16	37	0	1	0
Retail	32		14	0	16	0
Restaurant	141	64		0	18	14
Cinema/Entertainment	0	0	0		0	0
Residential	9	4	87	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		57	128	0	0	0
Retail	17		278	0	2	0
Restaurant	60	14		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	13	30	111	0		0
Hotel	13	7	33	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	86	345	431	314	0	0
Retail	34	145	179	85	0	0
Restaurant	138	418	556	246	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	95	102	68	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	53	5	58	5	0	0
Retail	33	78	111	46	0	0
Restaurant	79	377	456	222	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	100	334	434	239	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Times Mirror Square	**Organization:**	Fehr & Peers
Project Location:	202 W. 1st Street	**Performed By:**	EF
Scenario Description:	Project	**Date:**	3/20/2017
Analysis Year:	2022	**Checked By:**	TG
Analysis Period:	**PM Street Peak Hour**	**Date:**	3/27/2017

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	285	ksf	425	72	353
Retail	850	50	ksf	474	242	232
Restaurant	932, 931	76	ksf	692	427	265
Cinema/Entertainment				0		
Residential	222, 232	1,127	du	428	265	163
Hotel				0		
All Other Land Uses[2]				0		
Total				2019	1006	1013

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		33	15	0	8	0
Retail	8		114	0	102	0
Restaurant	14	185		0	59	0
Cinema/Entertainment	0	0	0		0	0
Residential	9	41	48	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	3,048	1,587	1,461
Internal Capture Percentage	42%	40%	44%
External Vehicle-Trips[3]	1,209	600	609
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	39%	14%
Retail	63%	57%
Restaurant	24%	57%
Cinema/Entertainment	N/A	N/A
Residential	46%	43%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Times Mirror Square
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	72	79	1.10	353	388
Retail	1.70	242	411	1.70	232	394
Restaurant	1.70	427	726	1.70	265	451
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	265	371	1.40	163	228
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		78	16	0	8	0
Retail	8		114	16	102	20
Restaurant	14	185		36	81	32
Cinema/Entertainment	0	0	0		0	0
Residential	9	96	48	0		7
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		33	15	0	15	0
Retail	24		211	0	171	0
Restaurant	24	206		0	59	0
Cinema/Entertainment	5	16	22		15	0
Residential	45	41	102	0		0
Hotel	0	8	36	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	31	48	79	44	0	0
Retail	259	152	411	89	0	0
Restaurant	177	549	726	323	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	169	202	371	144	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	56	332	388	302	0	0
Retail	224	170	394	100	0	0
Restaurant	258	193	451	114	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	98	130	228	93	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Times Mirror Square	**Organization:**	Fehr & Peers
Project Location:	202 W. 1st St.	**Performed By:**	EF
Scenario Description:	Existing	**Date:**	3/20/2017
Analysis Year:	2017	**Checked By:**	TG
Analysis Period:	**AM Street Peak Hour**	**Date:**	3/27/2017

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office	710	328	ksf	512	451	61
Retail	912	8	ksf	91	52	39
Restaurant				0		
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
Total				603	503	100

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel						
All Other Land Uses[2]						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		19	0	0	0	0
Retail	19		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	717	584	133
Internal Capture Percentage	11%	7%	29%
External Vehicle-Trips[3]	547	475	72
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	4%	28%
Retail	22%	29%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Times Mirror Square
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	451	496	1.10	61	67
Retail	1.70	52	88	1.70	39	66
Restaurant	1.70	0	0	1.70	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	0	0	1.40	0	0
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		19	42	0	1	0
Retail	19		9	0	9	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		28	0	0	0	0
Retail	20		0	0	0	0
Restaurant	69	7		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	15	15	0	0		0
Hotel	15	4	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	19	477	496	434	0	0
Retail	19	69	88	41	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	19	48	67	44	0	0
Retail	19	47	66	28	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	Times Mirror Square	**Organization:**	Fehr & Peers
Project Location:	202 W. 1st St	**Performed By:**	EF
Scenario Description:	Existing	**Date:**	3/20/2017
Analysis Year:	2017	**Checked By:**	TG
Analysis Period:	**PM Street Peak Hour**	**Date:**	3/27/2017

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				489	83	406
Retail				182	91	91
Restaurant				0		
Cinema/Entertainment				0		
Residential				0		
Hotel				0		
All Other Land Uses[2]				0		
Total				671	174	497

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.	% Transit	% Non-Motorized	Veh. Occ.	% Transit	% Non-Motorized
Office	1.10			1.10		
Retail	1.70			1.70		
Restaurant	1.70			1.70		
Cinema/Entertainment						
Residential	1.40			1.40		
Hotel						
All Other Land Uses[2]						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		12	0	0	0	0
Retail	3		0	0	0	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	848	246	602
Internal Capture Percentage	4%	6%	2%
External Vehicle-Trips[3]	648	164	484
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	3%	3%
Retail	8%	2%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	N/A	N/A
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	Times Mirror Square
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.10	83	91	1.10	406	447
Retail	1.70	91	155	1.70	91	155
Restaurant	1.70	0	0	1.70	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.40	0	0	1.40	0	0
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		89	18	0	9	0
Retail	3		45	6	40	8
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	0	0	0		0
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		12	0	0	0	0
Retail	28		0	0	0	0
Restaurant	27	78		0	0	0
Cinema/Entertainment	5	6	0		0	0
Residential	52	16	0	0		0
Hotel	0	3	0	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	3	88	91	80	0	0
Retail	12	143	155	84	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	12	435	447	395	0	0
Retail	3	152	155	89	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	0	0	0	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

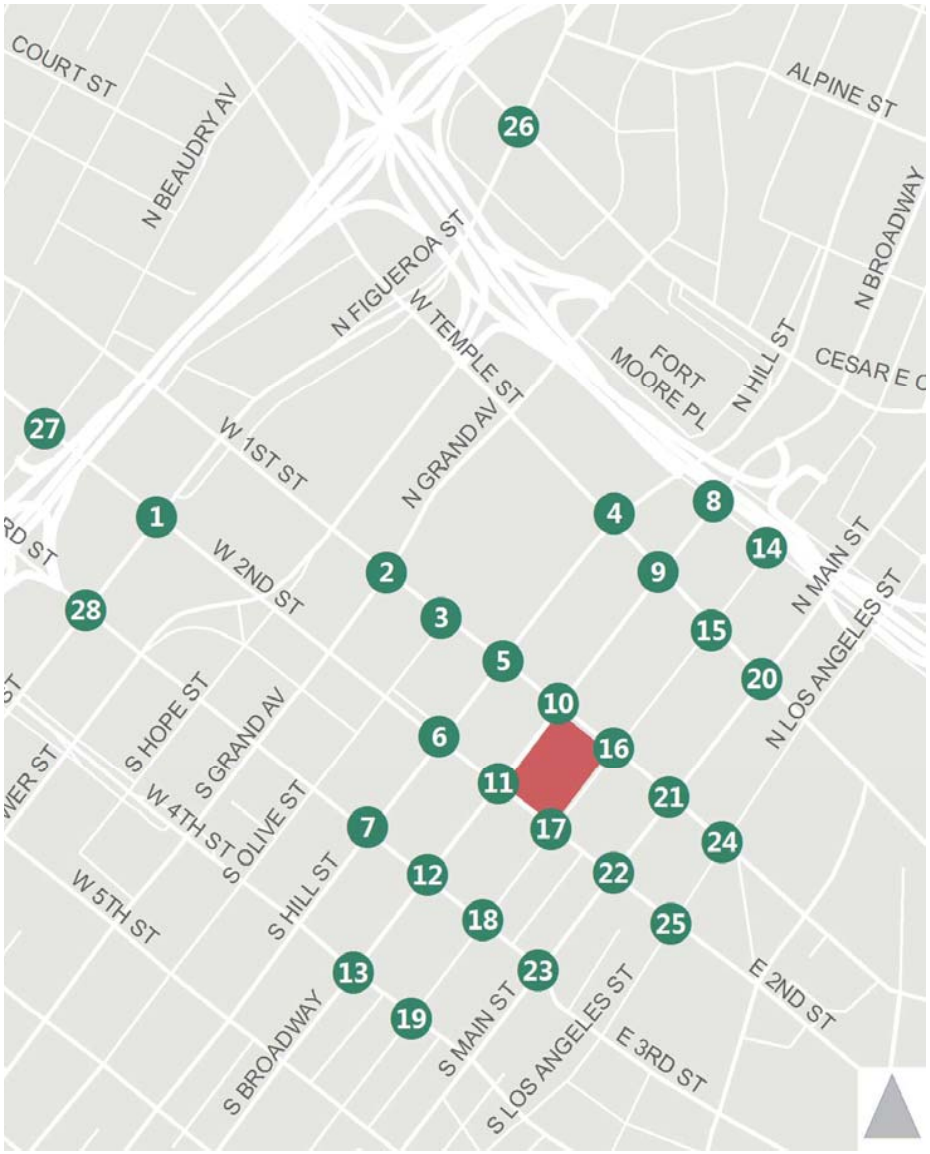
[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

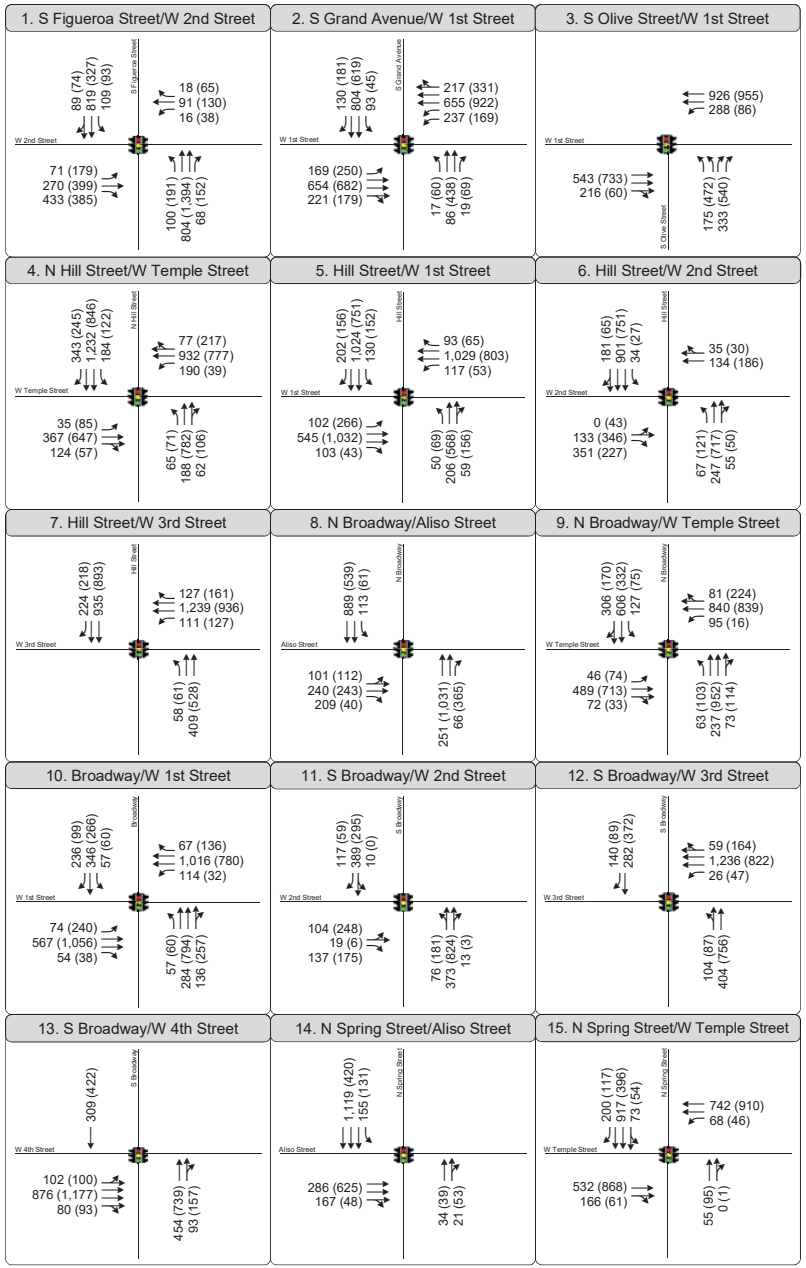
[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

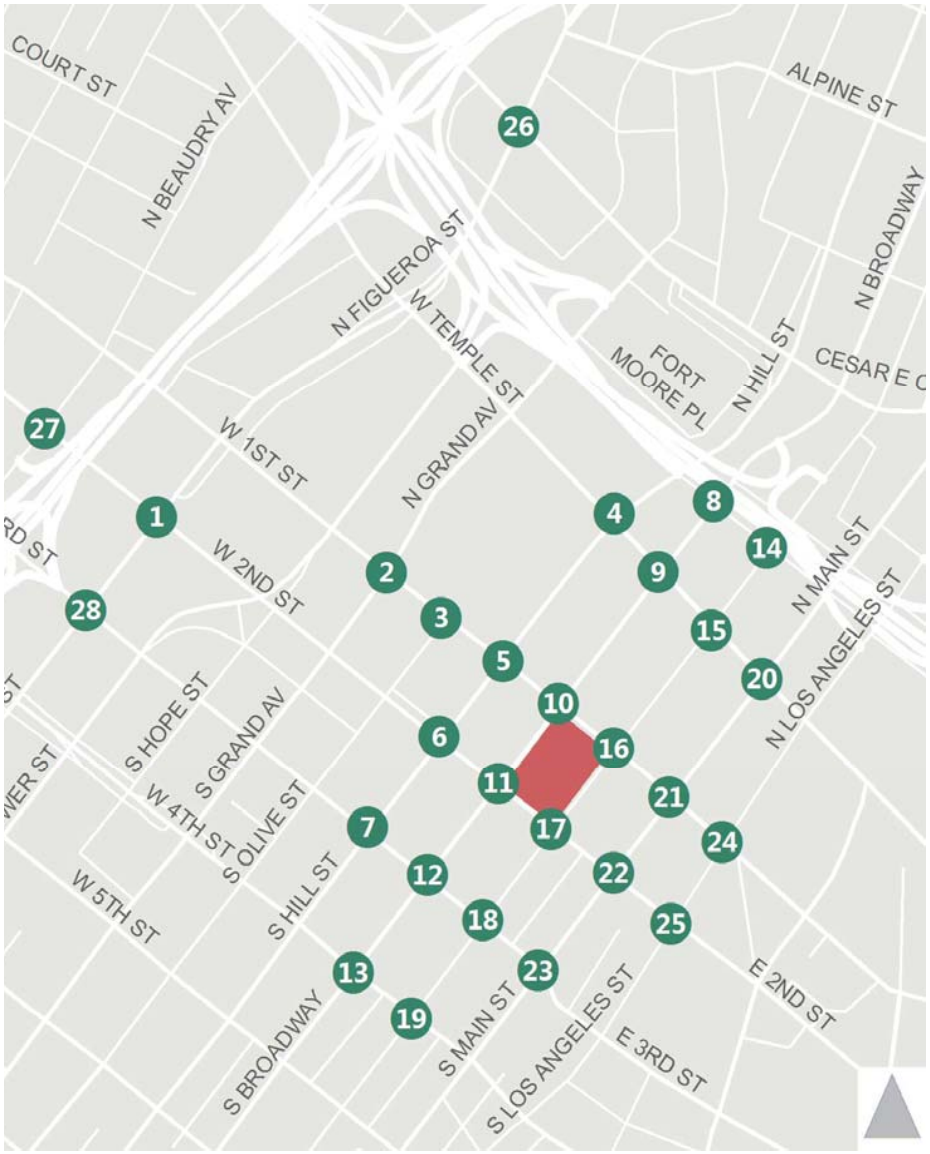
*Indicates computation that has been rounded to the nearest whole number.

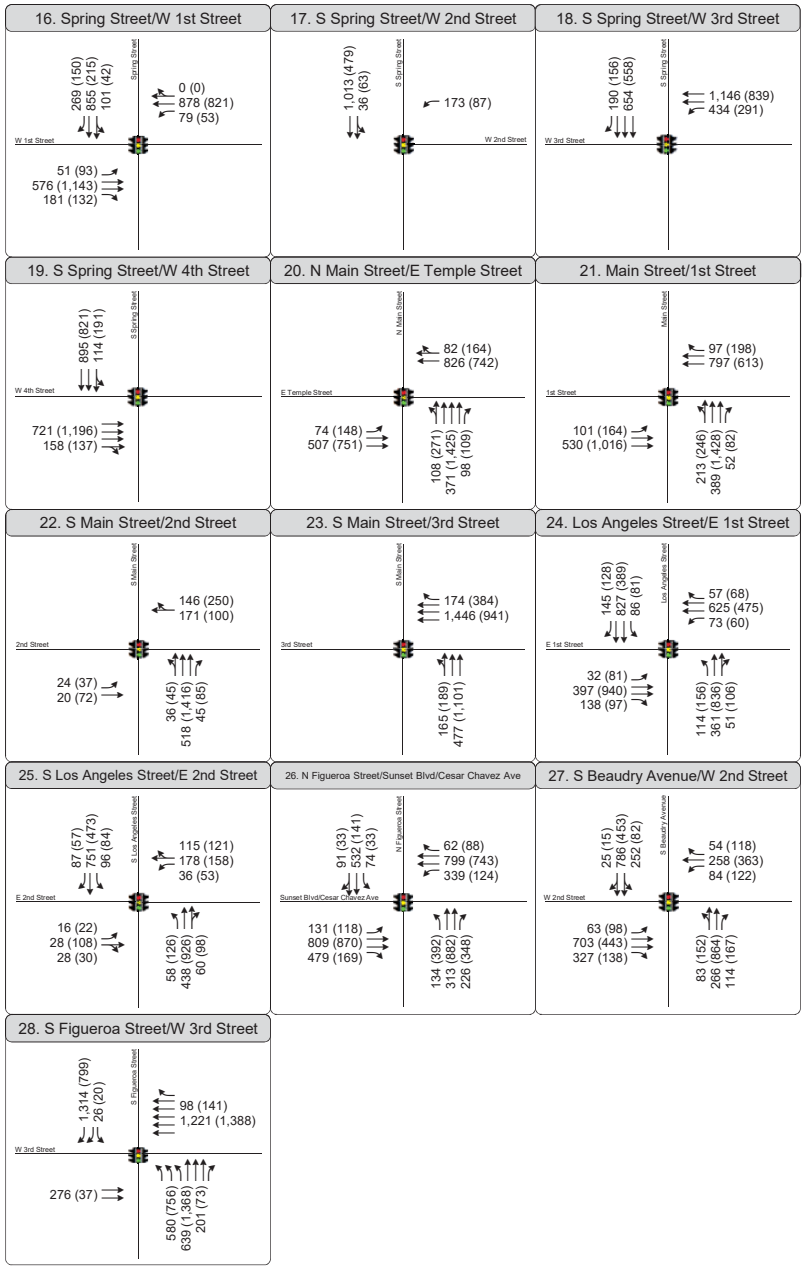
APPENDIX B:
LANE CONFIGURATIONS AND TRAFFIC VOLUMES



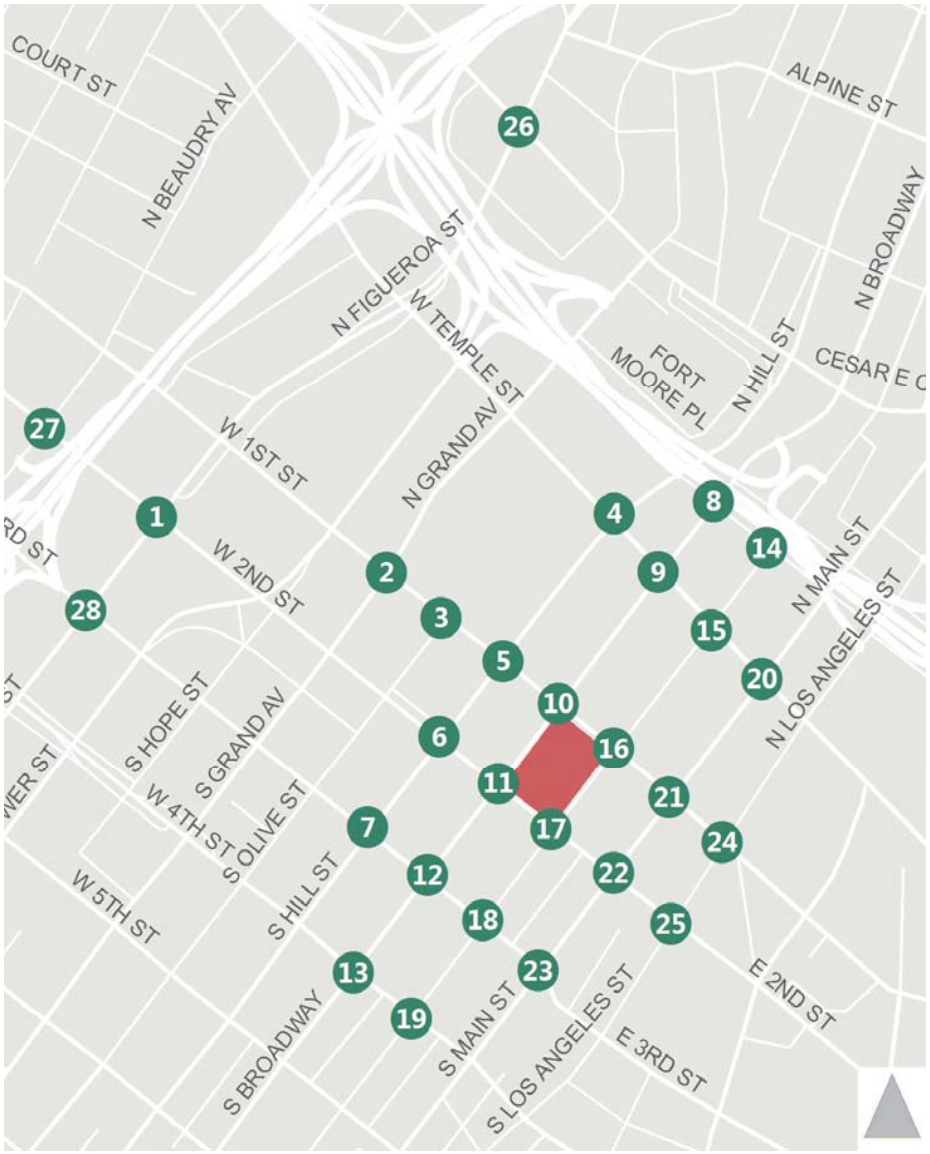


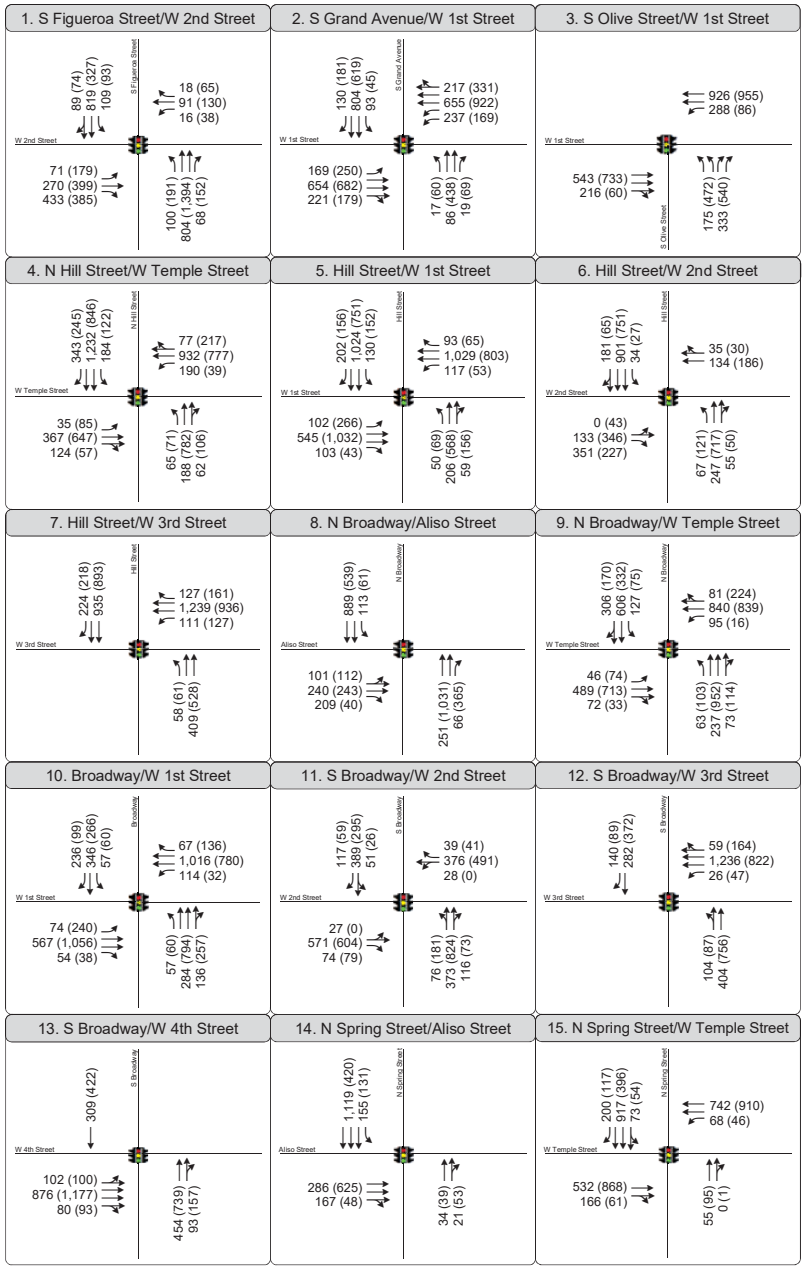
Appendix B - Figure 1
Traffic Volumes and Lane Configurations
Existing Conditions (2017)



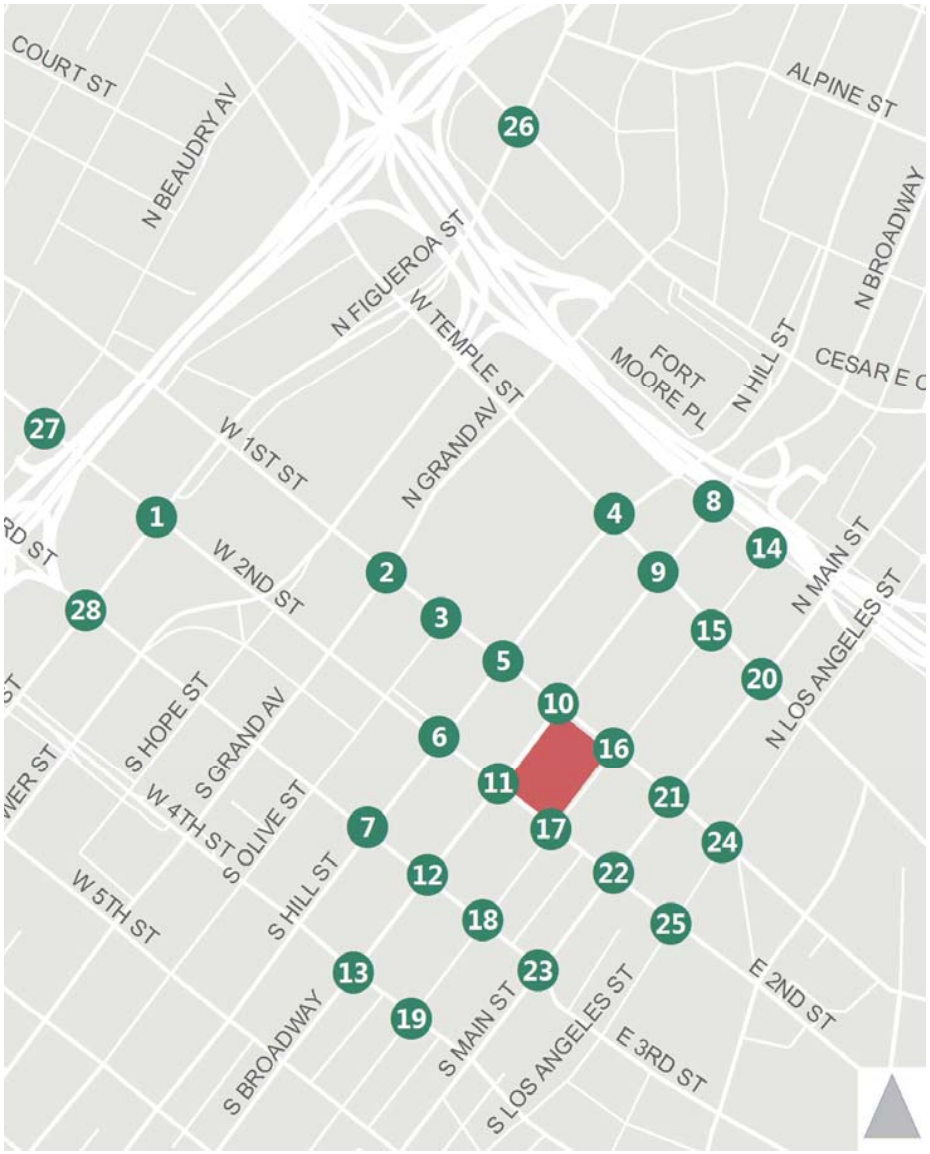


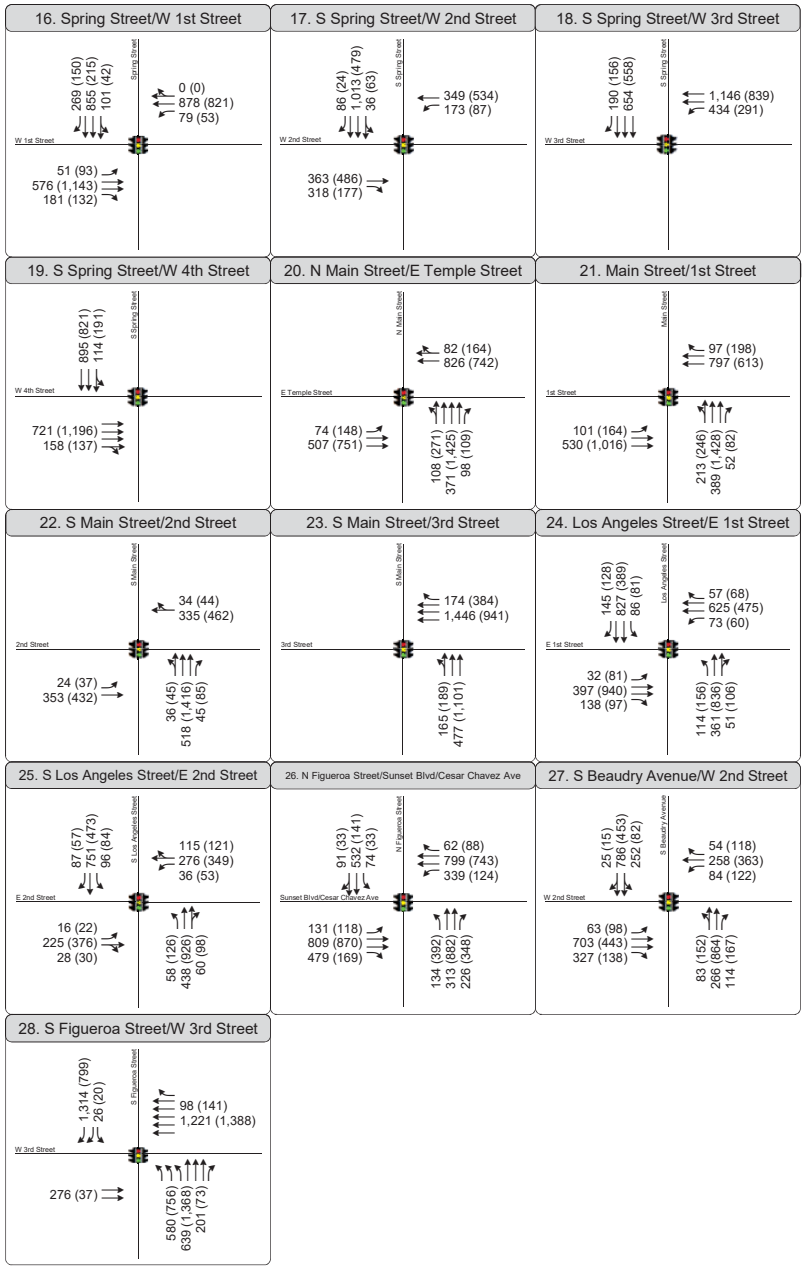
Appendix B - Figure 1
Traffic Volumes and Lane Configurations
Existing Conditions (2017)



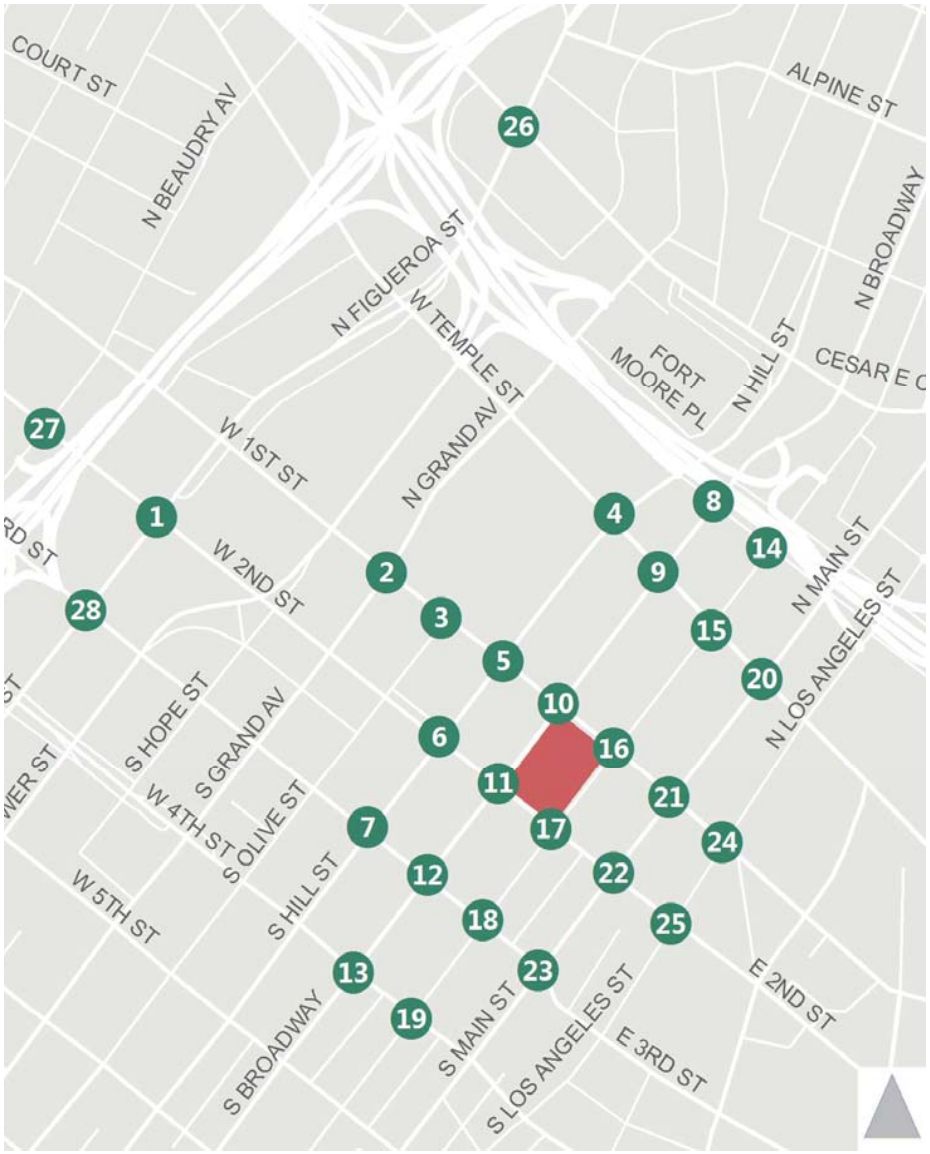


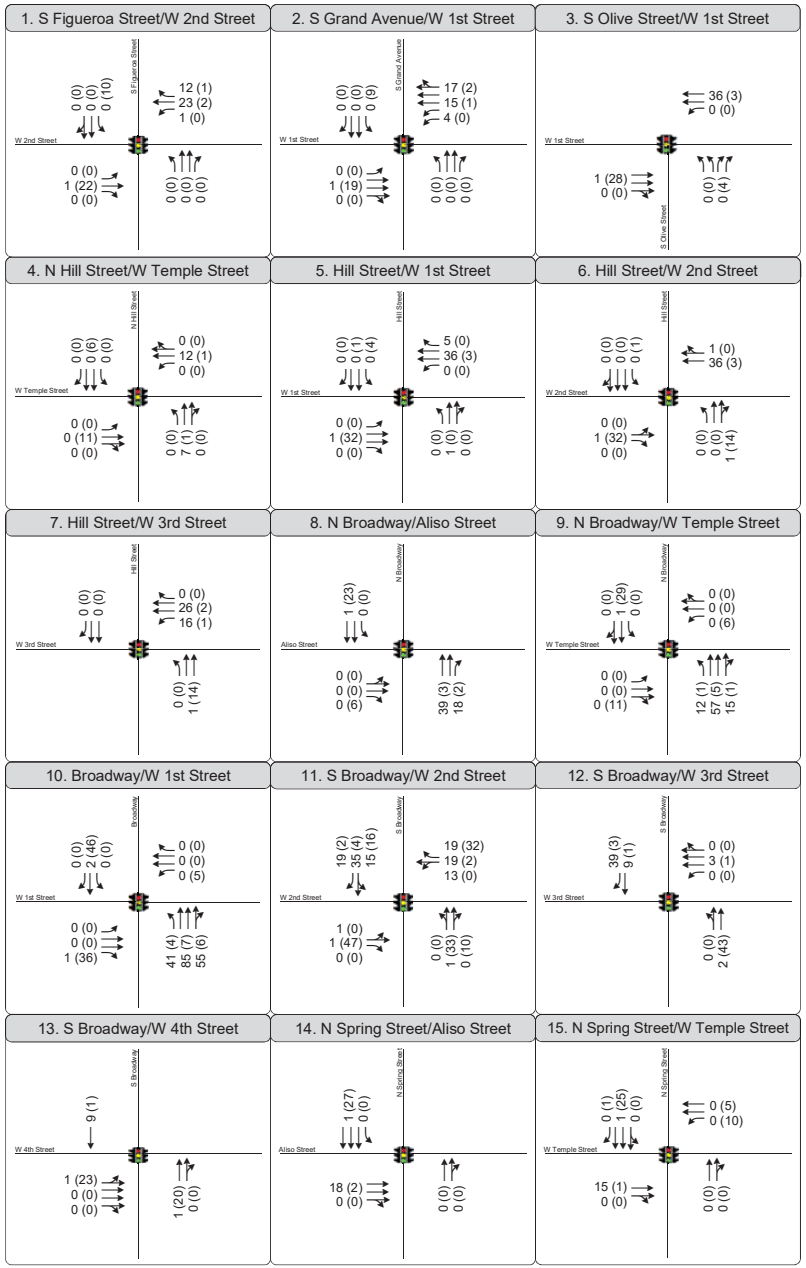
Appendix B - Figure 2
Traffic Volumes and Lane Configurations
Existing Base Conditions



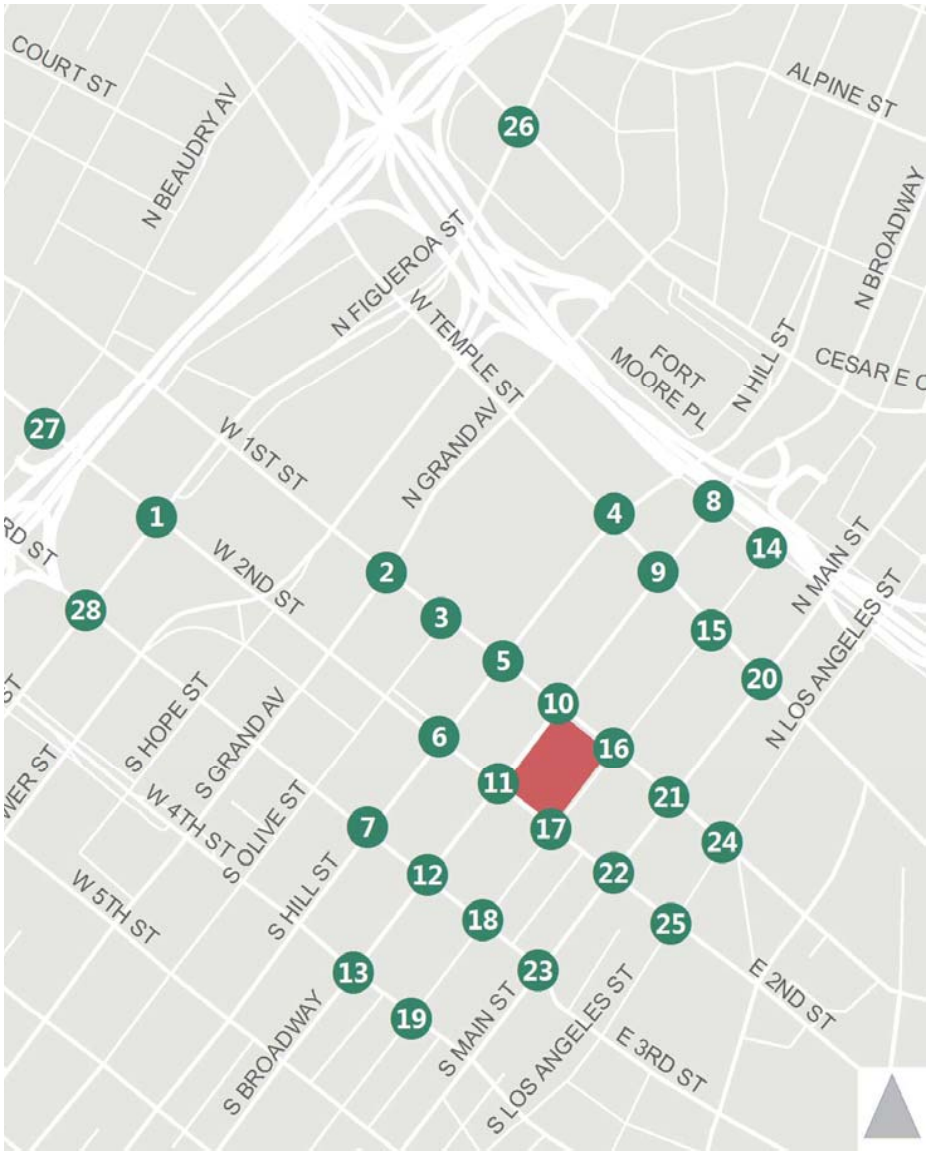


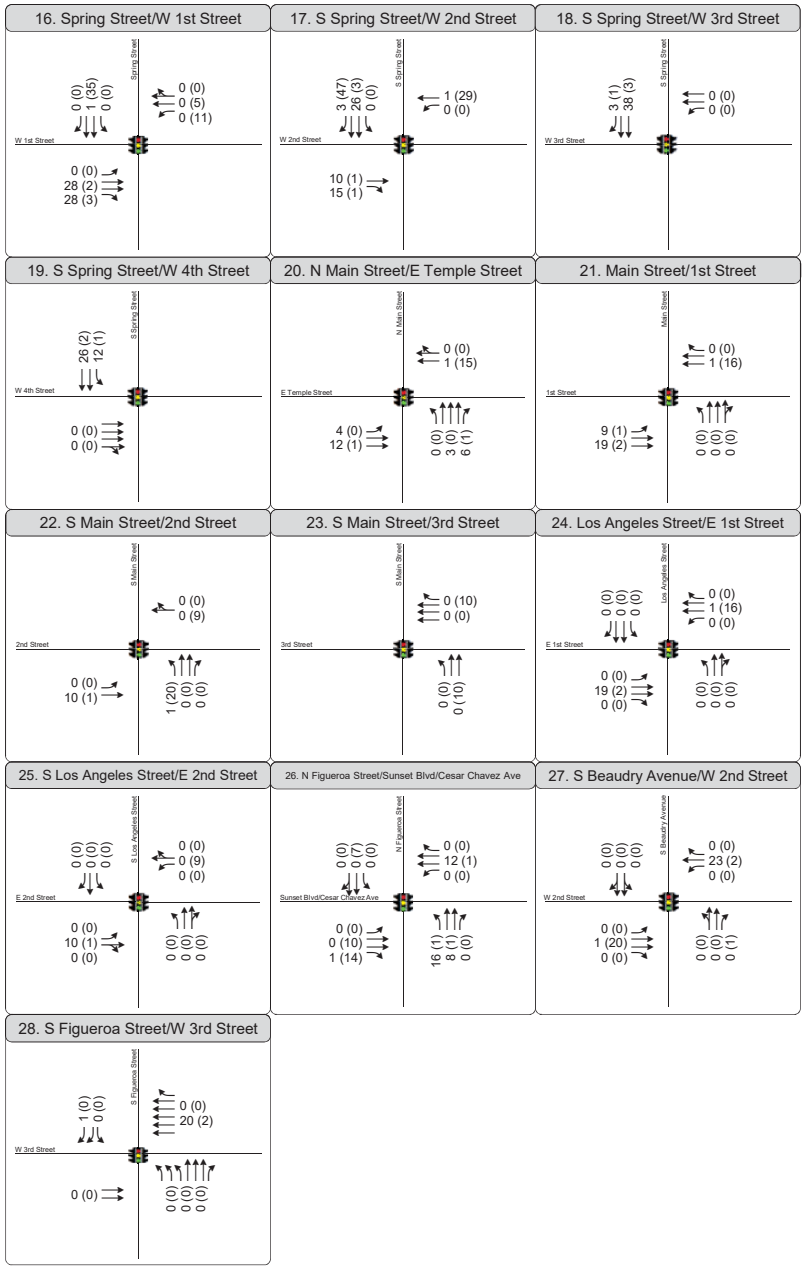
Appendix B - Figure 2
Traffic Volumes and Lane Configurations
Existing Base Conditions



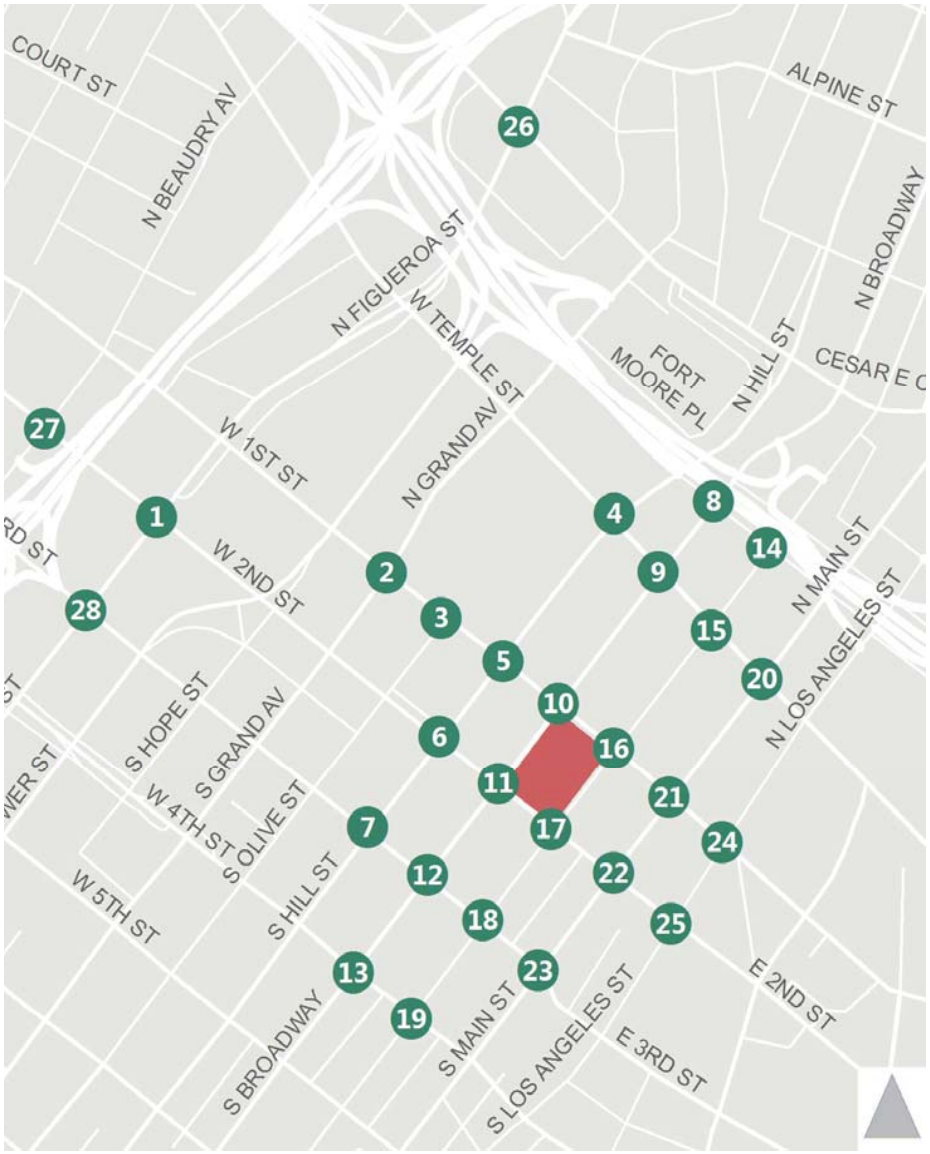


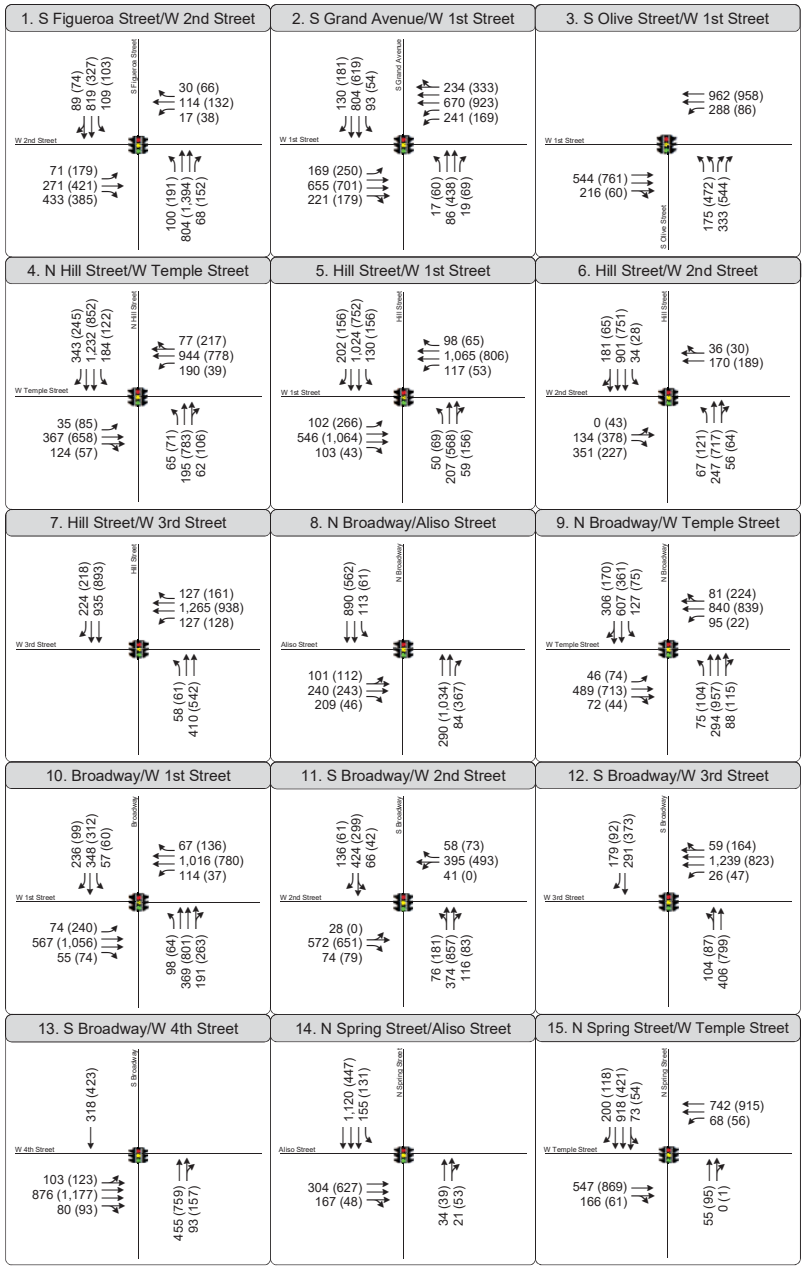
Appendix B - Figure 3
Traffic Volumes and Lane Configurations
Project Only Conditions



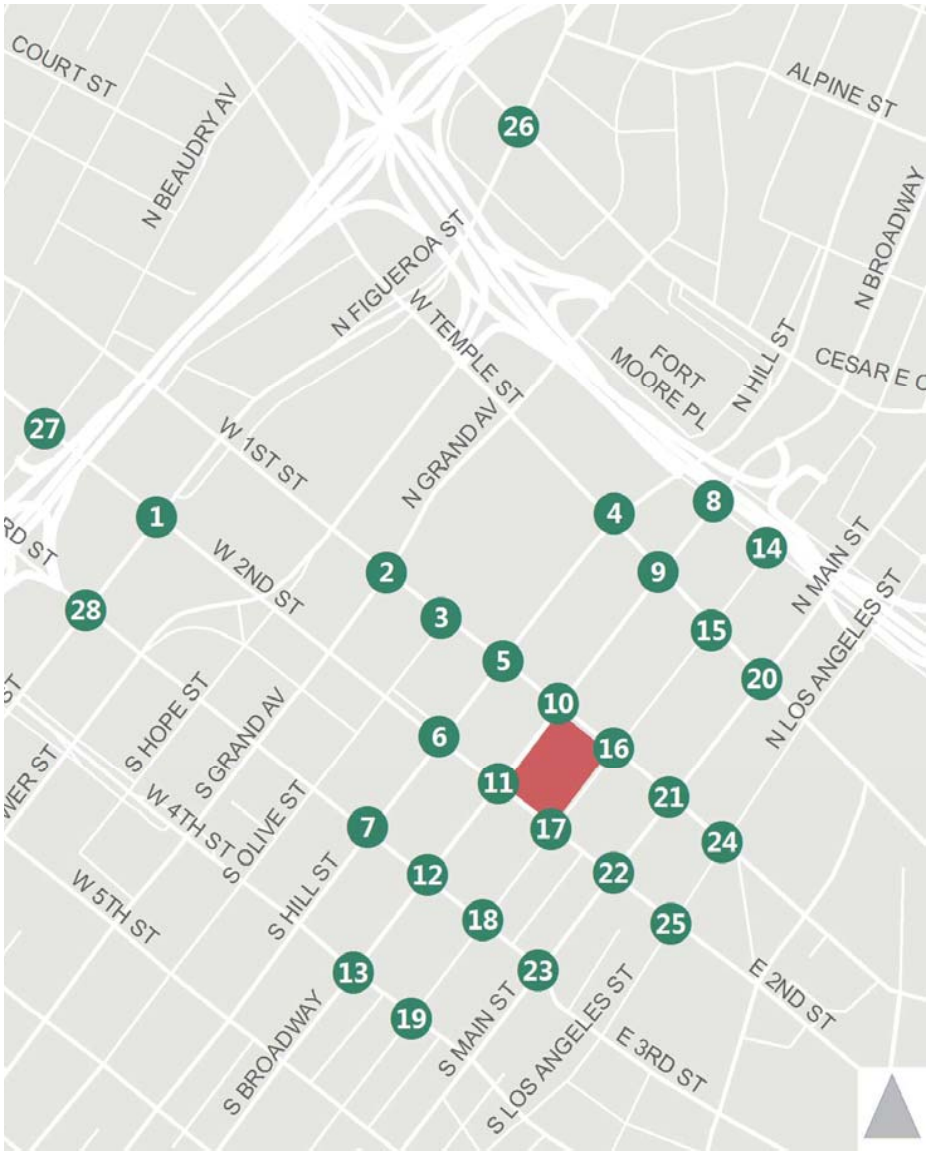


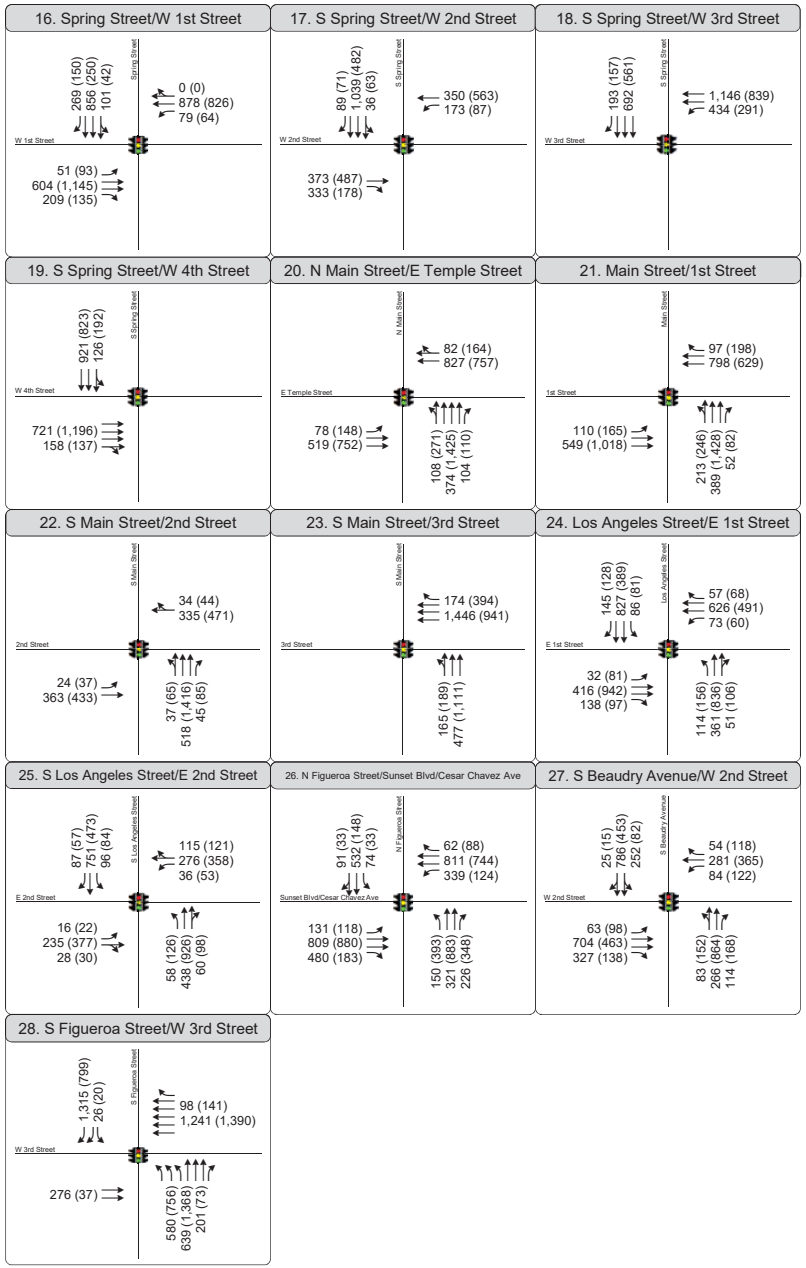
Appendix B - Figure 3
Traffic Volumes and Lane Configurations
Project Only Conditions



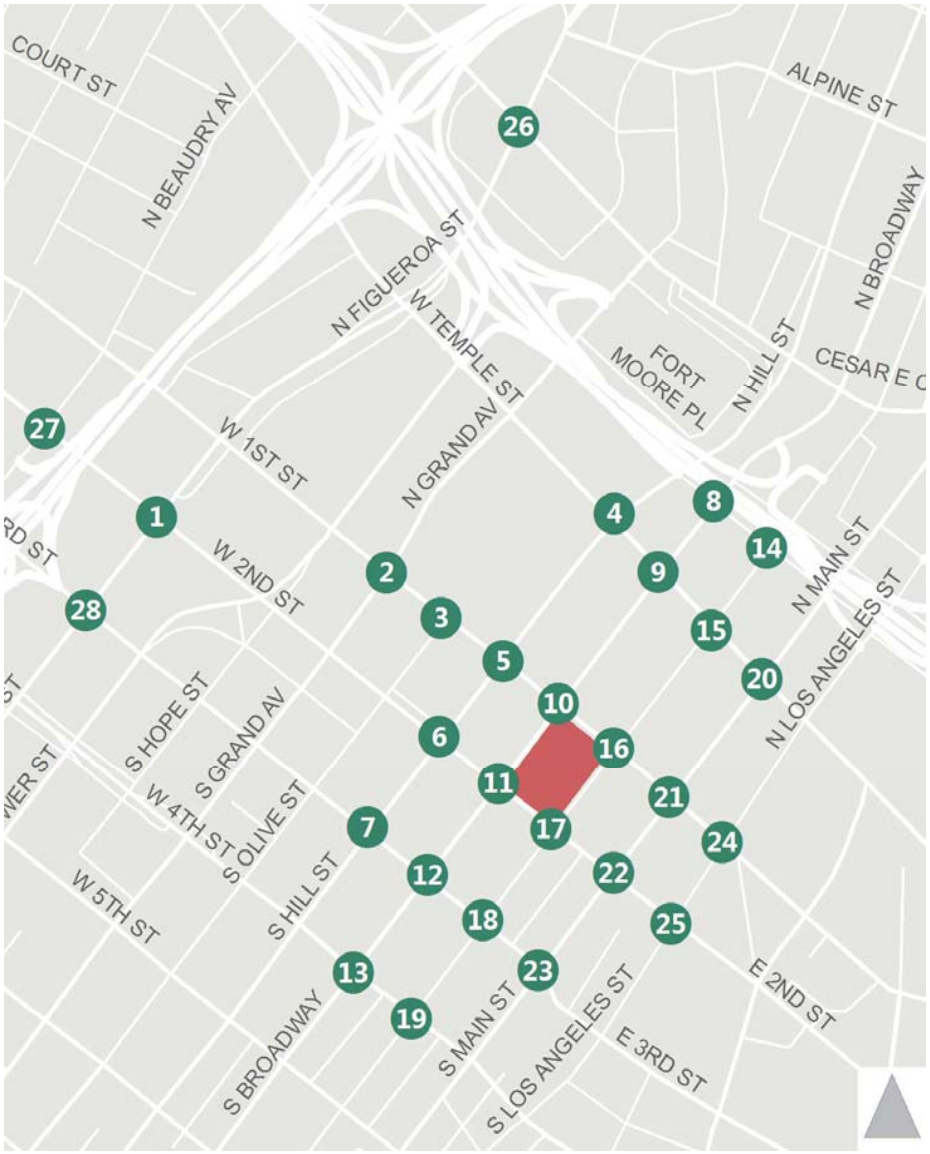


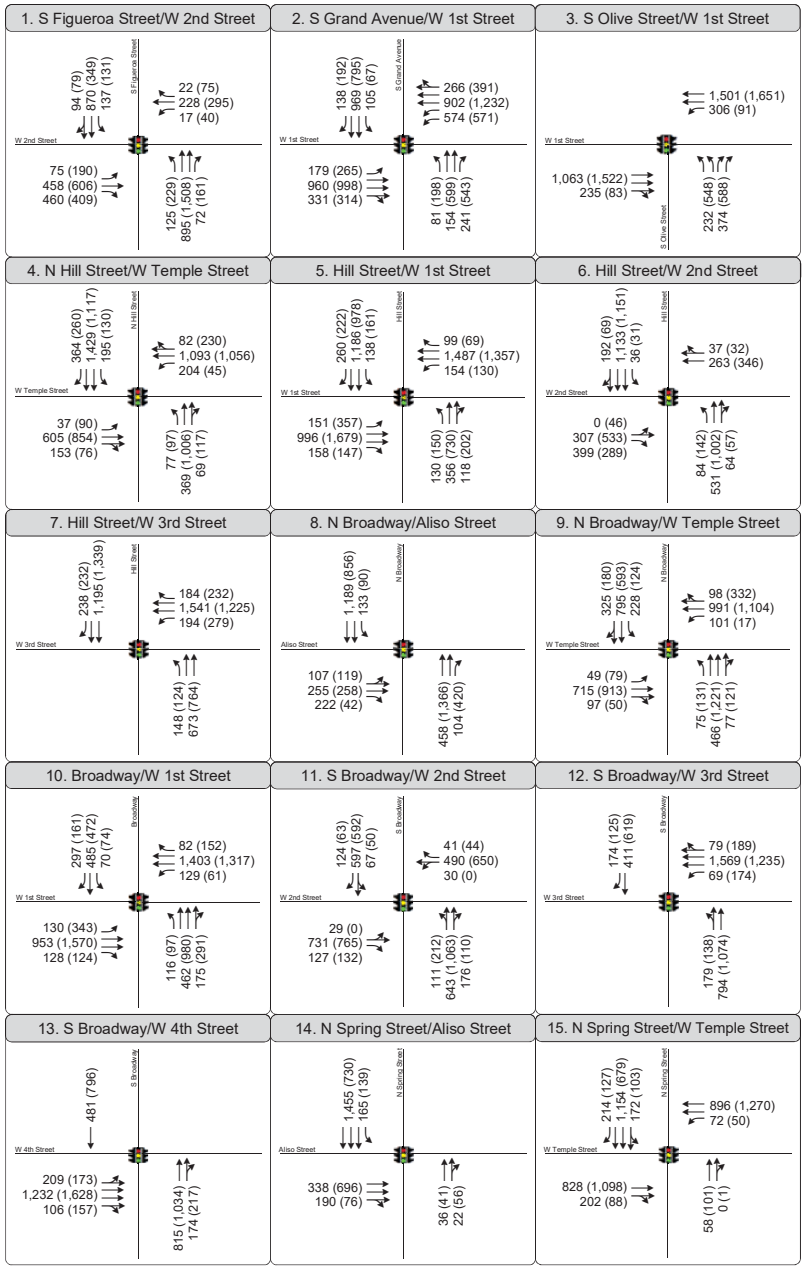
Appendix B - Figure 4
Traffic Volumes and Lane Configurations
Existing + Project Conditions



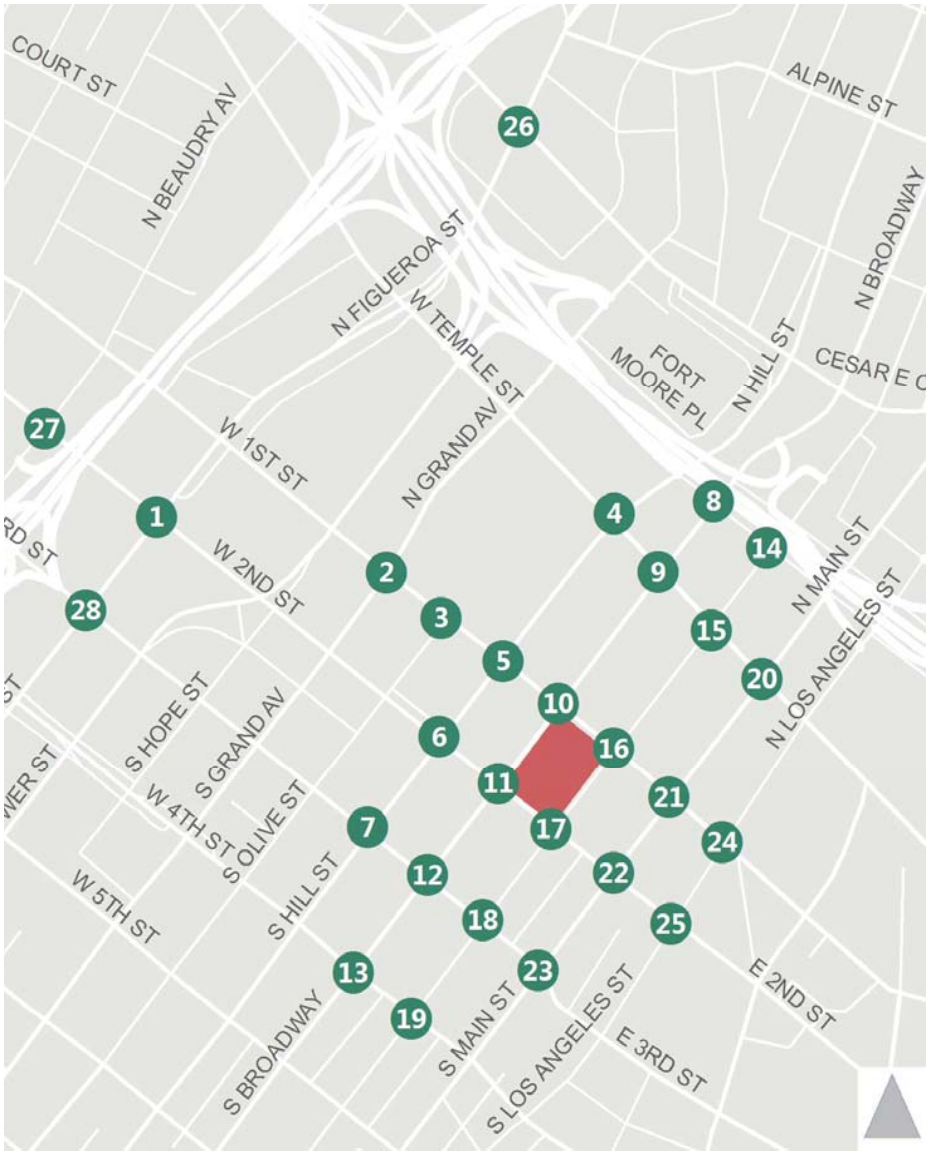


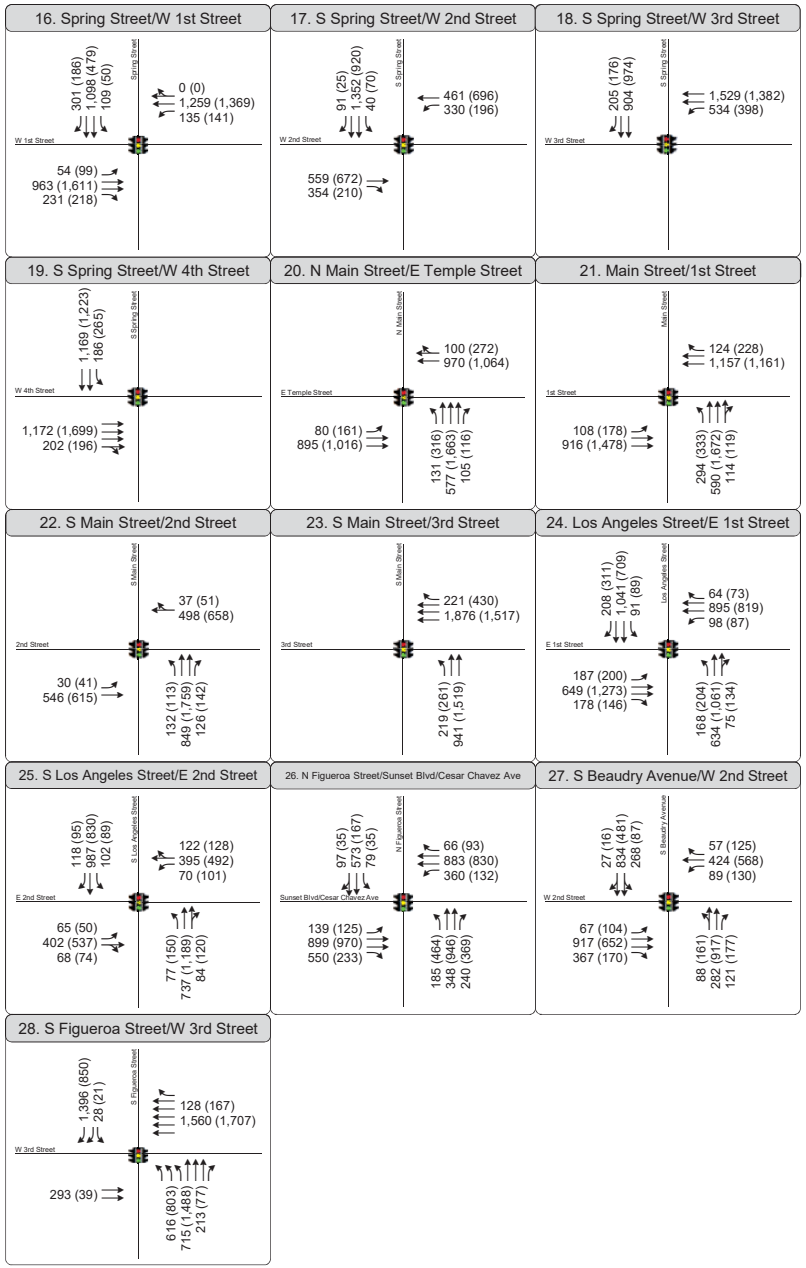
Appendix B - Figure 4
Traffic Volumes and Lane Configurations
Existing + Project Conditions



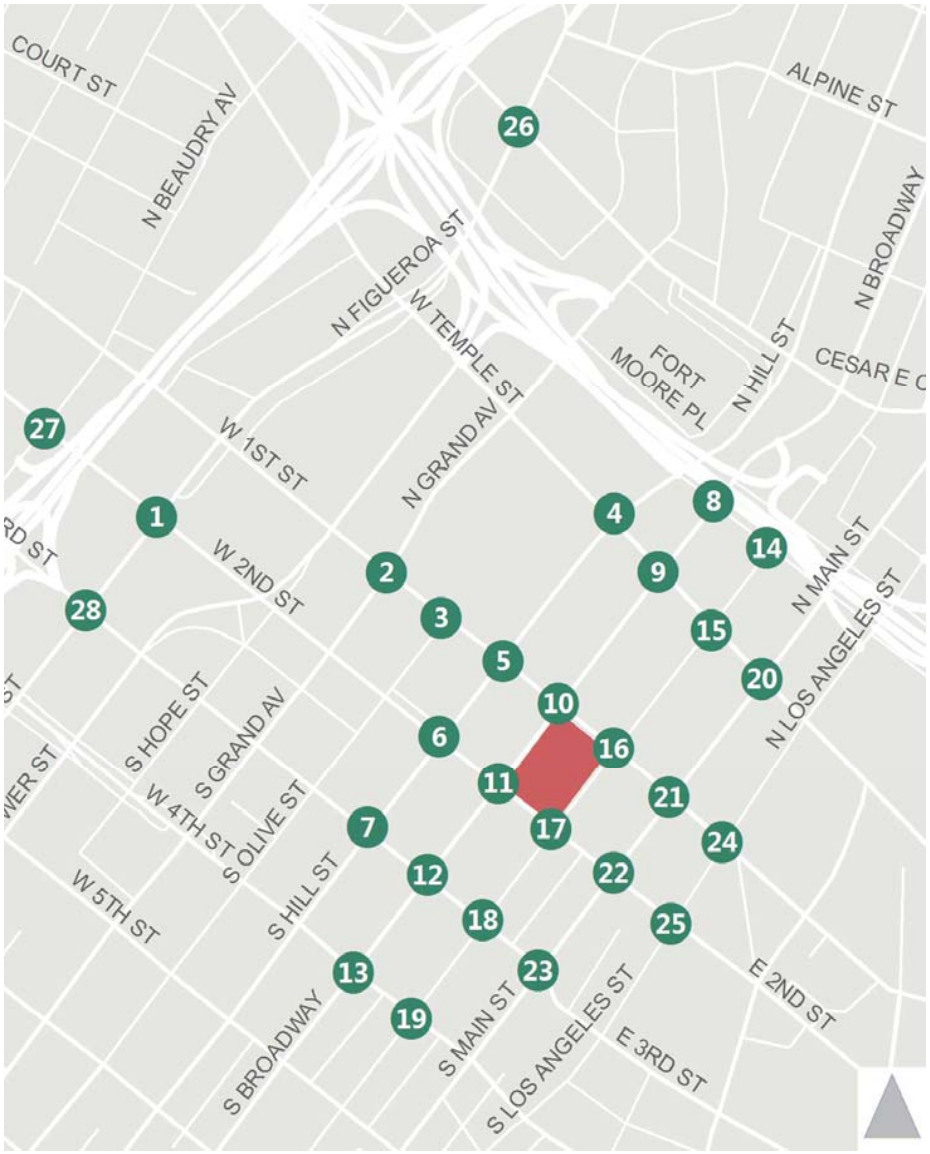


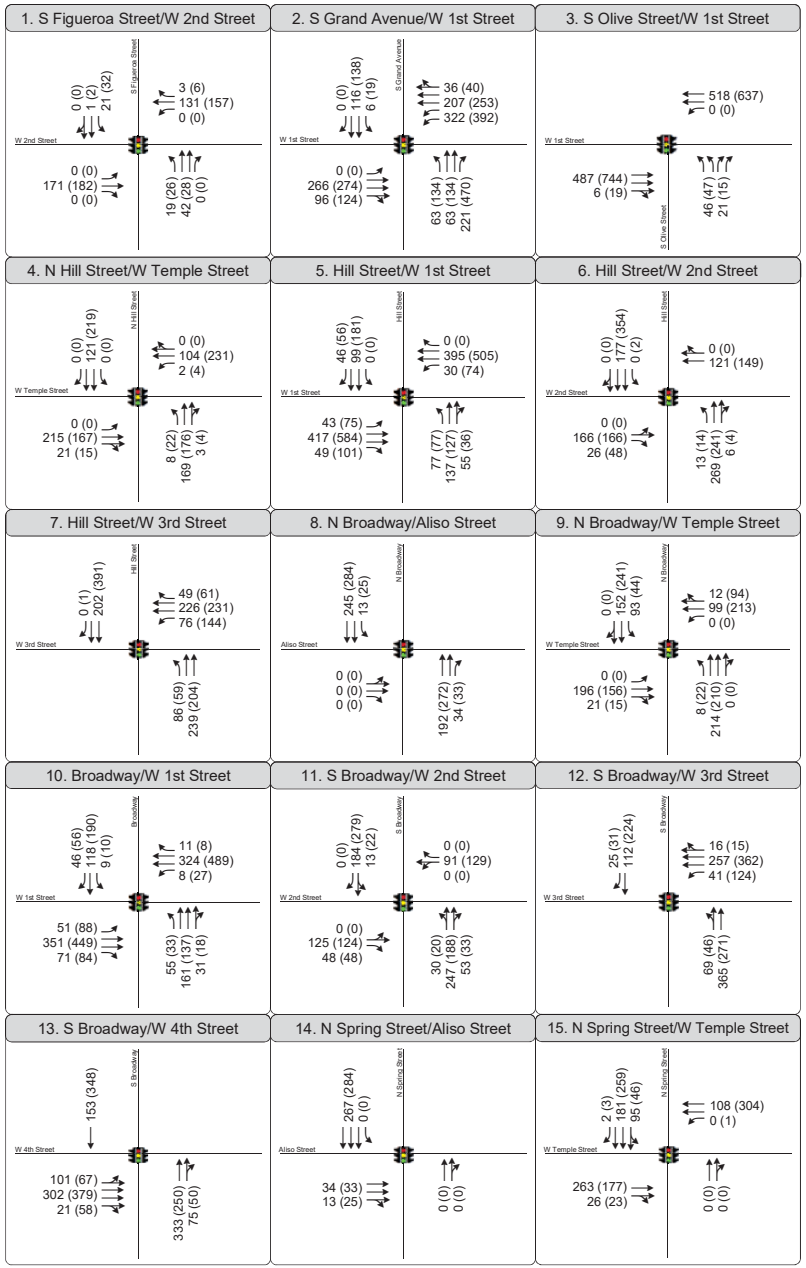
Appendix B - Figure 5
Traffic Volumes and Lane Configurations
Future Base (2023) Conditions



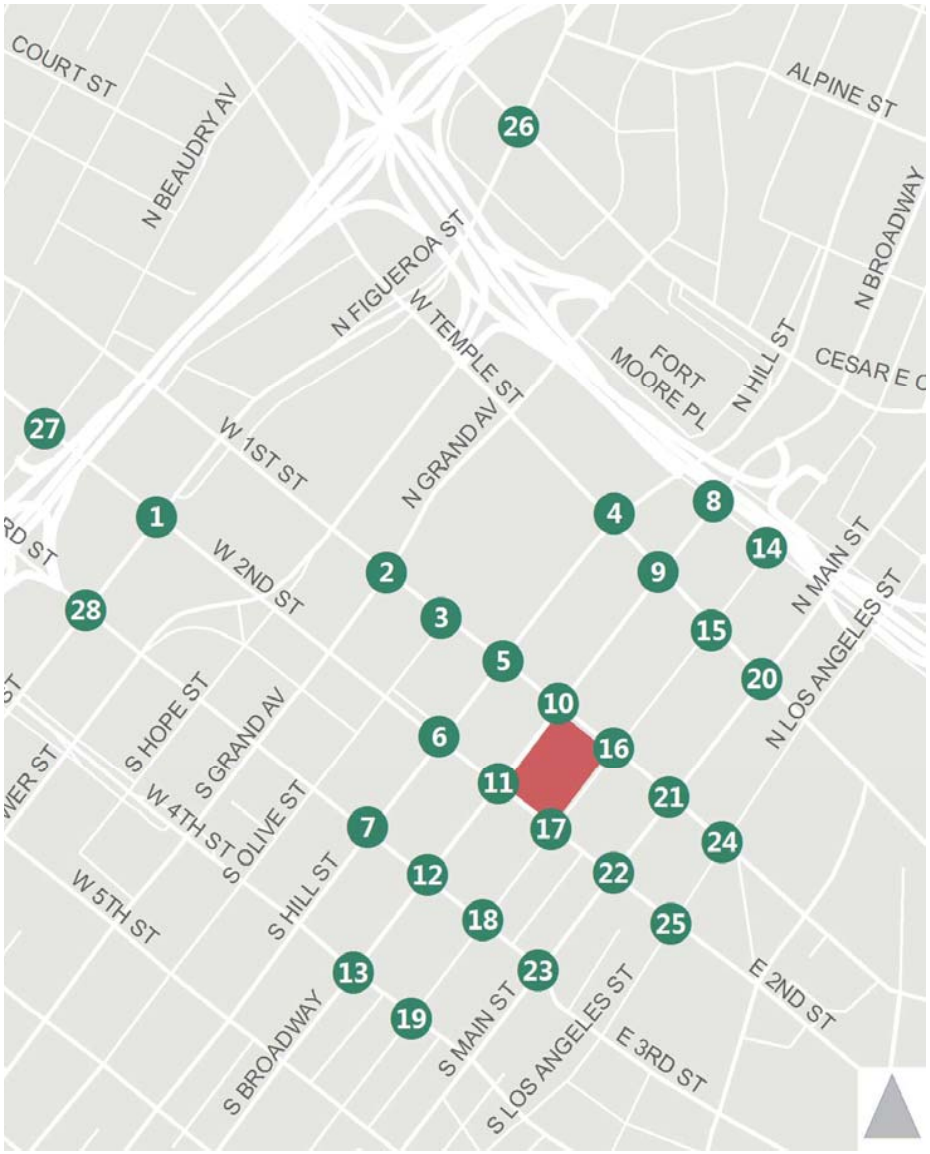


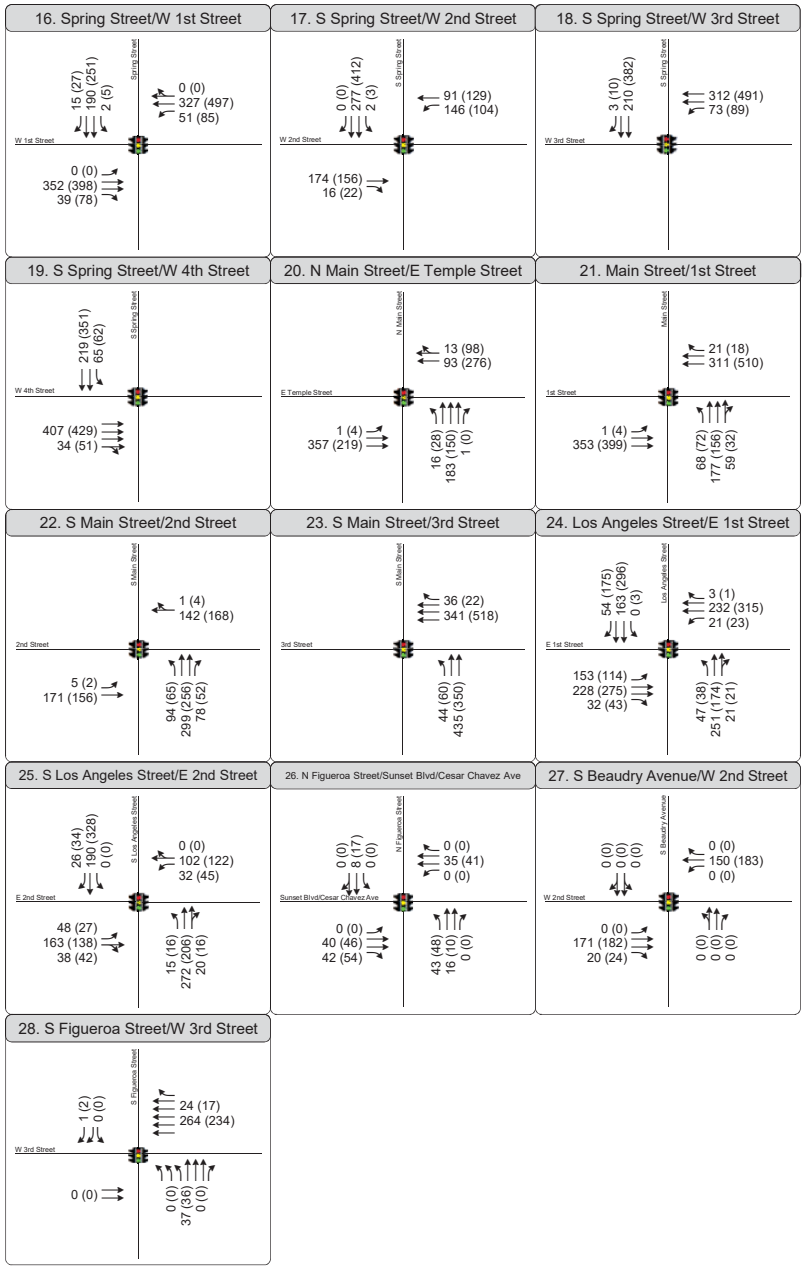
Appendix B - Figure 5
Traffic Volumes and Lane Configurations
Future Base (2023) Conditions



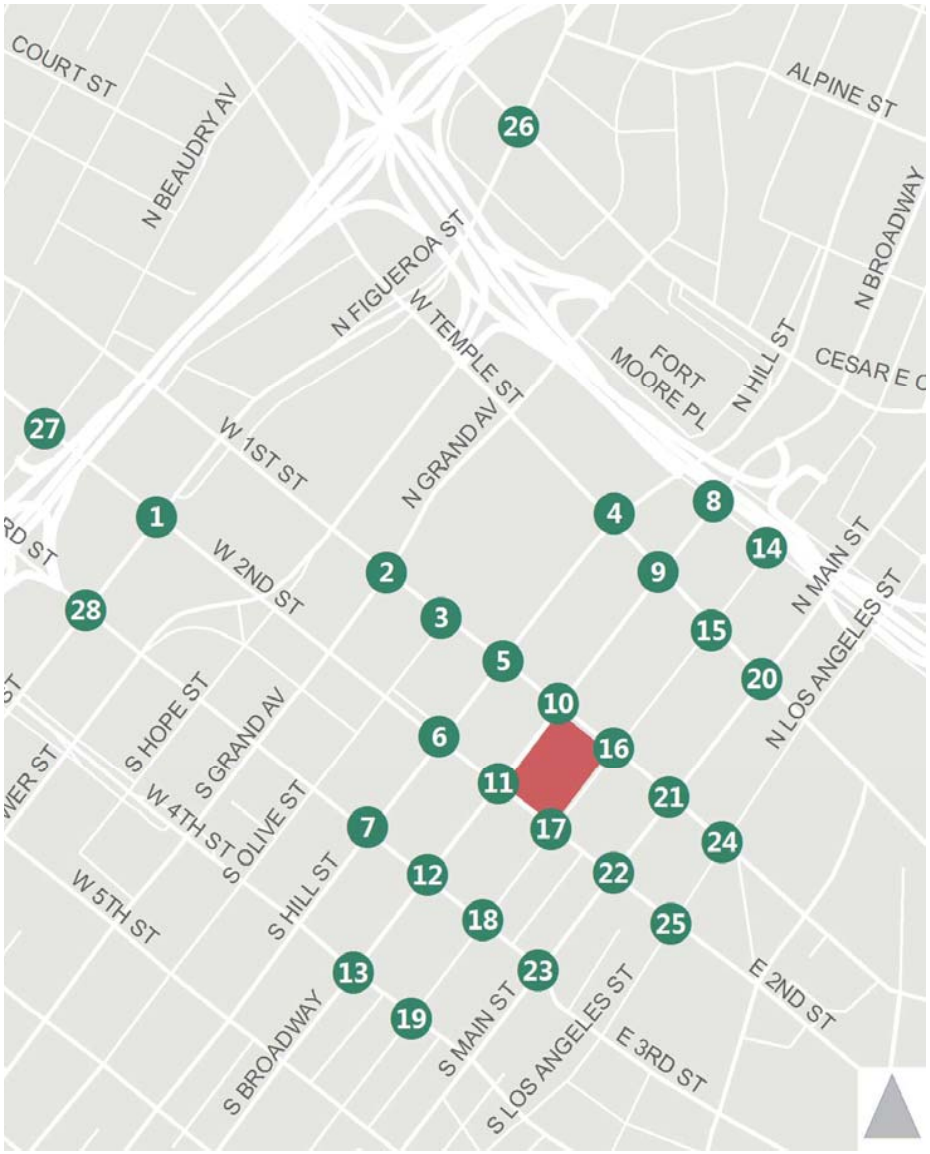


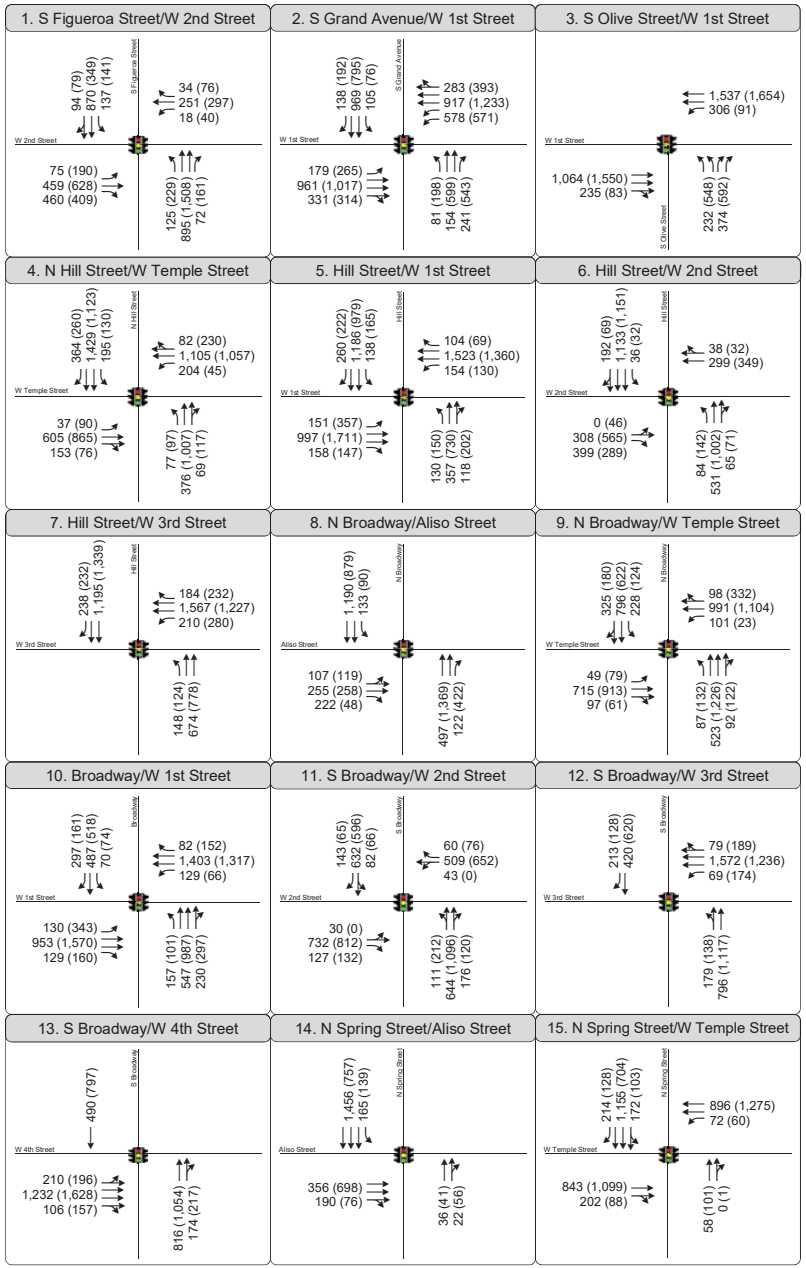
Appendix B - Figure 6
Traffic Volumes and Lane Configurations
Related Projects Conditions



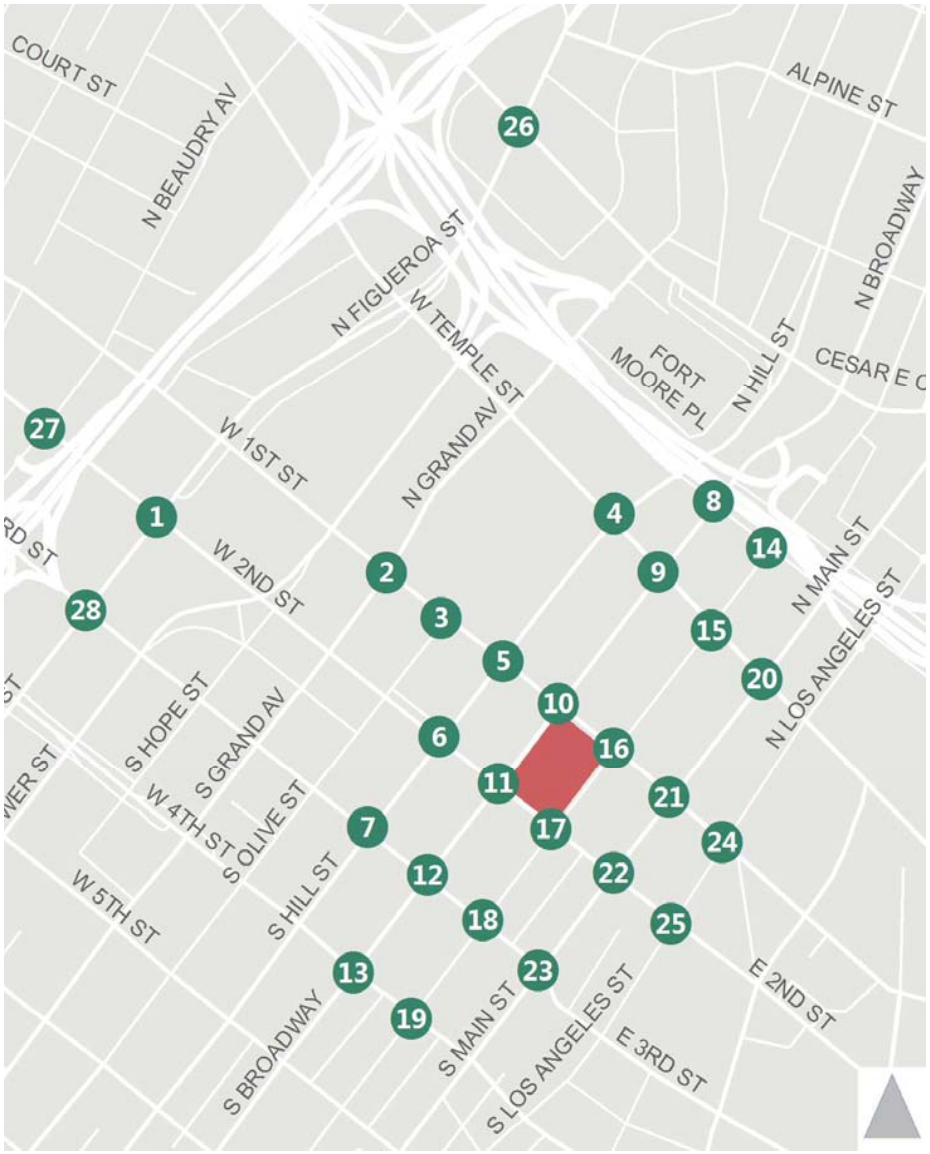


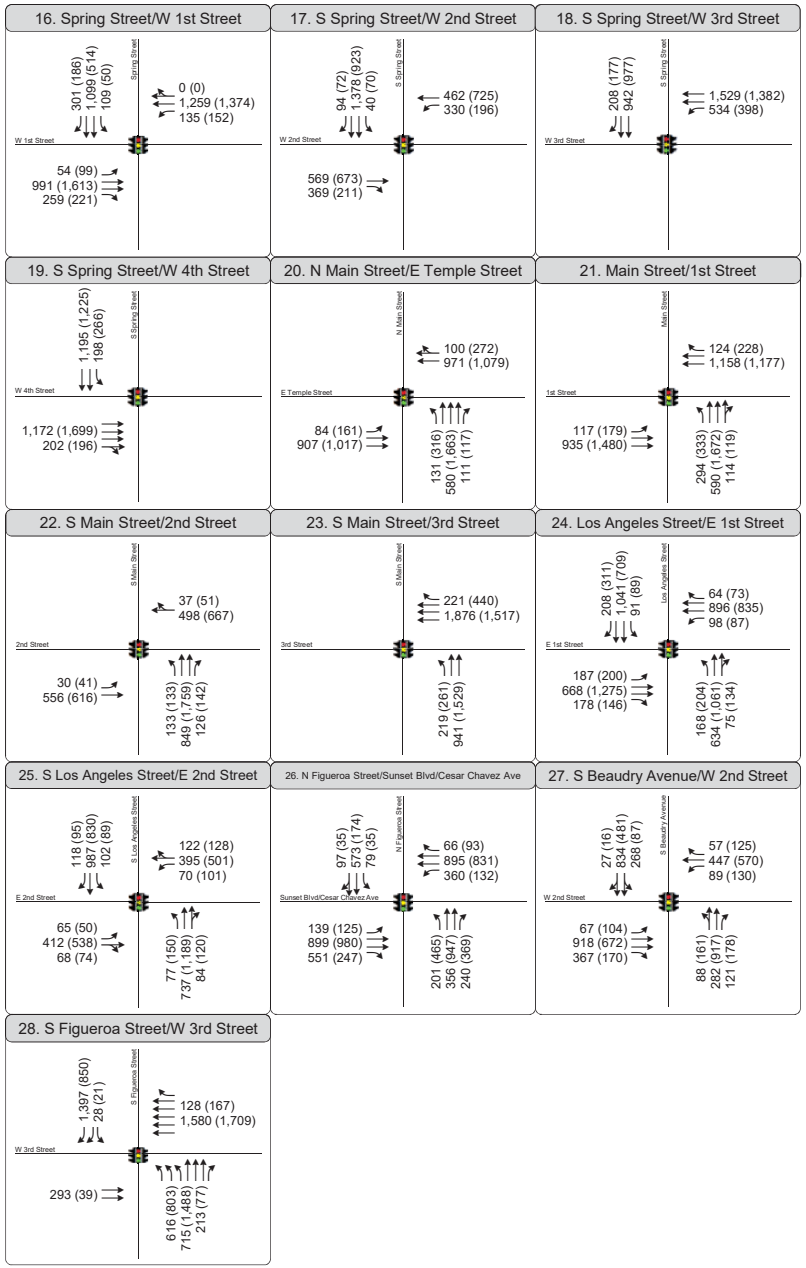
Appendix B - Figure 6
Traffic Volumes and Lane Configurations
Related Projects Conditions





Appendix B - Figure 7
Traffic Volumes and Lane Configurations
Future + Project (2023) Conditions





Appendix B - Figure 7
Traffic Volumes and Lane Configurations
Future + Project (2023) Conditions

APPENDIX C:
COUNT SHEETS

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Figueroa St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	118	43	89	13
BIKES	100	69	106	68
BUSES	216	50	2	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	212	7.45	275	7.45	241	9.15	53	9.45
PM PK 15 MIN	403	16.15	180	15.00	264	16.15	102	17.45
AM PK HOUR	791	7.00	1050	8.30	858	8.45	164	9.00
PM PK HOUR	1510	15.30	582	15.00	943	16.00	340	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	109	624	58	791
8-9	72	494	71	637
9-10	68	417	69	554
15-16	162	1138	112	1412
16-17	191	1162	152	1505
17-18	199	1065	169	1433
TOTAL	801	4900	631	6332

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	93	844	78	1015
8-9	128	733	61	922
9-10	122	781	82	985
15-16	89	432	61	582
16-17	93	327	74	494
17-18	71	347	68	486
TOTAL	596	3464	424	4484

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1806	32	2	15	1
1559	38	3	23	0
1539	35	0	10	0
1994	30	2	19	1
1999	28	11	19	0
1919	40	2	35	3
10816	203	20	121	5

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	258	423	733
8-9	50	287	435	772
9-10	42	313	480	835
15-16	128	257	375	760
16-17	159	399	385	943
17-18	130	331	344	805
TOTAL	561	1845	2442	4848

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	13	90	13	116
8-9	12	59	17	88
9-10	55	99	10	164
15-16	28	103	30	161
16-17	38	130	59	227
17-18	42	229	69	340
TOTAL	188	710	198	1096

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
849	47	0	32	3
860	53	2	21	0
999	69	3	22	0
921	61	1	24	31
1170	76	1	21	2
1145	74	0	37	5
5944	380	7	157	41

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-020

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Figueroa St			Figueroa St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	1	1	1	1	
7:00 AM	28	158	5	19	222	10	10	67	98	1	16	2	636
7:15 AM	27	139	14	16	206	18	12	61	100	9	21	5	628
7:30 AM	23	164	21	19	206	24	15	62	111	2	26	3	676
7:45 AM	31	163	18	39	210	26	15	68	114	1	27	3	715
8:00 AM	19	150	15	35	197	21	17	79	108	4	17	4	666
8:15 AM	11	93	12	18	113	9	8	40	94	2	7	1	408
8:30 AM	27	121	23	35	223	15	16	88	113	1	25	3	690
8:45 AM	15	130	21	40	200	16	9	80	120	5	10	9	655
9:00 AM	21	110	20	28	210	23	14	69	105	10	20	1	631
9:15 AM	18	101	17	33	208	19	13	86	142	9	20	1	667
9:30 AM	13	101	18	27	203	18	6	98	116	21	26	3	650
9:45 AM	16	105	14	34	160	22	9	60	117	15	33	5	590
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	249	1535	198	343	2358	221	144	858	1338	80	248	40	7612
APPROACH %'s :	12.56%	77.45%	9.99%	11.74%	80.70%	7.56%	6.15%	36.67%	57.18%	21.74%	67.39%	10.87%	
PEAK HR START TIME :	715 AM												TOTAL
PEAK HR VOL :	100	616	68	109	819	89	59	270	433	16	91	15	2685
PEAK HR FACTOR :		0.925			0.925			0.934			0.871		0.939

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-020

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Figueroa St			Figueroa St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	0	1	1	1	1	1	1	
3:00 PM	41	248	17	18	144	18	26	47	81	6	29	3	678
3:15 PM	38	312	29	17	114	12	33	56	94	6	25	9	745
3:30 PM	41	298	30	27	97	19	33	73	99	10	23	6	756
3:45 PM	42	280	36	27	77	12	36	81	101	6	26	12	736
4:00 PM	41	308	31	21	102	26	44	88	101	3	26	12	803
4:15 PM	51	313	39	19	79	19	48	110	106	5	39	16	844
4:30 PM	50	281	34	23	83	9	26	91	83	15	34	14	743
4:45 PM	49	260	48	30	63	20	41	110	95	15	31	17	779
5:00 PM	63	275	36	21	53	22	24	73	67	11	45	15	705
5:15 PM	51	261	34	27	92	19	32	93	89	7	62	15	782
5:30 PM	48	266	44	11	86	17	39	91	98	12	48	23	783
5:45 PM	37	263	55	12	116	10	35	74	90	12	74	16	794
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	552	3365	433	253	1106	203	417	987	1104	108	462	158	9148
APPROACH %'s :	12.69%	77.36%	9.95%	16.20%	70.81%	13.00%	16.63%	39.35%	44.02%	14.84%	63.46%	21.70%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	191	1162	152	93	327	74	159	399	385	38	130	59	3169
PEAK HR FACTOR :		0.934			0.829			0.893			0.901		0.939

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Figueroa St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	14	0	1	0
BIKES	3	0	0	2
BUSES	90	0	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	51	7.30	0	0.00	5	9.15	2	7.15
PM PK 15 MIN	63	17.30	0	0.00	11	16.45	4	17.45
AM PK HOUR	188	7.00	0	0.00	14	8.30	6	8.00
PM PK HOUR	232	17.00	0	0.00	28	16.00	6	17.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	188	0	188
8-9	0	156	0	156
9-10	0	121	0	121
15-16	0	171	0	171
16-17	0	197	0	197
17-18	0	232	0	232
TOTAL	0	1065	0	1065

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
188	0	0	4	0
156	0	0	0	0
121	0	0	2	0
171	0	0	4	0
197	0	0	3	0
232	0	0	2	0
1065	0	0	15	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	12	0	0	12
8-9	9	0	0	9
9-10	12	0	0	12
15-16	20	0	0	20
16-17	28	0	0	28
17-18	20	0	0	20
TOTAL	101	0	0	101

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	3	3
8-9	0	0	6	6
9-10	0	0	5	5
15-16	0	0	3	3
16-17	0	0	4	4
17-18	0	0	6	6
TOTAL	0	0	27	27

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
15	0	0	0	0
15	0	0	0	0
17	0	0	0	0
23	0	0	0	0
32	0	0	0	0
26	0	0	0	0
128	0	0	0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-120

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Figueroa St			Figueroa St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	0	0	1	1	1	1	1	1	
7:00 AM	0	46	0	0	0	0	2	0	0	0	0	0	48
7:15 AM	0	43	0	0	0	0	4	0	0	0	0	2	49
7:30 AM	0	51	0	0	0	0	3	0	0	0	0	0	54
7:45 AM	0	48	0	0	0	0	3	0	0	0	0	1	52
8:00 AM	0	42	0	0	0	0	3	0	0	0	0	1	46
8:15 AM	0	40	0	0	0	0	1	0	0	0	0	1	42
8:30 AM	0	33	0	0	0	0	4	0	0	0	0	2	39
8:45 AM	0	41	0	0	0	0	1	0	0	0	0	2	44
9:00 AM	0	30	0	0	0	0	4	0	0	0	0	0	34
9:15 AM	0	30	0	0	0	0	5	0	0	0	0	1	36
9:30 AM	0	28	0	0	0	0	1	0	0	0	0	2	31
9:45 AM	0	33	0	0	0	0	2	0	0	0	0	2	37
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	465	0	0	0	0	33	0	0	0	0	14	512
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	700 AM												TOTAL
PEAK HR VOL :	0	188	0	0	0	0	12	0	0	0	0	3	203
PEAK HR FACTOR :		0.922			0.000			0.750			0.375		0.940

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-120

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Figueroa St			Figueroa St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	0	0	0	1	1	1	1	1	1	
3:00 PM	0	39	0	0	0	0	4	0	0	0	0	0	43
3:15 PM	0	49	0	0	0	0	4	0	0	0	0	1	54
3:30 PM	0	39	0	0	0	0	7	0	0	0	0	1	47
3:45 PM	0	44	0	0	0	0	5	0	0	0	0	1	50
4:00 PM	0	39	0	0	0	0	8	0	0	0	0	0	47
4:15 PM	0	59	0	0	0	0	5	0	0	0	0	1	65
4:30 PM	0	52	0	0	0	0	4	0	0	0	0	2	58
4:45 PM	0	47	0	0	0	0	11	0	0	0	0	1	59
5:00 PM	0	56	0	0	0	0	5	0	0	0	0	0	61
5:15 PM	0	53	0	0	0	0	6	0	0	0	0	1	60
5:30 PM	0	63	0	0	0	0	6	0	0	0	0	1	70
5:45 PM	0	60	0	0	0	0	3	0	0	0	0	4	67
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	600	0	0	0	0	68	0	0	0	0	13	681
APPROACH %'s :	0.00%	100.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	0	232	0	0	0	0	20	0	0	0	0	6	258
PEAK HR FACTOR :		0.921			0.000			0.833			0.375		0.921

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Grand Ave

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	23	102	108	107
BIKES	19	21	14	5
BUSES	57	133	266	539

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	45	7.45	313	8.45	293	8.00	351	9.30
PM PK 15 MIN	158	16.30	234	17.45	303	17.15	367	17.30
AM PK HOUR	144	7.00	1134	8.30	1044	7.45	1296	7.00
PM PK HOUR	602	16.30	845	17.00	1123	16.45	1422	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	13	101	30	144
8-9	15	77	15	107
9-10	24	76	24	124
15-16	28	292	52	372
16-17	39	482	53	574
17-18	60	438	69	567
TOTAL	179	1466	243	1888

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	73	594	135	802
8-9	93	900	124	1117
9-10	101	814	128	1043
15-16	39	458	125	622
16-17	48	537	144	729
17-18	45	619	181	845
TOTAL	399	3922	837	5158

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
946	256	1	173	0
1224	200	1	108	0
1167	187	0	155	0
994	221	3	153	0
1303	416	4	278	0
1412	235	5	139	0
7046	1515	14	1006	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	183	486	174	843
8-9	117	655	233	1005
9-10	77	486	218	781
15-16	153	478	150	781
16-17	216	603	128	947
17-18	250	682	179	1111
TOTAL	996	3390	1082	5468

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	232	831	233	1296
8-9	245	622	193	1060
9-10	209	848	198	1255
15-16	148	801	276	1225
16-17	162	804	314	1280
17-18	169	922	331	1422
TOTAL	1165	4828	1545	7538

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
2139	144	2	185	0
2065	130	0	242	2
2036	251	31	227	1
2006	258	0	223	0
2227	256	0	330	2
2533	268	0	225	4
13006	1307	33	1432	9

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-024 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Grand Ave			Grand Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	3	0	2	3	0	
7:00 AM	1	24	5	15	144	35	18	87	36	68	218	47	698
7:15 AM	4	17	10	18	126	31	42	115	52	59	210	55	739
7:30 AM	3	27	8	16	160	34	56	134	43	56	210	62	809
7:45 AM	5	33	7	24	164	35	67	150	43	49	193	69	839
8:00 AM	4	18	7	30	189	35	46	192	55	57	164	72	869
8:15 AM	3	22	2	21	214	30	35	159	58	66	134	32	776
8:30 AM	5	13	3	18	237	30	21	153	65	65	164	44	818
8:45 AM	3	24	3	24	260	29	15	151	55	57	160	45	826
9:00 AM	8	19	10	24	206	35	28	141	55	68	174	55	823
9:15 AM	3	19	5	16	225	30	15	102	54	51	188	41	749
9:30 AM	5	22	3	34	196	28	20	127	61	47	253	51	847
9:45 AM	8	16	6	27	187	35	14	116	48	43	233	51	784
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	52	254	69	267	2308	387	377	1627	625	686	2301	624	9577
APPROACH %'s :	13.87%	67.73%	18.40%	9.01%	77.92%	13.07%	14.34%	61.89%	23.77%	19.00%	63.72%	17.28%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	17	86	19	93	804	130	169	654	221	237	655	217	3302
PEAK HR FACTOR :		0.678			0.901			0.891			0.891		0.950

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-024

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Grand Ave			Grand Ave			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	1	1	2	1	1	3	0	2	3	0	
3:00 PM	4	61	11	7	118	26	38	133	33	28	200	83	742
3:15 PM	6	69	11	14	114	21	39	111	46	41	195	62	729
3:30 PM	10	71	17	8	105	39	41	122	38	43	188	59	741
3:45 PM	8	91	13	10	121	39	35	112	33	36	218	72	788
4:00 PM	4	120	11	11	130	42	39	95	25	30	201	69	777
4:15 PM	12	112	15	17	136	32	45	181	33	46	175	79	883
4:30 PM	17	125	16	7	132	35	72	150	38	44	217	80	933
4:45 PM	6	125	11	13	139	35	60	177	32	42	211	86	937
5:00 PM	19	106	23	7	146	47	63	170	34	36	235	81	967
5:15 PM	11	123	20	7	169	42	67	176	60	46	219	96	1036
5:30 PM	13	103	16	8	144	41	66	174	44	38	242	87	976
5:45 PM	17	106	10	23	160	51	54	162	41	49	226	67	966
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	127	1212	174	132	1614	450	619	1763	457	479	2527	921	10475
APPROACH %'s :	8.39%	80.11%	11.50%	6.01%	73.50%	20.49%	21.80%	62.10%	16.10%	12.20%	64.35%	23.45%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	60	438	69	45	619	181	250	682	179	169	922	331	3945
PEAK HR FACTOR :		0.920			0.903			0.917			0.969		0.952

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Olive St

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	51	0	78	133
BIKES	11	0	19	20
BUSES	344	0	147	488

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	144	8.15	0	0.00	231	8.00	363	7.00
PM PK 15 MIN	266	17.00	0	0.00	214	16.15	276	17.30
AM PK HOUR	509	7.30	0	0.00	759	7.45	1380	7.00
PM PK HOUR	1029	16.45	0	0.00	793	17.00	1041	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	184	0	223	407
8-9	171	0	333	504
9-10	216	0	265	481
15-16	389	0	512	901
16-17	426	0	515	941
17-18	472	0	540	1012
TOTAL	1858	0	2388	4246

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
407	126	4	0	0
504	132	0	0	0
481	119	30	0	0
901	193	18	0	0
941	280	1	0	0
1012	198	5	0	0
4246	1048	58	0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	411	172	583
8-9	0	528	229	757
9-10	0	395	204	599
15-16	0	514	61	575
16-17	0	640	50	690
17-18	0	733	60	793
TOTAL	0	3221	776	3997

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	253	1127	0	1380
8-9	297	900	0	1197
9-10	329	1039	0	1368
15-16	98	837	0	935
16-17	66	869	0	935
17-18	86	955	0	1041
TOTAL	1129	5727	0	6856

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1963	73	1	108	0
1954	101	0	278	0
1967	75	0	159	0
1510	56	0	63	0
1625	63	0	153	0
1834	23	0	44	0
10853	391	1	805	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-025 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Olive St			Olive St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	2	0	0	0	0	3	0	1	2	0	
7:00 AM	33	0	42	0	0	0	0	63	43	56	307	0	544
7:15 AM	49	0	47	0	0	0	0	100	45	63	290	0	594
7:30 AM	51	0	57	0	0	0	0	115	40	64	278	0	605
7:45 AM	51	0	77	0	0	0	0	133	44	70	252	0	627
8:00 AM	48	0	81	0	0	0	0	167	64	65	227	0	652
8:15 AM	40	0	104	0	0	0	0	124	51	79	196	0	594
8:30 AM	36	0	71	0	0	0	0	119	57	74	251	0	608
8:45 AM	47	0	77	0	0	0	0	118	57	79	226	0	604
9:00 AM	58	0	69	0	0	0	0	114	59	91	238	0	629
9:15 AM	47	0	74	0	0	0	0	83	41	97	234	0	576
9:30 AM	64	0	62	0	0	0	0	101	60	71	289	0	647
9:45 AM	47	0	60	0	0	0	0	97	44	70	278	0	596
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	571	0	821	0	0	0	0	1334	605	879	3066	0	7276
APPROACH %'s :	41.02%	0.00%	58.98%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	68.80%	31.20%	22.28%	77.72%	0.00%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	175	0	333	0	0	0	0	543	216	288	926	0	2481
PEAK HR FACTOR :		0.882			0.000			0.821			0.934		0.951

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-025

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Olive St			Olive St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	0	2	0	0	0	0	3	0	1	2	0	
3:00 PM	109	0	123	0	0	0	0	133	20	23	215	0	623
3:15 PM	75	0	123	0	0	0	0	120	18	31	210	0	577
3:30 PM	91	0	128	0	0	0	0	134	10	26	202	0	591
3:45 PM	114	0	138	0	0	0	0	127	13	18	210	0	620
4:00 PM	92	0	121	0	0	0	0	106	10	16	221	0	566
4:15 PM	117	0	136	0	0	0	0	191	23	13	184	0	664
4:30 PM	99	0	130	0	0	0	0	161	11	12	239	0	652
4:45 PM	118	0	128	0	0	0	0	182	6	25	225	0	684
5:00 PM	120	0	146	0	0	0	0	177	11	20	231	0	705
5:15 PM	128	0	127	0	0	0	0	196	16	9	235	0	711
5:30 PM	116	0	146	0	0	0	0	185	17	29	247	0	740
5:45 PM	108	0	121	0	0	0	0	175	16	28	242	0	690
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	1287	0	1567	0	0	0	0	1887	171	250	2661	0	7823
APPROACH %'s :	45.09%	0.00%	54.91%	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	91.69%	8.31%	8.59%	91.41%	0.00%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	472	0	540	0	0	0	0	733	60	86	955	0	2846
PEAK HR FACTOR :		0.951			0.000			0.935			0.943		0.961

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hill St

East/West Temple St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	33	40	81	109
BIKES	18	15	16	16
BUSES	133	107	201	163

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	101	9.15	460	7.45	154	8.15	325	7.00
PM PK 15 MIN	280	17.00	328	16.45	227	16.15	321	15.00
AM PK HOUR	371	9.00	1785	7.15	529	7.45	1246	8.45
PM PK HOUR	959	16.30	1252	15.30	845	15.45	1117	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	157	49	258
8-9	77	189	74	340
9-10	91	188	92	371
15-16	60	587	66	713
16-17	67	730	92	889
17-18	80	770	86	936
TOTAL	427	2621	459	3507

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	189	1254	329	1772
8-9	165	1161	308	1634
9-10	204	956	287	1447
15-16	124	820	213	1157
16-17	121	877	239	1237
17-18	127	788	239	1154
TOTAL	930	5856	1615	8401

TOTAL

N-S
2030
1974
1818
1870
2126
2090
11908

XING S/L

Ped	Sch
365	8
328	2
261	5
274	2
295	1
172	0
1695	18

XING N/L

Ped	Sch
97	85
118	37
109	7
110	76
149	8
108	19
691	232

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	29	297	111	437
8-9	37	367	123	527
9-10	33	305	121	459
15-16	61	523	79	663
16-17	126	637	78	841
17-18	81	608	49	738
TOTAL	367	2737	561	3665

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	181	974	65	1220
8-9	179	947	89	1215
9-10	112	1012	101	1225
15-16	62	793	253	1108
16-17	46	678	232	956
17-18	31	893	193	1117
TOTAL	611	5297	933	6841

TOTAL

E-W
1657
1742
1684
1771
1797
1855
10506

XING W/L

Ped	Sch
282	10
324	3
219	2
251	9
257	0
185	0
1518	24

XING E/L

Ped	Sch
146	80
106	28
93	6
49	82
137	11
115	23
646	230

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-016

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Hill St			Hill St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
7:00 AM	13	31	11	45	325	71	8	52	22	45	267	13	903
7:15 AM	13	40	7	42	303	87	4	84	26	45	258	19	928
7:30 AM	13	42	15	52	302	85	8	78	31	38	249	13	926
7:45 AM	13	44	16	50	324	86	9	83	32	53	200	20	930
8:00 AM	19	47	17	40	321	93	7	89	35	50	235	28	981
8:15 AM	20	55	14	42	285	79	11	117	26	49	248	16	962
8:30 AM	19	50	23	44	272	74	8	81	31	28	210	30	870
8:45 AM	19	37	20	39	283	62	11	80	31	52	254	15	903
9:00 AM	19	47	29	48	275	74	4	81	33	34	234	14	892
9:15 AM	23	54	24	48	233	70	11	80	32	29	260	29	893
9:30 AM	22	42	13	56	229	71	8	71	26	20	279	26	863
9:45 AM	27	45	26	52	219	72	10	73	30	29	239	32	854
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	220	534	215	558	3371	924	99	969	355	472	2933	255	10905
APPROACH %'s :	22.70%	55.11%	22.19%	11.50%	69.46%	19.04%	6.96%	68.10%	24.95%	12.90%	80.14%	6.97%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	65	188	62	184	1232	343	35	367	124	190	932	77	3799
PEAK HR FACTOR :		0.885			0.956			0.854			0.958		0.968

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-016

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Hill St			Hill St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	2	0	1	2	0	
3:00 PM	16	106	11	31	160	45	7	106	24	14	236	71	827
3:15 PM	14	155	14	30	197	57	21	119	18	19	181	65	890
3:30 PM	8	164	18	27	244	53	14	147	16	14	207	81	993
3:45 PM	22	162	23	36	219	58	19	151	21	15	169	36	931
4:00 PM	23	199	17	31	217	56	30	149	32	10	166	59	989
4:15 PM	15	184	22	25	231	55	44	162	21	12	145	75	991
4:30 PM	13	179	27	28	213	53	22	180	14	12	195	47	983
4:45 PM	16	168	26	37	216	75	30	146	11	12	172	51	960
5:00 PM	19	240	21	21	212	63	17	170	20	11	184	73	1051
5:15 PM	23	195	32	36	205	54	16	151	12	4	226	46	1000
5:30 PM	23	170	24	38	174	65	15	124	8	8	242	32	923
5:45 PM	15	165	9	32	197	57	33	163	9	8	241	42	971
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	207	2087	244	372	2485	691	268	1768	206	139	2364	678	11509
APPROACH %'s :	8.16%	82.23%	9.61%	10.48%	70.04%	19.48%	11.95%	78.86%	9.19%	4.37%	74.32%	21.31%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	71	782	106	122	846	245	85	647	57	39	777	217	3994
PEAK HR FACTOR :		0.856			0.925			0.913			0.936		0.950

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hill St

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	63	44	98	133
BIKES	65	70	28	22
BUSES	203	185	440	485

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	93	8.00	349	7.00	227	8.00	342	9.30
PM PK 15 MIN	217	17.15	292	17.00	346	17.00	242	17.45
AM PK HOUR	331	7.45	1356	7.30	819	8.00	1316	7.00
PM PK HOUR	793	16.45	1119	16.15	1341	16.45	931	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	51	188	47	286
8-9	45	202	73	320
9-10	40	178	77	295
15-16	37	424	136	597
16-17	56	514	137	707
17-18	69	562	147	778
TOTAL	298	2068	617	2983

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	126	1028	192	1346
8-9	111	969	216	1296
9-10	121	836	205	1162
15-16	104	756	129	989
16-17	125	816	149	1090
17-18	152	714	154	1020
TOTAL	739	5119	1045	6903

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1632	274	1	255	6
1616	326	1	282	0
1457	257	1	261	2
1586	304	2	214	2
1797	354	0	260	0
1798	317	1	163	0
9886	1832	6	1435	10

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	55	455	58	568
8-9	129	551	139	819
9-10	82	491	97	670
15-16	232	737	73	1042
16-17	250	878	54	1182
17-18	269	1010	42	1321
TOTAL	1017	4122	463	5602

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	97	1141	78	1316
8-9	111	970	85	1166
9-10	115	1101	69	1285
15-16	67	765	73	905
16-17	59	712	80	851
17-18	50	829	52	931
TOTAL	499	5518	437	6454

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1884	519	3	91	0
1985	580	3	158	1
1955	523	44	137	0
1947	312	2	94	2
2033	530	0	146	2
2252	357	0	88	0
12056	2821	52	714	5

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-008

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Hill St			Hill St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	3	0	1	3	0	
7:00 AM	13	44	10	28	270	51	6	96	11	18	288	20	855
7:15 AM	13	44	15	21	253	45	13	106	9	23	294	16	852
7:30 AM	9	46	9	41	236	56	19	113	17	22	279	22	869
7:45 AM	16	54	13	36	269	40	17	140	21	34	280	20	940
8:00 AM	16	56	21	21	258	54	25	167	35	33	245	28	959
8:15 AM	9	50	16	32	261	52	41	125	30	28	225	23	892
8:30 AM	10	54	16	22	216	55	35	131	33	25	246	22	865
8:45 AM	10	42	20	36	234	55	28	128	41	25	254	12	885
9:00 AM	9	39	18	30	256	50	22	131	23	32	255	22	887
9:15 AM	10	52	25	46	201	45	22	115	33	30	281	19	879
9:30 AM	9	41	13	18	184	55	18	122	23	34	293	15	825
9:45 AM	12	46	21	27	195	55	20	123	18	19	272	13	821
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	136	568	197	358	2833	613	266	1497	294	323	3212	232	10529
APPROACH %'s :	15.09%	63.04%	21.86%	9.41%	74.47%	16.11%	12.93%	72.78%	14.29%	8.57%	85.27%	6.16%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	50	206	59	130	1024	202	102	545	103	117	1029	93	3660
PEAK HR FACTOR :		0.847			0.983			0.826			0.927		0.954

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-008

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Hill St			Hill St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	2	1	1	3	0	1	3	0	
3:00 PM	9	80	35	22	142	33	54	182	18	14	191	11	791
3:15 PM	12	107	37	27	184	25	61	176	20	14	191	17	871
3:30 PM	7	113	32	29	221	30	54	197	20	21	194	23	941
3:45 PM	9	124	32	26	209	41	63	182	15	18	189	22	930
4:00 PM	14	132	40	36	197	30	62	157	10	17	178	15	888
4:15 PM	16	136	23	35	215	34	66	234	19	13	148	22	961
4:30 PM	13	121	32	29	190	47	56	241	13	12	191	23	968
4:45 PM	13	125	42	25	214	38	66	246	12	17	195	20	1013
5:00 PM	12	146	42	57	189	46	76	259	11	11	199	24	1072
5:15 PM	21	159	37	40	193	34	66	257	10	13	194	9	1033
5:30 PM	23	138	35	30	155	38	58	270	10	12	215	12	996
5:45 PM	13	119	33	25	177	36	69	224	11	14	221	7	949
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	162	1500	420	381	2286	432	751	2625	169	176	2306	205	11413
APPROACH %'s :	7.78%	72.05%	20.17%	12.29%	73.77%	13.94%	21.18%	74.05%	4.77%	6.55%	85.82%	7.63%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	69	568	156	152	751	156	266	1032	43	53	803	65	4114
PEAK HR FACTOR :		0.914			0.907			0.969			0.963		0.959

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hill St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	72	47	61	12
BIKES	45	57	111	42
BUSES	202	186	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	93	7.00	263	7.15	140	8.30	52	8.30
PM PK 15 MIN	230	16.15	257	17.30	181	15.45	71	17.15
AM PK HOUR	357	8.45	1003	7.15	497	7.45	168	8.15
PM PK HOUR	858	16.15	912	15.00	619	15.15	218	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	29	271	47	347
8-9	27	247	64	338
9-10	25	273	54	352
15-16	83	623	64	770
16-17	113	689	44	846
17-18	117	675	20	812
TOTAL	394	2778	293	3465

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	36	946	18	1000
8-9	28	870	23	921
9-10	34	750	31	815
15-16	30	842	40	912
16-17	23	704	32	759
17-18	18	831	22	871
TOTAL	169	4943	166	5278

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1347	67	9	71	1
1259	69	14	61	8
1167	61	23	67	6
1682	79	15	122	5
1605	64	7	85	1
1683	46	0	78	4
8743	386	68	484	25

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	19	59	373	451
8-9	21	139	317	477
9-10	14	153	210	377
15-16	60	339	213	612
16-17	30	337	204	571
17-18	37	247	164	448
TOTAL	181	1274	1481	2936

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	1	46	29	76
8-9	12	107	36	155
9-10	17	75	31	123
15-16	1	101	39	141
16-17	4	167	26	197
17-18	3	150	13	166
TOTAL	38	646	174	858

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
527	168	13	178	1
632	143	24	160	10
500	103	41	185	14
753	156	41	196	4
768	129	16	117	3
614	86	10	89	1
3794	785	145	925	33

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-007

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Hill St			Hill St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	0	1	1	0	1	0	
7:00 AM	9	74	10	9	245	3	7	10	103	0	9	8	487
7:15 AM	8	62	16	7	253	3	2	10	80	0	10	7	458
7:30 AM	7	70	9	9	211	6	6	14	96	0	14	6	448
7:45 AM	5	65	12	11	237	6	4	25	94	1	13	8	481
8:00 AM	8	66	10	8	246	6	3	23	74	1	13	7	465
8:15 AM	7	66	20	10	220	6	4	40	90	3	19	11	496
8:30 AM	5	50	13	5	198	7	4	43	93	4	39	9	470
8:45 AM	7	65	21	5	206	4	10	33	60	4	36	9	460
9:00 AM	7	68	12	11	205	6	2	41	55	3	23	8	441
9:15 AM	6	65	21	7	175	10	1	37	67	7	11	9	416
9:30 AM	9	65	11	10	187	6	5	27	47	1	28	2	398
9:45 AM	3	75	10	6	183	9	6	48	41	6	13	12	412
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	81	791	165	98	2566	72	54	351	900	30	228	96	5432
APPROACH %'s :	7.81%	76.28%	15.91%	3.58%	93.79%	2.63%	4.14%	26.90%	68.97%	8.47%	64.41%	27.12%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	25	247	55	34	901	25	15	131	351	9	84	35	1912
PEAK HR FACTOR :		0.879			0.923			0.888			0.615		0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-007

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Hill St			Hill St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	0	1	1	0	1	0	
3:00 PM	19	162	16	6	215	2	22	65	38	0	22	11	578
3:15 PM	31	136	21	7	226	10	13	93	60	0	19	14	630
3:30 PM	18	151	14	11	178	21	6	91	43	1	35	6	575
3:45 PM	15	174	13	6	223	7	19	90	72	0	25	8	652
4:00 PM	23	174	17	6	189	6	10	78	44	2	36	8	593
4:15 PM	23	194	13	12	186	6	8	87	60	0	41	5	635
4:30 PM	26	175	7	3	153	10	6	91	51	0	47	9	578
4:45 PM	41	146	7	2	176	10	6	81	49	2	43	4	567
5:00 PM	29	193	4	0	204	7	13	66	41	0	41	1	599
5:15 PM	34	183	6	4	181	2	8	70	44	1	60	10	603
5:30 PM	28	175	6	10	237	10	7	55	36	1	29	2	596
5:45 PM	26	124	4	4	209	3	9	56	43	1	20	0	499
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	313	1987	128	71	2377	94	127	923	581	8	418	78	7105
APPROACH %'s :	12.89%	81.84%	5.27%	2.79%	93.51%	3.70%	7.79%	56.59%	35.62%	1.59%	82.94%	15.48%	
PEAK HR START TIME :	345 PM												TOTAL
PEAK HR VOL :	87	717	50	27	751	29	43	346	227	2	149	30	2458
PEAK HR FACTOR :		0.928			0.855			0.851			0.808		0.942

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hill St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	0	5	0
BIKES	0	0	0	0
BUSES	0	0	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	0	0.00	1	7.45	0	0.00
PM PK 15 MIN	0	0.00	0	0.00	1	15.15	0	0.00
AM PK HOUR	0	0.00	0	0.00	2	7.45	0	0.00
PM PK HOUR	0	0.00	0	0.00	1	15.15	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
TOTAL	0	0	0	0

TOTAL

N-S
0

XING S/L

Ped	Sch
0	0

XING N/L

Ped	Sch
0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	1	0	0	1
8-9	1	0	0	1
9-10	1	0	0	1
15-16	0	0	1	1
16-17	0	0	1	1
TOTAL	3	0	2	5

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
TOTAL	0	0	0	0

TOTAL

E-W
1
1
1
1
1
5

XING W/L

Ped	Sch
0	0
0	0
0	0
0	0
0	0
0	0

XING E/L

Ped	Sch
0	0
0	0
0	0
0	0
0	0
0	0

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-207 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Hill St			Hill St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	0	0	0	0	1	0	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	3	0	0	0	0	0	3
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	830 AM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	2	0	0	0	0	0	2
PEAK HR FACTOR :		0.000			0.000			0.500			0.000		0.500

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-207

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Hill St			Hill St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	0	0	0	0	1	0	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	0	0	0	0	2	0	0	0	2
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	0.00%	100.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	0	0	0	0	0	1	0	0	0	1
PEAK HR FACTOR :		0.000			0.000			0.250			0.000		0.250

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Hill St

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	76	75	0	98
BIKES	46	85	15	66
BUSES	202	189	0	39

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	125	8.00	307	7.00	0	0.00	392	8.15
PM PK 15 MIN	175	17.15	313	15.45	0	0.00	348	17.45
AM PK HOUR	467	7.45	1180	7.00	0	0.00	1493	7.00
PM PK HOUR	659	17.00	1169	15.30	0	0.00	1224	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	49	344	0	393
8-9	51	384	0	435
9-10	68	285	0	353
15-16	80	450	0	530
16-17	61	528	0	589
17-18	52	607	0	659
TOTAL	361	2598	0	2959

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	882	298	1180
8-9	0	953	203	1156
9-10	0	910	209	1119
15-16	0	833	241	1074
16-17	0	893	218	1111
17-18	0	880	173	1053
TOTAL	0	5351	1342	6693

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1573	37	0	38	0
1591	60	0	66	0
1472	62	1	86	0
1604	98	0	59	2
1700	95	3	78	2
1712	97	2	69	1
9652	449	6	396	5

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	66	1306	121	1493
8-9	126	1205	127	1458
9-10	228	657	81	966
15-16	149	668	92	909
16-17	127	936	161	1224
17-18	115	806	156	1077
TOTAL	811	5578	738	7127

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1493	70	0	71	0
1458	69	0	117	1
966	77	0	138	1
909	85	0	240	8
1224	100	1	206	11
1077	86	1	216	3
7127	487	2	988	24

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-009

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Hill St			Hill St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	0	2	1	0	0	0	1	2	1	
7:00 AM	13	73	0	0	226	81	0	0	0	13	327	32	765
7:15 AM	16	75	0	0	222	78	0	0	0	16	326	28	761
7:30 AM	5	91	0	0	208	66	0	0	0	20	321	25	736
7:45 AM	15	105	0	0	226	73	0	0	0	17	332	36	804
8:00 AM	14	111	0	0	251	54	0	0	0	26	284	27	767
8:15 AM	13	94	0	0	240	54	0	0	0	38	320	34	793
8:30 AM	16	99	0	0	218	43	0	0	0	30	303	30	739
8:45 AM	8	80	0	0	244	52	0	0	0	32	298	36	750
9:00 AM	16	83	0	0	237	48	0	0	0	26	227	32	669
9:15 AM	19	74	0	0	241	48	0	0	0	59	143	15	599
9:30 AM	16	64	0	0	212	59	0	0	0	70	143	18	582
9:45 AM	17	64	0	0	220	54	0	0	0	73	144	16	588
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	168	1013	0	0	2745	710	0	0	0	420	3168	329	8553
APPROACH %'s :	14.23%	85.77%	0.00%	0.00%	79.45%	20.55%	#DIV/0!	#DIV/0!	#DIV/0!	10.72%	80.88%	8.40%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	58	409	0	0	935	224	0	0	0	111	1239	127	3103
PEAK HR FACTOR :		0.934			0.950			0.000			0.942		0.965

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-009

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Hill St			Hill St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	1	0	0	2	1	0	0	0	1	2	1	
3:00 PM	23	97	0	0	174	43	0	0	0	39	153	27	556
3:15 PM	21	115	0	0	190	59	0	0	0	59	156	18	618
3:30 PM	19	112	0	0	231	64	0	0	0	28	141	16	611
3:45 PM	17	126	0	0	238	75	0	0	0	23	218	31	728
4:00 PM	19	146	0	0	210	42	0	0	0	25	240	39	721
4:15 PM	15	129	0	0	250	59	0	0	0	28	230	33	744
4:30 PM	12	115	0	0	189	60	0	0	0	40	222	40	678
4:45 PM	15	138	0	0	244	57	0	0	0	34	244	49	781
5:00 PM	14	139	0	0	252	49	0	0	0	32	179	44	709
5:15 PM	13	162	0	0	221	51	0	0	0	21	163	38	669
5:30 PM	5	157	0	0	203	32	0	0	0	35	178	39	649
5:45 PM	20	149	0	0	204	41	0	0	0	27	286	35	762
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	193	1585	0	0	2606	632	0	0	0	391	2410	409	8226
APPROACH %'s :	10.85%	89.15%	0.00%	0.00%	80.48%	19.52%	#DIV/0!	#DIV/0!	#DIV/0!	12.18%	75.08%	12.74%	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	61	528	0	0	893	218	0	0	0	127	936	161	2924
PEAK HR FACTOR :		0.892			0.899			0.000			0.936		0.936

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West Aliso St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	70	73	76	0
BIKES	24	36	1	0
BUSES	165	10	32	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	97	9.00	273	8.15	152	8.30	0	0.00
PM PK 15 MIN	367	17.15	158	17.15	125	15.00	0	0.00
AM PK HOUR	341	7.30	1005	7.30	562	8.15	0	0.00
PM PK HOUR	1410	16.45	600	16.30	466	15.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	261	60	321
8-9	0	239	61	300
9-10	0	244	84	328
15-16	0	636	227	863
16-17	0	902	329	1231
17-18	0	1086	296	1382
TOTAL	0	3368	1057	4425

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	90	818	0	908
8-9	114	879	0	993
9-10	86	683	0	769
15-16	54	489	0	543
16-17	83	501	0	584
17-18	52	539	0	591
TOTAL	479	3909	0	4388

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1229	11	4	0	0
1293	16	2	0	0
1097	20	0	0	0
1406	4	0	0	0
1815	8	0	0	0
1973	12	0	0	0
8813	71	6	0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	101	190	159	450
8-9	88	264	198	550
9-10	101	259	108	468
15-16	113	326	27	466
16-17	92	270	36	398
17-18	118	230	30	378
TOTAL	613	1539	558	2710

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
450	38	12	12	7
550	35	0	16	1
468	21	3	29	1
466	26	0	19	0
398	49	0	38	1
378	40	0	22	3
2710	209	15	136	13

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-022

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Broadway			Broadway			Aliso St			Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0.5	1.5	1	0	0	0	
7:00 AM	0	59	14	20	204	0	28	41	35	0	0	0	401
7:15 AM	0	62	7	16	199	0	22	46	40	0	0	0	392
7:30 AM	0	69	21	31	199	0	26	52	32	0	0	0	430
7:45 AM	0	71	18	23	216	0	25	51	52	0	0	0	456
8:00 AM	0	54	16	30	233	0	22	56	49	0	0	0	460
8:15 AM	0	78	14	28	245	0	26	65	52	0	0	0	508
8:30 AM	0	48	18	32	195	0	28	68	56	0	0	0	445
8:45 AM	0	59	13	24	206	0	12	75	41	0	0	0	430
9:00 AM	0	66	31	19	198	0	29	69	41	0	0	0	453
9:15 AM	0	65	27	21	197	0	34	75	23	0	0	0	442
9:30 AM	0	54	16	11	154	0	18	59	24	0	0	0	336
9:45 AM	0	59	10	35	134	0	20	56	20	0	0	0	334
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	744	205	290	2380	0	290	713	465	0	0	0	5087
APPROACH %'s :	0.00%	78.40%	21.60%	10.86%	89.14%	0.00%	19.75%	48.57%	31.68%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	0	251	66	113	889	0	101	240	209	0	0	0	1869
PEAK HR FACTOR :		0.861			0.918			0.905			0.000		0.920

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-022

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			Aliso St			Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	1	1	2	0	0.5	1.5	1	0	0	0	
3:00 PM	0	137	63	16	106	0	27	85	13	0	0	0	447
3:15 PM	0	137	48	14	118	0	28	87	6	0	0	0	438
3:30 PM	0	164	54	14	127	0	29	87	4	0	0	0	479
3:45 PM	0	198	62	10	138	0	29	67	4	0	0	0	508
4:00 PM	0	211	66	21	126	0	29	61	9	0	0	0	523
4:15 PM	0	206	55	22	121	0	19	64	4	0	0	0	491
4:30 PM	0	249	101	24	125	0	26	69	7	0	0	0	601
4:45 PM	0	236	107	16	129	0	18	76	16	0	0	0	598
5:00 PM	0	247	89	10	138	0	39	47	7	0	0	0	577
5:15 PM	0	299	68	11	147	0	29	51	10	0	0	0	615
5:30 PM	0	284	80	19	123	0	24	56	9	0	0	0	595
5:45 PM	0	256	59	12	131	0	26	76	4	0	0	0	564
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	2624	852	189	1529	0	323	826	93	0	0	0	6436
APPROACH %'s :	0.00%	75.49%	24.51%	11.00%	89.00%	0.00%	26.01%	66.51%	7.49%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	1031	365	61	539	0	112	243	40	0	0	0	2391
PEAK HR FACTOR :		0.951			0.949			0.898			0.000		0.972

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West Temple St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	88	86	88	94
BIKES	22	36	11	11
BUSES	176	18	123	124

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	121	9.45	291	8.15	171	8.15	282	7.00
PM PK 15 MIN	309	17.15	163	17.15	229	16.30	303	15.00
AM PK HOUR	410	9.00	1089	7.45	615	8.15	1061	7.00
PM PK HOUR	1182	16.45	595	16.30	872	16.30	1079	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	60	229	63	352
8-9	60	214	76	350
9-10	66	271	73	410
15-16	72	589	51	712
16-17	96	824	120	1040
17-18	103	952	114	1169
TOTAL	457	3079	497	4033

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	112	550	276	938
8-9	129	609	321	1059
9-10	93	513	266	872
15-16	61	291	169	521
16-17	90	311	136	537
17-18	75	332	170	577
TOTAL	560	2606	1338	4504

TOTAL

N-S
1290
1409
1282
1233
1577
1746
8537

XING S/L

Ped	Sch
326	1
415	5
359	2
202	0
284	2
144	0
1730	10

XING N/L

Ped	Sch
96	4
130	7
104	3
108	6
124	4
92	6
654	30

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	46	417	66	529
8-9	35	488	75	598
9-10	51	497	60	608
15-16	44	627	40	711
16-17	76	715	53	844
17-18	74	713	33	820
TOTAL	326	3457	327	4110

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	85	898	78	1061
8-9	96	805	74	975
9-10	66	890	60	1016
15-16	41	865	159	1065
16-17	29	721	156	906
17-18	16	839	224	1079
TOTAL	333	5018	751	6102

TOTAL

E-W
1590
1573
1624
1776
1750
1899
10212

XING W/L

Ped	Sch
98	1
89	0
54	1
51	0
108	0
59	0
459	2

XING E/L

Ped	Sch
109	0
168	2
161	5
99	3
129	1
69	3
735	14

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-017 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Broadway			Broadway			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	0	1	2	0	
7:00 AM	11	54	10	23	132	66	7	79	19	22	242	18	683
7:15 AM	10	47	15	29	140	72	13	105	12	18	237	22	720
7:30 AM	17	67	17	21	119	66	9	113	25	23	228	16	721
7:45 AM	22	61	21	39	159	72	17	120	10	22	191	22	756
8:00 AM	14	48	17	28	162	82	13	111	18	25	212	13	743
8:15 AM	10	61	18	39	166	86	7	145	19	25	209	30	815
8:30 AM	16	50	15	33	143	80	8	120	22	20	162	17	686
8:45 AM	20	55	26	29	138	73	7	112	16	26	222	14	738
9:00 AM	16	58	13	25	134	76	13	120	26	19	191	20	711
9:15 AM	15	68	16	24	132	73	13	128	13	19	233	12	746
9:30 AM	20	64	19	26	123	62	13	119	14	10	236	11	717
9:45 AM	15	81	25	18	124	55	12	130	7	18	230	17	732
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	186	714	212	334	1672	863	132	1402	201	247	2593	212	8768
APPROACH %'s :	16.73%	64.21%	19.06%	11.64%	58.28%	30.08%	7.61%	80.81%	11.59%	8.09%	84.96%	6.95%	
PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	63	237	73	127	606	306	46	489	72	95	840	81	3035
PEAK HR FACTOR :		0.897			0.893			0.887			0.951		0.931

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-017

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	0	1	2	0	1	2	0	
3:00 PM	13	128	15	17	65	43	7	136	6	12	254	37	733
3:15 PM	20	130	10	9	71	44	8	145	11	11	212	25	696
3:30 PM	20	157	14	18	76	36	13	169	11	6	232	40	792
3:45 PM	19	174	12	17	79	46	16	177	12	12	167	57	788
4:00 PM	18	171	21	20	81	33	17	178	10	8	177	53	787
4:15 PM	37	187	30	17	69	35	20	174	9	10	177	25	790
4:30 PM	20	241	38	24	73	41	17	192	20	10	181	39	896
4:45 PM	21	225	31	29	88	27	22	171	14	1	186	39	854
5:00 PM	34	222	35	24	94	32	23	181	11	2	196	45	899
5:15 PM	30	249	30	26	84	53	20	191	10	7	192	61	953
5:30 PM	17	256	32	13	75	45	16	160	5	2	230	61	912
5:45 PM	22	225	17	12	79	40	15	181	7	5	221	57	881
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	271	2365	285	226	934	475	194	2055	126	86	2425	539	9981
APPROACH %'s :	9.28%	80.97%	9.76%	13.82%	57.13%	29.05%	8.17%	86.53%	5.31%	2.82%	79.51%	17.67%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	103	952	114	75	332	170	74	713	33	16	839	224	3645
PEAK HR FACTOR :		0.946			0.885			0.928			0.921		0.956

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	123	67	110	138
BIKES	50	47	60	42
BUSES	212	6	509	485

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	144	9.45	174	9.00	213	8.00	325	9.30
PM PK 15 MIN	292	17.15	126	17.00	373	17.00	254	16.45
AM PK HOUR	477	9.00	655	8.15	728	8.00	1209	7.00
PM PK HOUR	1111	16.45	439	16.30	1334	16.45	948	16.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	38	222	80	340
8-9	46	237	106	389
9-10	57	284	136	477
15-16	43	467	205	715
16-17	43	721	236	1000
17-18	69	752	252	1073
TOTAL	296	2683	1015	3994

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	47	311	189	547
8-9	49	399	199	647
9-10	57	346	236	639
15-16	49	243	97	389
16-17	66	262	82	410
17-18	49	269	107	425
TOTAL	317	1830	910	3057

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
887	208	0	140	0
1036	231	0	122	0
1116	239	2	144	0
1104	234	0	146	0
1410	290	3	164	0
1498	280	4	105	1
7051	1482	9	821	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	63	528	27	618
8-9	59	619	50	728
9-10	74	567	54	695
15-16	147	800	26	973
16-17	180	923	41	1144
17-18	241	1047	39	1327
TOTAL	764	4484	237	5485

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	58	1067	84	1209
8-9	67	907	97	1071
9-10	114	1016	67	1197
15-16	42	752	98	892
16-17	35	731	124	890
17-18	34	748	138	920
TOTAL	350	5221	608	6179

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1827	60	0	123	0
1799	79	0	174	1
1892	78	1	166	2
1865	86	0	108	0
2034	70	0	123	0
2247	51	2	91	5
11664	424	3	785	8

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-003

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Broadway			Broadway			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	3	0	1	3	0	
7:00 AM	6	44	12	14	73	42	14	103	7	10	268	11	604
7:15 AM	13	53	19	15	76	49	19	124	6	20	262	21	677
7:30 AM	10	61	26	7	85	43	15	151	5	7	282	28	720
7:45 AM	9	64	23	11	77	55	15	150	9	21	255	24	713
8:00 AM	9	50	16	13	95	58	16	184	13	15	233	27	729
8:15 AM	10	63	36	9	120	43	20	139	10	16	211	21	698
8:30 AM	14	59	26	12	97	46	11	137	12	15	223	34	686
8:45 AM	13	65	28	15	87	52	12	159	15	21	240	15	722
9:00 AM	15	59	26	13	92	69	16	157	14	21	244	12	738
9:15 AM	13	82	27	12	96	59	33	134	15	23	250	17	761
9:30 AM	20	56	35	17	79	57	8	144	15	36	270	19	756
9:45 AM	9	87	48	15	79	51	17	132	10	34	252	19	753
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	141	743	322	153	1056	624	196	1714	131	239	2990	248	8557
APPROACH %'s :	11.69%	61.61%	26.70%	8.35%	57.61%	34.04%	9.60%	83.98%	6.42%	6.87%	85.99%	7.13%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	57	284	136	57	346	236	74	567	54	114	1016	67	3008
PEAK HR FACTOR :		0.828			0.918			0.929			0.921		0.988

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-003

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	3	0	1	2	1	1	3	0	1	3	0	
3:00 PM	10	110	46	9	58	24	33	202	4	13	169	25	703
3:15 PM	14	112	51	12	57	20	38	188	9	11	177	17	706
3:30 PM	10	121	51	15	59	28	40	220	5	12	206	24	791
3:45 PM	9	124	57	13	69	25	36	190	8	6	200	32	769
4:00 PM	15	149	55	17	70	20	32	194	19	12	163	26	772
4:15 PM	7	182	59	10	63	19	42	248	7	8	167	31	843
4:30 PM	11	185	58	16	67	23	60	238	9	9	184	36	896
4:45 PM	10	205	64	23	62	20	46	243	6	6	217	31	933
5:00 PM	20	177	62	19	79	28	60	297	16	9	175	29	971
5:15 PM	14	215	63	10	70	22	63	260	5	9	189	41	961
5:30 PM	16	197	68	8	55	29	71	256	11	8	199	35	953
5:45 PM	19	163	59	12	65	28	47	234	7	8	185	33	860
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	155	1940	693	164	774	286	568	2770	106	111	2231	360	10158
APPROACH %'s :	5.56%	69.58%	24.86%	13.40%	63.24%	23.37%	16.49%	80.43%	3.08%	4.11%	82.57%	13.32%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	60	794	257	60	266	99	240	1056	38	32	780	136	3818
PEAK HR FACTOR :		0.951			0.843			0.894			0.933		0.983

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	97	64	33	0
BIKES	63	72	58	0
BUSES	211	5	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	135	9.45	147	9.30	71	9.45	3	9.45
PM PK 15 MIN	273	17.30	105	16.00	116	16.45	1	15.45
AM PK HOUR	462	9.00	516	9.00	260	9.00	3	9.45
PM PK HOUR	1008	16.45	362	16.30	438	16.30	1	15.45

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	54	310	8	372
8-9	52	339	14	405
9-10	76	373	13	462
15-16	100	542	2	644
16-17	106	741	2	849
17-18	200	795	7	1002
TOTAL	588	3100	46	3734

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	3	313	60	376
8-9	5	413	73	491
9-10	10	389	117	516
15-16	2	264	45	311
16-17	0	301	50	351
17-18	1	291	64	356
TOTAL	21	1971	409	2401

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
748	40	0	18	0
896	70	0	22	0
978	123	5	23	0
955	85	2	19	3
1200	104	4	35	4
1358	80	5	26	4
6135	502	16	143	11

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	53	13	53	119
8-9	82	24	110	216
9-10	104	19	137	260
15-16	141	4	129	274
16-17	246	1	183	430
17-18	245	8	151	404
TOTAL	871	69	763	1703

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	1	0	0	1
8-9	0	0	0	0
9-10	0	0	3	3
15-16	0	0	1	1
16-17	0	0	0	0
17-18	1	0	0	1
TOTAL	2	0	4	6

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
120	50	0	74	0
216	87	4	133	0
263	94	1	155	3
275	87	0	116	0
430	88	7	130	3
405	54	7	117	6
1709	460	19	725	12

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-004 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Broadway			Broadway			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	1	0	1	0	0	0	
7:00 AM	9	56	3	1	75	11	9	4	10	0	0	0	178
7:15 AM	17	79	2	1	73	17	9	1	11	1	0	0	211
7:30 AM	11	85	1	1	80	16	19	0	21	0	0	0	234
7:45 AM	17	90	2	0	85	16	16	8	11	0	0	0	245
8:00 AM	13	71	2	3	101	16	6	4	20	0	0	0	236
8:15 AM	12	87	2	1	117	18	22	8	34	0	0	0	301
8:30 AM	12	86	1	0	100	17	29	4	24	0	0	0	273
8:45 AM	15	95	9	1	95	22	25	8	32	0	0	0	302
9:00 AM	12	74	4	2	111	15	25	8	31	0	0	0	282
9:15 AM	18	96	3	1	87	28	23	3	40	0	0	0	299
9:30 AM	21	95	4	5	96	46	27	4	28	0	0	0	326
9:45 AM	25	108	2	2	95	28	29	4	38	0	0	3	334
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	182	1022	35	18	1115	250	239	56	300	1	0	3	3221
APPROACH %'s :	14.69%	82.49%	2.82%	1.30%	80.62%	18.08%	40.17%	9.41%	50.42%	25.00%	0.00%	75.00%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	76	373	13	10	389	117	104	19	137	0	0	3	1241
PEAK HR FACTOR :		0.856			0.878			0.915			0.250		0.929

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-004

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	1	0	1	0	0	0	
3:00 PM	21	123	0	2	60	7	29	1	28	0	0	0	271
3:15 PM	33	142	1	0	64	17	27	1	33	0	0	0	318
3:30 PM	22	148	0	0	65	11	36	1	37	0	0	0	320
3:45 PM	24	129	1	0	75	10	49	1	31	0	0	1	321
4:00 PM	26	176	0	0	87	18	52	1	40	0	0	0	400
4:15 PM	22	175	0	0	77	5	60	0	52	0	0	0	391
4:30 PM	32	193	1	0	69	14	65	0	44	0	0	0	418
4:45 PM	26	197	1	0	68	13	69	0	47	0	0	0	421
5:00 PM	48	202	0	0	87	10	60	1	39	0	0	0	447
5:15 PM	50	210	1	0	81	20	63	2	48	0	0	0	475
5:30 PM	57	215	1	0	59	16	56	3	41	0	0	0	448
5:45 PM	45	168	5	1	64	18	66	2	23	1	0	0	393
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	406	2078	11	3	856	159	632	13	463	1	0	1	4623
APPROACH %'s :	16.27%	83.29%	0.44%	0.29%	84.09%	15.62%	57.04%	1.17%	41.79%	50.00%	0.00%	50.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	181	824	3	0	295	59	248	6	175	0	0	0	1791
PEAK HR FACTOR :		0.923			0.876			0.925			0.000		0.943

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	87	65	0	81
BIKES	59	75	26	85
BUSES	210	5	0	36

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	141	7.45	132	8.30	0	0.00	360	7.45
PM PK 15 MIN	235	17.15	138	16.30	0	0.00	303	17.45
AM PK HOUR	525	8.30	481	8.15	0	0.00	1376	7.00
PM PK HOUR	843	17.00	516	16.00	0	0.00	1080	16.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	91	368	0	459
8-9	103	402	0	505
9-10	32	462	0	494
15-16	22	491	0	513
16-17	84	620	0	704
17-18	87	756	0	843
TOTAL	419	3099	0	3518

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	218	112	330
8-9	0	297	164	461
9-10	0	84	358	442
15-16	0	132	241	373
16-17	0	364	152	516
17-18	0	372	89	461
TOTAL	0	1467	1116	2583

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
789	28	14	31	5
966	85	22	64	3
936	130	5	84	1
886	183	97	125	12
1220	150	39	117	8
1304	91	60	104	10
6101	667	237	525	39

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	20	1302	54	1376
8-9	24	1174	71	1269
9-10	30	544	44	618
15-16	25	570	77	672
16-17	45	919	116	1080
17-18	47	822	164	1033
TOTAL	191	5331	526	6048

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1376	37	12	63	3
1269	73	19	97	2
618	99	3	150	6
672	100	18	205	36
1080	160	28	179	32
1033	99	48	161	17
6048	568	128	855	96

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-010

Day: Thursday

TOTALS

City: Los Angeles

Date: 3/23/2017

AM

NS/EW Streets:	Broadway			Broadway			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	0	0	0	1	3	0	
7:00 AM	26	76	0	0	48	28	0	0	0	3	320	7	508
7:15 AM	17	83	0	0	59	30	0	0	0	6	326	21	542
7:30 AM	18	98	0	0	58	28	0	0	0	3	318	12	535
7:45 AM	30	111	0	0	53	26	0	0	0	8	338	14	580
8:00 AM	23	94	0	0	72	34	0	0	0	7	285	14	529
8:15 AM	19	97	0	0	76	29	0	0	0	4	332	17	574
8:30 AM	32	102	0	0	81	51	0	0	0	7	281	14	568
8:45 AM	29	109	0	0	68	50	0	0	0	6	276	26	564
9:00 AM	24	100	0	0	77	49	0	0	0	7	198	18	473
9:15 AM	4	125	0	0	7	94	0	0	0	4	120	8	362
9:30 AM	3	114	0	0	0	101	0	0	0	10	121	11	360
9:45 AM	1	123	0	0	0	114	0	0	0	9	105	7	359
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	226	1232	0	0	599	634	0	0	0	74	3020	169	5954
APPROACH %'s :	15.50%	84.50%	0.00%	0.00%	48.58%	51.42%	#DIV/0!	#DIV/0!	#DIV/0!	2.27%	92.55%	5.18%	
PEAK HR START TIME :	745 AM												TOTAL
PEAK HR VOL :	104	404	0	0	282	140	0	0	0	26	1236	59	2251
PEAK HR FACTOR :		0.901			0.799			0.000			0.917		0.970

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-010

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	1	0	0	0	1	3	0	
3:00 PM	0	117	0	0	0	70	0	0	0	2	126	15	330
3:15 PM	0	137	0	0	0	90	0	0	0	6	117	12	362
3:30 PM	3	125	0	0	52	55	0	0	0	13	114	22	384
3:45 PM	19	112	0	0	80	26	0	0	0	4	213	28	482
4:00 PM	22	150	0	0	92	35	0	0	0	6	227	33	565
4:15 PM	22	147	0	0	103	25	0	0	0	10	230	31	568
4:30 PM	21	158	0	0	93	45	0	0	0	15	219	26	577
4:45 PM	19	165	0	0	76	47	0	0	0	14	243	26	590
5:00 PM	23	169	0	0	97	30	0	0	0	22	199	45	585
5:15 PM	19	216	0	0	106	21	0	0	0	12	157	35	566
5:30 PM	17	201	0	0	88	23	0	0	0	8	202	50	589
5:45 PM	28	170	0	0	81	15	0	0	0	5	264	34	597
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	193	1867	0	0	868	482	0	0	0	117	2311	357	6195
APPROACH %'s :	9.37%	90.63%	0.00%	0.00%	64.30%	35.70%	#DIV/0!	#DIV/0!	#DIV/0!	4.20%	82.98%	12.82%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	87	756	0	0	372	89	0	0	0	47	822	164	2337
PEAK HR FACTOR :		0.897			0.907			0.000			0.852		0.979

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Broadway

East/West 4th St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	123	59	149	0
BIKES	102	102	73	27
BUSES	214	2	47	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	150	7.45	84	9.00	270	8.15	0	0.00
PM PK 15 MIN	255	17.15	127	17.15	365	17.15	0	0.00
AM PK HOUR	547	8.15	309	8.15	1058	8.15	0	0.00
PM PK HOUR	898	17.00	425	16.30	1413	16.30	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	423	68	491
8-9	0	435	90	525
9-10	0	417	116	533
15-16	0	457	149	606
16-17	0	622	142	764
17-18	0	739	159	898
TOTAL	0	3093	724	3817

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	2	232	0	234
8-9	2	302	0	304
9-10	0	126	0	126
15-16	2	161	0	163
16-17	3	395	0	398
17-18	5	410	0	415
TOTAL	14	1626	0	1640

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
725	91	0	146	1
829	193	0	185	0
659	130	0	172	0
769	222	0	218	0
1162	218	0	268	3
1313	155	0	301	11
5457	1009	0	1290	15

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	66	634	60	760
8-9	89	856	69	1014
9-10	95	722	121	938
15-16	69	833	88	990
16-17	97	1145	96	1338
17-18	101	1158	98	1357
TOTAL	517	5348	532	6397

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
760	116	0	82	1
1014	200	1	124	0
938	261	1	160	0
990	328	0	238	3
1338	344	0	229	4
1357	323	5	237	16
6397	1572	7	1070	24

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-021 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Broadway			Broadway			4th St			4th St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	0	0	4	0	0	0	0	
7:00 AM	0	92	16	0	52	0	18	120	14	0	0	0	312
7:15 AM	0	97	16	0	59	0	7	147	10	0	0	0	336
7:30 AM	0	106	14	0	60	0	22	169	14	0	0	0	385
7:45 AM	0	128	22	2	61	0	19	198	22	0	0	0	452
8:00 AM	0	93	26	0	79	0	16	193	11	0	0	0	418
8:15 AM	0	101	27	0	80	0	25	225	20	0	0	0	478
8:30 AM	0	125	18	1	80	0	20	224	18	0	0	0	486
8:45 AM	0	116	19	1	63	0	28	214	20	0	0	0	461
9:00 AM	0	112	29	0	84	0	29	213	22	0	0	0	489
9:15 AM	0	100	28	0	21	0	23	178	37	0	0	0	387
9:30 AM	0	103	22	0	12	0	23	166	27	0	0	0	353
9:45 AM	0	102	37	0	9	0	20	165	35	0	0	0	368
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1275	274	4	660	0	250	2212	250	0	0	0	4925
APPROACH %'s :	0.00%	82.31%	17.69%	0.60%	99.40%	0.00%	9.22%	81.56%	9.22%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	454	93	2	307	0	102	876	80	0	0	0	1914
PEAK HR FACTOR :		0.956			0.920			0.980			0.000		0.979

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-021

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Broadway			Broadway			4th St			4th St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	1	0	0	4	0	0	0	0	
3:00 PM	0	124	56	0	5	0	19	199	14	0	0	0	417
3:15 PM	0	109	26	0	10	0	11	209	26	0	0	0	391
3:30 PM	0	110	36	2	63	0	16	210	21	0	0	0	458
3:45 PM	0	114	31	0	83	0	23	215	27	0	0	0	493
4:00 PM	0	157	39	1	94	0	22	253	28	0	0	0	594
4:15 PM	0	146	33	0	113	0	20	295	23	0	0	0	630
4:30 PM	0	149	25	2	99	0	34	305	19	0	0	0	633
4:45 PM	0	170	45	0	89	0	21	292	26	0	0	0	643
5:00 PM	0	163	41	1	107	0	28	296	27	0	0	0	663
5:15 PM	0	219	36	1	126	0	29	318	18	0	0	0	747
5:30 PM	0	187	35	3	95	0	22	271	22	0	0	0	635
5:45 PM	0	170	47	0	82	0	22	273	31	0	0	0	625
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	1818	450	10	966	0	267	3136	282	0	0	0	6929
APPROACH %'s :	0.00%	80.16%	19.84%	1.02%	98.98%	0.00%	7.25%	85.10%	7.65%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	739	157	5	417	0	100	1177	93	0	0	0	2688
PEAK HR FACTOR :		0.878			0.831			0.938			0.000		0.900

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West Aliso St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	10	114	82	0
BIKES	9	111	2	0
BUSES	393	632	24	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	16	8.15	346	8.15	126	9.15	0	0.00
PM PK 15 MIN	25	16.15	156	16.45	193	16.45	0	0.00
AM PK HOUR	57	7.00	1274	8.15	479	8.30	0	0.00
PM PK HOUR	97	16.15	569	15.15	673	16.00	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	36	21	57
8-9	0	30	21	51
9-10	0	29	23	52
15-16	0	26	32	58
16-17	0	39	53	92
17-18	0	34	59	93
TOTAL	0	194	209	403

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	113	937	0	1050
8-9	158	1114	0	1272
9-10	131	914	0	1045
15-16	109	457	0	566
16-17	131	420	0	551
17-18	112	416	0	528
TOTAL	754	4258	0	5012

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1107	30	2	0	0
1323	35	2	0	0
1097	25	1	0	0
624	21	0	0	0
643	38	3	0	0
621	45	0	0	0
5415	194	8	0	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	228	104	332
8-9	0	277	156	433
9-10	1	316	132	449
15-16	0	570	26	596
16-17	0	625	48	673
17-18	0	544	44	588
TOTAL	1	2560	510	3071

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
332	49	2	20	0
433	43	2	28	0
449	55	1	34	0
596	41	1	28	1
673	64	0	53	1
588	31	9	36	0
3071	283	15	199	2

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-023

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			Aliso St			Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	3	0	0	3	0	0	0	0	
7:00 AM	0	9	5	20	211	0	0	45	26	0	0	0	316
7:15 AM	0	10	3	24	230	0	0	47	24	0	0	0	338
7:30 AM	0	8	7	34	246	0	0	75	24	0	0	0	394
7:45 AM	0	9	6	35	250	0	0	61	30	0	0	0	391
8:00 AM	0	6	5	42	252	0	0	67	30	0	0	0	402
8:15 AM	0	10	6	40	306	0	0	57	43	0	0	0	462
8:30 AM	0	7	7	43	260	0	0	83	42	0	0	0	442
8:45 AM	0	7	3	33	296	0	0	70	41	0	0	0	450
9:00 AM	0	10	5	39	257	0	0	76	41	0	0	0	428
9:15 AM	0	5	7	23	222	0	1	86	39	0	0	0	383
9:30 AM	0	9	5	31	209	0	0	70	25	0	0	0	349
9:45 AM	0	5	6	38	226	0	0	84	27	0	0	0	386
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	95	65	402	2965	0	1	821	392	0	0	0	4741
APPROACH %'s :	0.00%	59.38%	40.63%	11.94%	88.06%	0.00%	0.08%	67.63%	32.29%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	34	21	155	1119	0	0	286	167	0	0	0	1782
PEAK HR FACTOR :		0.859			0.921			0.906			0.000		0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-023

Day: Thursday

TOTALS

City: Los Angeles

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			Aliso St			Aliso St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	1	3	0	0	3	0	0	0	0	
3:00 PM	0	4	7	27	105	0	0	149	9	0	0	0	301
3:15 PM	0	8	10	31	116	0	0	144	6	0	0	0	315
3:30 PM	0	7	7	30	113	0	0	151	5	0	0	0	313
3:45 PM	0	7	8	21	123	0	0	126	6	0	0	0	291
4:00 PM	0	7	11	46	89	0	0	140	10	0	0	0	303
4:15 PM	0	11	14	31	101	0	0	140	5	0	0	0	302
4:30 PM	0	9	15	29	99	0	0	172	13	0	0	0	337
4:45 PM	0	12	13	25	131	0	0	173	20	0	0	0	374
5:00 PM	0	9	14	37	97	0	0	122	7	0	0	0	286
5:15 PM	0	9	16	34	110	0	0	130	11	0	0	0	310
5:30 PM	0	8	15	24	110	0	0	150	17	0	0	0	324
5:45 PM	0	8	14	17	99	0	0	142	9	0	0	0	289
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	99	144	352	1293	0	0	1739	118	0	0	0	3745
APPROACH %'s :	0.00%	40.74%	59.26%	21.40%	78.60%	0.00%	0.00%	93.65%	6.35%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	400 PM												TOTAL
PEAK HR VOL :	0	39	53	131	420	0	0	625	48	0	0	0	1316
PEAK HR FACTOR :		0.920			0.883			0.872			0.000		0.880

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West Temple St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	6	86	95	90
BIKES	7	108	14	15
BUSES	395	634	105	173

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	17	7.30	355	8.45	198	8.15	264	7.00
PM PK 15 MIN	25	16.15	151	16.45	251	16.30	280	15.00
AM PK HOUR	60	7.00	1190	8.15	716	7.45	979	7.00
PM PK HOUR	99	16.15	567	16.45	969	16.30	1024	15.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	59	1	60
8-9	0	51	0	51
9-10	0	49	0	49
15-16	0	56	0	56
16-17	0	91	0	91
17-18	0	93	1	94
TOTAL	0	399	2	401

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	42	725	139	906
8-9	76	887	184	1147
9-10	53	721	178	952
15-16	41	349	95	485
16-17	38	392	74	504
17-18	49	363	120	532
TOTAL	299	3437	790	4526

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
966	162	0	183	2
1198	262	1	154	4
1001	210	2	114	3
541	152	0	103	9
595	237	0	173	5
626	187	1	123	8
4927	1210	4	850	31

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	454	143	597
8-9	0	517	173	690
9-10	0	524	149	673
15-16	0	676	51	727
16-17	0	843	83	926
17-18	0	850	63	913
TOTAL	0	3864	662	4526

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	51	928	0	979
8-9	65	780	0	845
9-10	78	848	0	926
15-16	52	971	1	1024
16-17	61	826	0	887
17-18	45	952	0	997
TOTAL	352	5305	1	5658

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1576	230	0	105	2
1535	157	4	104	0
1599	142	0	91	1
1751	97	1	67	1
1813	139	2	121	1
1910	97	0	87	1
10184	862	7	575	6

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-018

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	3	1	0	2	0	1	2	0	
7:00 AM	0	13	0	6	168	36	0	97	23	12	252	0	607
7:15 AM	0	14	0	8	154	29	0	109	40	6	244	0	604
7:30 AM	0	16	1	15	202	34	0	111	31	21	233	0	664
7:45 AM	0	16	0	13	201	40	0	137	49	12	199	0	667
8:00 AM	0	10	0	11	177	38	0	117	39	18	220	0	630
8:15 AM	0	16	0	19	255	53	0	156	42	16	191	0	748
8:30 AM	0	15	0	15	193	31	0	123	53	17	179	0	626
8:45 AM	0	10	0	31	262	62	0	121	39	14	190	0	729
9:00 AM	0	14	0	8	207	54	0	132	32	21	182	0	650
9:15 AM	0	11	0	19	164	36	0	129	43	18	226	0	646
9:30 AM	0	15	0	11	170	40	0	123	35	26	220	0	640
9:45 AM	0	9	0	15	180	48	0	140	39	13	220	0	664
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	159	1	171	2333	501	0	1495	465	194	2556	0	7875
APPROACH %'s :	0.00%	99.38%	0.63%	5.69%	77.64%	16.67%	0.00%	76.28%	23.72%	7.05%	92.95%	0.00%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	55	0	73	917	200	0	532	166	68	742	0	2753
PEAK HR FACTOR :		0.859			0.838			0.881			0.978		0.920

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-018

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	2	0	0	3	1	0	2	0	1	2	0	
3:00 PM	0	11	0	14	80	23	0	155	13	11	269	0	576
3:15 PM	0	17	0	11	88	25	0	146	15	12	247	1	562
3:30 PM	0	13	0	9	90	22	0	187	9	19	240	0	589
3:45 PM	0	15	0	7	91	25	0	188	14	10	215	0	565
4:00 PM	0	17	0	9	86	14	0	195	18	11	212	0	562
4:15 PM	0	25	0	7	98	13	0	208	23	14	216	0	604
4:30 PM	0	25	0	9	93	24	0	226	25	19	197	0	618
4:45 PM	0	24	0	13	115	23	0	214	17	17	201	0	624
5:00 PM	0	24	1	19	90	34	0	222	19	10	206	0	625
5:15 PM	0	24	0	11	88	30	0	237	9	8	246	0	653
5:30 PM	0	23	0	11	103	30	0	195	16	11	257	0	646
5:45 PM	0	22	0	8	82	26	0	196	19	16	243	0	612
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	240	1	128	1104	289	0	2369	197	158	2749	1	7236
APPROACH %'s :	0.00%	99.59%	0.41%	8.42%	72.58%	19.00%	0.00%	92.32%	7.68%	5.43%	94.53%	0.03%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	95	1	54	396	117	0	868	61	46	910	0	2548
PEAK HR FACTOR :		0.960			0.939			0.944			0.892		0.975

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	82	144	135
BIKES	15	124	88	69
BUSES	0	700	546	150

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	334	8.15	215	8.45	281	7.15
PM PK 15 MIN	0	0.00	139	16.15	356	17.00	243	17.15
AM PK HOUR	0	0.00	1225	8.15	809	8.30	1024	7.00
PM PK HOUR	0	0.00	494	15.45	1369	16.30	890	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	42	673	252	967
8-9	94	823	273	1190
9-10	101	663	250	1014
15-16	52	270	122	444
16-17	42	267	172	481
17-18	35	205	142	382
TOTAL	366	2901	1211	4478

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
967	185	4	105	0
1190	237	16	112	0
1014	252	18	131	0
444	294	17	95	1
481	267	18	133	0
382	281	19	124	0
4478	1516	92	700	1

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	54	426	130	610
8-9	51	573	172	796
9-10	48	562	168	778
15-16	59	865	122	1046
16-17	87	1061	103	1251
17-18	92	1109	127	1328
TOTAL	391	4596	822	5809

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	70	952	2	1024
8-9	91	895	2	988
9-10	89	865	1	955
15-16	89	693	0	782
16-17	78	723	0	801
17-18	45	845	0	890
TOTAL	462	4973	5	5440

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1634	136	0	80	0
1784	149	2	111	1
1733	143	2	121	5
1828	80	1	109	1
2052	129	1	142	2
2218	119	1	133	7
11249	756	7	696	16

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-002

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	3	1	1	3	0	1	2	0	
7:00 AM	0	0	0	4	144	55	13	75	16	16	242	0	565
7:15 AM	0	0	0	10	139	58	12	100	33	18	262	1	633
7:30 AM	0	0	0	14	177	70	15	122	34	18	222	1	673
7:45 AM	0	0	0	14	213	69	14	129	47	18	226	0	730
8:00 AM	0	0	0	29	161	71	13	134	44	31	217	2	702
8:15 AM	0	0	0	20	245	69	13	140	35	19	204	0	745
8:30 AM	0	0	0	19	198	62	14	146	42	24	244	0	749
8:45 AM	0	0	0	26	219	71	11	153	51	17	230	0	778
9:00 AM	0	0	0	36	193	67	13	137	53	19	200	0	718
9:15 AM	0	0	0	16	168	65	11	145	33	22	213	1	674
9:30 AM	0	0	0	23	146	56	13	139	44	24	221	0	666
9:45 AM	0	0	0	26	156	62	11	141	38	24	231	0	689
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	237	2159	775	153	1561	470	250	2712	5	8322
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	7.47%	68.09%	24.44%	7.01%	71.47%	21.52%	8.43%	91.41%	0.17%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	0	0	101	855	269	51	576	181	79	878	0	2990
PEAK HR FACTOR :		0.000			0.917			0.940			0.893		0.961

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-002

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	3	1	1	3	0	1	2	0	
3:00 PM	0	0	0	8	63	22	14	195	28	24	167	0	521
3:15 PM	0	0	0	13	68	31	12	216	32	14	164	0	550
3:30 PM	0	0	0	13	64	34	15	229	27	21	194	0	597
3:45 PM	0	0	0	18	75	35	18	225	35	30	168	0	604
4:00 PM	0	0	0	6	68	38	14	235	21	20	178	0	580
4:15 PM	0	0	0	16	82	41	26	256	26	18	185	0	650
4:30 PM	0	0	0	9	50	56	24	272	27	22	166	0	626
4:45 PM	0	0	0	11	67	37	23	298	29	18	194	0	677
5:00 PM	0	0	0	6	57	42	22	290	44	10	186	0	657
5:15 PM	0	0	0	11	43	31	23	289	28	15	228	0	668
5:30 PM	0	0	0	14	48	40	25	266	31	10	213	0	647
5:45 PM	0	0	0	4	57	29	22	264	24	10	218	0	628
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	129	742	436	238	3035	352	212	2261	0	7405
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	9.87%	56.77%	33.36%	6.57%	83.72%	9.71%	8.57%	91.43%	0.00%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	0	0	0	42	215	150	93	1143	132	53	821	0	2649
PEAK HR FACTOR :		0.000			0.885			0.961			0.899		0.978

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	89	0	15
BIKES	14	147	7	34
BUSES	0	368	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	274	8.45	0	0.00	53	8.45
PM PK 15 MIN	0	0.00	147	16.45	0	0.00	48	17.30
AM PK HOUR	0	0.00	1049	8.15	0	0.00	196	8.45
PM PK HOUR	0	0.00	542	16.30	0	0.00	136	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	14	788	0	802
8-9	32	971	0	1003
9-10	32	846	0	878
15-16	33	433	0	466
16-17	48	473	0	521
17-18	60	424	0	484
TOTAL	219	3935	0	4154

TOTAL

N-S
802
1003
878
466
521
484
4154

XING S/L

Ped	Sch
36	0
64	0
48	1
82	0
73	0
86	0
389	1

XING N/L

Ped	Sch
50	0
68	0
46	0
76	0
45	0
51	0
336	0

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	121	0	0	121
8-9	157	0	0	157
9-10	192	0	0	192
15-16	125	0	0	125
16-17	94	0	0	94
17-18	136	0	0	136
TOTAL	825	0	0	825

TOTAL

E-W
121
157
192
125
94
136
825

XING W/L

Ped	Sch
0	0
0	0
0	0
0	0
0	0
0	0
0	0

XING E/L

Ped	Sch
78	0
115	0
112	0
108	1
124	0
142	0
679	1

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-001

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	2	0	0	0	0	1	0	0	
7:00 AM	0	0	0	5	177	0	0	0	0	25	0	0	207
7:15 AM	0	0	0	0	169	0	0	0	0	32	0	0	201
7:30 AM	0	0	0	4	224	0	0	0	0	38	0	0	266
7:45 AM	0	0	0	5	218	0	0	0	0	26	0	0	249
8:00 AM	0	0	0	5	197	0	0	0	0	32	0	0	234
8:15 AM	0	0	0	9	262	0	0	0	0	29	0	0	300
8:30 AM	0	0	0	12	244	0	0	0	0	43	0	0	299
8:45 AM	0	0	0	6	268	0	0	0	0	53	0	0	327
9:00 AM	0	0	0	9	239	0	0	0	0	48	0	0	296
9:15 AM	0	0	0	5	216	0	0	0	0	44	0	0	265
9:30 AM	0	0	0	8	185	0	0	0	0	51	0	0	244
9:45 AM	0	0	0	10	206	0	0	0	0	49	0	0	265
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	78	2605	0	0	0	0	470	0	0	3153
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	2.91%	97.09%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	0	0	36	1013	0	0	0	0	173	0	0	1222
PEAK HR FACTOR :		0.000			0.957			0.000			0.816		0.934

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-001

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	2	0	0	0	0	1	0	0	
3:00 PM	0	0	0	10	112	0	0	0	0	26	0	0	148
3:15 PM	0	0	0	11	117	0	0	0	0	30	0	0	158
3:30 PM	0	0	0	7	96	0	0	0	0	32	0	0	135
3:45 PM	0	0	0	5	108	0	0	0	0	37	0	0	150
4:00 PM	0	0	0	12	110	0	0	0	0	33	0	0	155
4:15 PM	0	0	0	9	114	0	0	0	0	20	0	0	143
4:30 PM	0	0	0	12	117	0	0	0	0	20	0	0	149
4:45 PM	0	0	0	15	132	0	0	0	0	21	0	0	168
5:00 PM	0	0	0	16	121	0	0	0	0	20	0	0	157
5:15 PM	0	0	0	20	109	0	0	0	0	26	0	0	155
5:30 PM	0	0	0	9	90	0	0	0	0	48	0	0	147
5:45 PM	0	0	0	15	104	0	0	0	0	42	0	0	161
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	141	1330	0	0	0	0	355	0	0	1826
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	9.59%	90.41%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	100.00%	0.00%	0.00%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	63	479	0	0	0	0	87	0	0	629
PEAK HR FACTOR :		0.000			0.922			0.000			0.837		0.936

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	83	0	99
BIKES	27	169	26	100
BUSES	0	368	0	42

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	265	8.45	0	0.00	430	7.45
PM PK 15 MIN	0	0.00	194	17.30	0	0.00	302	16.30
AM PK HOUR	0	0.00	976	8.15	0	0.00	1602	7.00
PM PK HOUR	0	0.00	739	16.45	0	0.00	1130	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	584	160	744
8-9	0	698	233	931
9-10	0	684	152	836
15-16	0	478	139	617
16-17	0	553	158	711
17-18	0	515	211	726
TOTAL	0	3512	1053	4565

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
744	45	5	46	12
931	80	3	94	6
836	77	9	66	13
617	81	8	93	15
711	83	12	90	9
726	99	5	101	9
4565	465	42	490	64

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	405	1197	0	1602
8-9	421	1018	0	1439
9-10	490	432	0	922
15-16	353	472	0	825
16-17	255	844	0	1099
17-18	331	735	0	1066
TOTAL	2255	4698	0	6953

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1602	61	6	61	21
1439	77	2	108	14
922	61	2	110	10
825	98	0	118	9
1099	105	6	128	19
1066	113	9	134	5
6953	515	25	659	78

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-011

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	3	1	0	0	0	1	2	0	
7:00 AM	0	0	0	0	133	29	0	0	0	88	297	0	547
7:15 AM	0	0	0	0	136	34	0	0	0	98	320	0	588
7:30 AM	0	0	0	0	166	49	0	0	0	98	271	0	584
7:45 AM	0	0	0	0	149	48	0	0	0	121	309	0	627
8:00 AM	0	0	0	0	153	42	0	0	0	108	270	0	573
8:15 AM	0	0	0	0	186	51	0	0	0	107	296	0	640
8:30 AM	0	0	0	0	168	66	0	0	0	118	225	0	577
8:45 AM	0	0	0	0	191	74	0	0	0	88	227	0	580
9:00 AM	0	0	0	0	181	59	0	0	0	121	162	0	523
9:15 AM	0	0	0	0	160	36	0	0	0	110	88	0	394
9:30 AM	0	0	0	0	166	39	0	0	0	133	90	0	428
9:45 AM	0	0	0	0	177	18	0	0	0	126	92	0	413
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	1966	545	0	0	0	1316	2647	0	6474
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	78.30%	21.70%	#DIV/0!	#DIV/0!	#DIV/0!	33.21%	66.79%	0.00%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	0	0	0	0	654	190	0	0	0	434	1146	0	2424
PEAK HR FACTOR :		0.000			0.890			0.000			0.919		0.947

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-011

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	3	1	0	0	0	1	2	0	
3:00 PM	0	0	0	0	114	26	0	0	0	93	105	0	338
3:15 PM	0	0	0	0	117	29	0	0	0	84	95	0	325
3:30 PM	0	0	0	0	127	40	0	0	0	104	87	0	358
3:45 PM	0	0	0	0	120	44	0	0	0	72	185	0	421
4:00 PM	0	0	0	0	129	53	0	0	0	54	198	0	434
4:15 PM	0	0	0	0	125	38	0	0	0	52	208	0	423
4:30 PM	0	0	0	0	145	33	0	0	0	90	212	0	480
4:45 PM	0	0	0	0	154	34	0	0	0	59	226	0	473
5:00 PM	0	0	0	0	134	51	0	0	0	90	193	0	468
5:15 PM	0	0	0	0	134	38	0	0	0	100	136	0	408
5:30 PM	0	0	0	0	133	61	0	0	0	85	174	0	453
5:45 PM	0	0	0	0	114	61	0	0	0	56	232	0	463
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	0	1546	508	0	0	0	939	2051	0	5044
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	75.27%	24.73%	#DIV/0!	#DIV/0!	#DIV/0!	31.40%	68.60%	0.00%	
PEAK HR START TIME :	415 PM												TOTAL
PEAK HR VOL :	0	0	0	0	558	156	0	0	0	291	839	0	1844
PEAK HR FACTOR :		0.000			0.949			0.000			0.935		0.960

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Spring St

East/West 4th St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	0	94	154	0
BIKES	19	178	69	28
BUSES	0	374	50	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	0	0.00	269	9.00	227	8.15	0	0.00
PM PK 15 MIN	0	0.00	261	16.45	342	17.15	0	0.00
AM PK HOUR	0	0.00	1062	9.00	879	8.15	0	0.00
PM PK HOUR	0	0.00	1013	16.45	1333	16.30	0	0.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	80	756	0	836
8-9	97	862	0	959
9-10	114	948	0	1062
15-16	153	710	0	863
16-17	193	698	0	891
17-18	164	765	0	929
TOTAL	801	4739	0	5540

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
836	43	5	41	12
959	91	11	76	28
1062	82	8	71	19
863	110	31	98	26
891	117	23	115	7
929	126	13	110	14
5540	569	91	511	106

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	563	94	657
8-9	0	724	140	864
9-10	0	599	180	779
15-16	0	803	181	984
16-17	0	1114	143	1257
17-18	0	1157	165	1322
TOTAL	0	4960	903	5863

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
657	77	8	52	6
864	67	20	74	10
779	93	22	89	10
984	116	66	96	19
1257	119	18	82	7
1322	130	9	110	11
5863	602	143	503	63

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-013

Day: Thursday

TOTALS

City: Los Angeles

Date: 3/23/2017

AM

NS/EW Streets:	Spring St			Spring St			4th St			4th St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	4	0	0	3	0	0	0	0	
7:00 AM	0	0	0	16	179	0	0	101	16	0	0	0	312
7:15 AM	0	0	0	19	185	0	0	130	24	0	0	0	358
7:30 AM	0	0	0	21	199	0	0	148	22	0	0	0	390
7:45 AM	0	0	0	24	193	0	0	184	32	0	0	0	433
8:00 AM	0	0	0	21	198	0	0	178	30	0	0	0	427
8:15 AM	0	0	0	21	233	0	0	193	34	0	0	0	481
8:30 AM	0	0	0	27	216	0	0	186	30	0	0	0	459
8:45 AM	0	0	0	28	215	0	0	167	46	0	0	0	456
9:00 AM	0	0	0	38	231	0	0	175	48	0	0	0	492
9:15 AM	0	0	0	23	236	0	0	145	40	0	0	0	444
9:30 AM	0	0	0	29	236	0	0	128	44	0	0	0	437
9:45 AM	0	0	0	24	245	0	0	151	48	0	0	0	468
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	291	2566	0	0	1886	414	0	0	0	5157
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	10.19%	89.81%	0.00%	0.00%	82.00%	18.00%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	815 AM												TOTAL
PEAK HR VOL :	0	0	0	114	895	0	0	721	158	0	0	0	1888
PEAK HR FACTOR :		0.000			0.938			0.968			0.000		0.959

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-013

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Spring St			Spring St			4th St			4th St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	0	0	0	4	0	0	3	0	0	0	0	
3:00 PM	0	0	0	39	166	0	0	188	45	0	0	0	438
3:15 PM	0	0	0	37	171	0	0	203	48	0	0	0	459
3:30 PM	0	0	0	36	209	0	0	209	31	0	0	0	485
3:45 PM	0	0	0	41	164	0	0	203	57	0	0	0	465
4:00 PM	0	0	0	56	144	0	0	233	51	0	0	0	484
4:15 PM	0	0	0	35	154	0	0	294	28	0	0	0	511
4:30 PM	0	0	0	47	194	0	0	297	33	0	0	0	571
4:45 PM	0	0	0	55	206	0	0	290	31	0	0	0	582
5:00 PM	0	0	0	46	205	0	0	298	42	0	0	0	591
5:15 PM	0	0	0	43	216	0	0	311	31	0	0	0	601
5:30 PM	0	0	0	44	198	0	0	275	49	0	0	0	566
5:45 PM	0	0	0	31	146	0	0	273	43	0	0	0	493
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	0	0	0	510	2173	0	0	3074	489	0	0	0	6246
APPROACH %'s :	#DIV/0!	#DIV/0!	#DIV/0!	19.01%	80.99%	0.00%	0.00%	86.28%	13.72%	#DIV/0!	#DIV/0!	#DIV/0!	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	0	0	0	191	821	0	0	1196	137	0	0	0	2345
PEAK HR FACTOR :		0.000			0.969			0.974			0.000		0.975

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Main St

East/West Temple St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	201	0	97	88
BIKES	103	28	13	13
BUSES	192	0	90	154

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	155	9.30	0	0.00	167	8.15	251	7.00
PM PK 15 MIN	476	17.15	0	0.00	245	17.00	263	17.15
AM PK HOUR	596	8.00	0	0.00	604	8.15	933	7.00
PM PK HOUR	1805	17.00	0	0.00	953	16.30	906	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	76	316	110	502
8-9	100	386	110	596
9-10	108	371	98	577
15-16	211	851	107	1169
16-17	232	1215	102	1549
17-18	271	1425	109	1805
TOTAL	998	4564	636	6198

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
502	107	3	90	1
596	207	1	74	0
577	168	9	90	0
1169	109	2	90	0
1549	189	2	61	1
1805	136	4	64	2
6198	916	21	469	4

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	53	440	0	493
8-9	67	524	0	591
9-10	74	507	0	581
15-16	102	616	0	718
16-17	112	764	0	876
17-18	148	751	0	899
TOTAL	556	3602	0	4158

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	894	39	933
8-9	0	740	62	802
9-10	0	826	82	908
15-16	0	808	89	897
16-17	0	673	152	825
17-18	0	742	164	906
TOTAL	0	4683	588	5271

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1426	55	1	77	0
1393	70	0	83	1
1489	50	1	93	2
1615	47	1	89	7
1701	45	3	150	6
1805	75	2	101	6
9429	342	8	593	22

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-019

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Main St			Main St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	5	0	0	0	0	1	2	0	0	2	0	
7:00 AM	16	72	31	0	0	0	12	93	0	0	242	9	475
7:15 AM	20	74	23	0	0	0	12	104	0	0	226	9	468
7:30 AM	24	90	27	0	0	0	14	102	0	0	231	8	496
7:45 AM	16	80	29	0	0	0	15	141	0	0	195	13	489
8:00 AM	28	83	35	0	0	0	15	114	0	0	220	8	503
8:15 AM	26	105	21	0	0	0	14	153	0	0	165	13	497
8:30 AM	29	87	31	0	0	0	22	124	0	0	177	23	493
8:45 AM	17	111	23	0	0	0	16	133	0	0	178	18	496
9:00 AM	20	95	24	0	0	0	20	122	0	0	186	19	486
9:15 AM	29	85	27	0	0	0	18	131	0	0	215	16	521
9:30 AM	33	100	22	0	0	0	18	122	0	0	217	24	536
9:45 AM	26	91	25	0	0	0	18	132	0	0	208	23	523
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	284	1073	318	0	0	0	194	1471	0	0	2460	183	5983
APPROACH %'s :	16.96%	64.06%	18.99%	#DIV/0!	#DIV/0!	#DIV/0!	11.65%	88.35%	0.00%	0.00%	93.08%	6.92%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	108	371	98	0	0	0	74	507	0	0	826	82	2066
PEAK HR FACTOR :		0.931			0.000			0.968			0.942		0.964

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-019

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			Temple St			Temple St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	5	0	0	0	0	1	2	0	0	2	0	
3:00 PM	53	188	30	0	0	0	25	147	0	0	223	20	686
3:15 PM	65	170	32	0	0	0	21	135	0	0	213	20	656
3:30 PM	48	220	19	0	0	0	29	165	0	0	198	30	709
3:45 PM	45	273	26	0	0	0	27	169	0	0	174	19	733
4:00 PM	55	242	24	0	0	0	22	176	0	0	166	32	717
4:15 PM	63	294	29	0	0	0	37	177	0	0	184	22	806
4:30 PM	55	355	29	0	0	0	27	213	0	0	140	58	877
4:45 PM	59	324	20	0	0	0	26	198	0	0	183	40	850
5:00 PM	65	362	31	0	0	0	43	202	0	0	146	33	882
5:15 PM	70	382	24	0	0	0	33	211	0	0	204	59	983
5:30 PM	72	320	28	0	0	0	35	171	0	0	196	39	861
5:45 PM	64	361	26	0	0	0	37	167	0	0	196	33	884
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	714	3491	318	0	0	0	362	2131	0	0	2223	405	9644
APPROACH %'s :	15.79%	77.18%	7.03%	#DIV/0!	#DIV/0!	#DIV/0!	14.52%	85.48%	0.00%	0.00%	84.59%	15.41%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	271	1425	109	0	0	0	148	751	0	0	742	164	3610
PEAK HR FACTOR :		0.948			0.000			0.917			0.861		0.918

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Main St

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	200	0	137	139
BIKES	110	24	75	64
BUSES	181	0	147	152

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	178	9.30	0	0.00	187	8.00	239	7.00
PM PK 15 MIN	489	17.15	0	0.00	318	17.00	222	17.45
AM PK HOUR	662	7.30	0	0.00	653	8.00	899	7.00
PM PK HOUR	1782	16.30	0	0.00	1200	16.45	811	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	224	373	31	628
8-9	171	421	49	641
9-10	213	389	52	654
15-16	237	938	99	1274
16-17	193	1284	98	1575
17-18	246	1428	82	1756
TOTAL	1284	4833	411	6528

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
628	209	2	133	5
641	268	0	136	8
654	278	0	169	2
1274	300	3	183	11
1575	308	2	207	3
1756	264	0	150	15
6528	1627	7	978	44

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	68	457	0	525
8-9	103	550	0	653
9-10	101	530	0	631
15-16	128	791	0	919
16-17	169	909	0	1078
17-18	164	1016	0	1180
TOTAL	733	4253	0	4986

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	831	68	899
8-9	0	753	88	841
9-10	0	797	97	894
15-16	0	591	87	678
16-17	0	592	115	707
17-18	0	613	198	811
TOTAL	0	4177	653	4830

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1424	77	1	147	0
1494	95	0	191	0
1525	131	4	243	0
1597	120	9	186	1
1785	147	0	206	1
1991	105	0	139	2
9816	675	14	1112	4

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-006

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

AM

NS/EW Streets:	Main St			Main St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	1	2	0	0	3	0	
7:00 AM	44	85	3	0	0	0	15	79	0	0	218	21	465
7:15 AM	48	83	14	0	0	0	19	107	0	0	205	19	495
7:30 AM	68	104	5	0	0	0	22	129	0	0	212	12	552
7:45 AM	64	101	9	0	0	0	12	142	0	0	196	16	540
8:00 AM	46	102	8	0	0	0	27	160	0	0	195	18	556
8:15 AM	36	108	11	0	0	0	30	128	0	0	171	19	503
8:30 AM	42	107	12	0	0	0	21	130	0	0	199	24	535
8:45 AM	47	104	18	0	0	0	25	132	0	0	188	27	541
9:00 AM	53	83	15	0	0	0	25	124	0	0	189	32	521
9:15 AM	51	94	15	0	0	0	29	124	0	0	191	24	528
9:30 AM	57	107	14	0	0	0	27	138	0	0	208	24	575
9:45 AM	52	105	8	0	0	0	20	144	0	0	209	17	555
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	608	1183	132	0	0	0	272	1537	0	0	2381	253	6366
APPROACH %'s :	31.62%	61.52%	6.86%	#DIV/0!	#DIV/0!	#DIV/0!	15.04%	84.96%	0.00%	0.00%	90.39%	9.61%	
PEAK HR START TIME :	900 AM												TOTAL
PEAK HR VOL :	213	389	52	0	0	0	101	530	0	0	797	97	2179
PEAK HR FACTOR :		0.919			0.000			0.956			0.963		0.947

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-006

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	1	2	0	0	3	0	
3:00 PM	71	218	20	0	0	0	36	197	0	0	143	16	701
3:15 PM	45	210	26	0	0	0	22	185	0	0	142	21	651
3:30 PM	66	245	18	0	0	0	34	206	0	0	146	23	738
3:45 PM	55	265	35	0	0	0	36	203	0	0	160	27	781
4:00 PM	41	285	25	0	0	0	40	181	0	0	145	17	734
4:15 PM	33	313	26	0	0	0	46	250	0	0	147	27	842
4:30 PM	49	356	21	0	0	0	35	237	0	0	147	35	880
4:45 PM	70	330	26	0	0	0	48	241	0	0	153	36	904
5:00 PM	50	368	23	0	0	0	42	276	0	0	136	51	946
5:15 PM	69	392	28	0	0	0	40	252	0	0	154	54	989
5:30 PM	67	320	17	0	0	0	46	255	0	0	163	31	899
5:45 PM	60	348	14	0	0	0	36	233	0	0	160	62	913
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	676	3650	279	0	0	0	461	2716	0	0	1796	400	9978
APPROACH %'s :	14.68%	79.26%	6.06%	#DIV/0!	#DIV/0!	#DIV/0!	14.51%	85.49%	0.00%	0.00%	81.79%	18.21%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	246	1428	82	0	0	0	164	1016	0	0	613	198	3747
PEAK HR FACTOR :		0.898			0.000			0.928			0.913		0.947

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Main St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	206	0	5	25
BIKES	142	19	23	38
BUSES	181	0	0	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	165	9.45	0	0.00	15	9.00	95	9.30
PM PK 15 MIN	416	17.15	0	0.00	32	17.15	101	17.45
AM PK HOUR	631	7.30	0	0.00	48	9.00	317	8.45
PM PK HOUR	1546	17.00	0	0.00	118	16.30	350	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	18	521	50	589
8-9	32	545	51	628
9-10	35	517	51	603
15-16	28	1054	106	1188
16-17	23	1278	93	1394
17-18	45	1416	85	1546
TOTAL	181	5331	436	5948

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
589	76	0	85	2
628	123	0	117	3
603	90	0	112	1
1188	136	1	140	0
1394	114	1	112	1
1546	121	5	114	2
5948	660	7	680	9

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	12	11	0	23
8-9	18	18	0	36
9-10	26	22	0	48
15-16	25	29	0	54
16-17	35	61	0	96
17-18	37	72	0	109
TOTAL	153	213	0	366

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	113	143	256
8-9	0	128	120	248
9-10	0	165	142	307
15-16	0	94	134	228
16-17	0	78	186	264
17-18	0	100	250	350
TOTAL	0	678	975	1653

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
279	127	1	62	2
284	151	2	118	1
355	174	0	92	0
282	187	3	94	0
360	146	2	71	1
459	131	4	75	1
2019	916	12	512	5

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-005 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Main St			Main St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	0	0	1	1	0	0	1	0	
7:00 AM	4	114	18	0	0	0	3	5	0	0	28	28	200
7:15 AM	4	121	10	0	0	0	2	0	0	0	27	37	201
7:30 AM	6	145	7	0	0	0	4	2	0	0	34	45	243
7:45 AM	4	141	15	0	0	0	3	4	0	0	24	33	224
8:00 AM	11	137	13	0	0	0	3	2	0	0	19	28	213
8:15 AM	3	133	16	0	0	0	7	4	0	0	26	30	219
8:30 AM	4	138	12	0	0	0	5	8	0	0	40	32	239
8:45 AM	14	137	10	0	0	0	3	4	0	0	43	30	241
9:00 AM	8	125	14	0	0	0	9	6	0	0	38	37	237
9:15 AM	8	120	11	0	0	0	4	5	0	0	38	36	222
9:30 AM	6	136	10	0	0	0	8	5	0	0	52	43	260
9:45 AM	13	136	16	0	0	0	5	6	0	0	37	26	239
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	85	1583	152	0	0	0	56	51	0	0	406	405	2738
APPROACH %'s :	4.67%	86.98%	8.35%	#DIV/0!	#DIV/0!	#DIV/0!	52.34%	47.66%	0.00%	0.00%	50.06%	49.94%	
PEAK HR START TIME :	845 AM												TOTAL
PEAK HR VOL :	36	518	45	0	0	0	24	20	0	0	171	146	960
PEAK HR FACTOR :		0.930			0.000			0.733			0.834		0.923

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-005

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	3	0	0	0	0	1	1	0	0	1	0	
3:00 PM	8	258	20	0	0	0	6	8	0	0	18	24	342
3:15 PM	3	230	29	0	0	0	10	8	0	0	24	31	335
3:30 PM	12	274	28	0	0	0	5	8	0	0	22	37	386
3:45 PM	5	292	29	0	0	0	4	5	0	0	30	42	407
4:00 PM	11	288	24	0	0	0	7	13	0	0	26	42	411
4:15 PM	6	314	30	0	0	0	8	11	0	0	13	33	415
4:30 PM	4	351	28	0	0	0	12	17	0	0	19	41	472
4:45 PM	2	325	11	0	0	0	8	20	0	0	20	70	456
5:00 PM	4	358	24	0	0	0	8	21	0	0	16	62	493
5:15 PM	11	388	17	0	0	0	7	25	0	0	19	63	530
5:30 PM	13	334	23	0	0	0	8	16	0	0	41	48	483
5:45 PM	17	336	21	0	0	0	14	10	0	0	24	77	499
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	96	3748	284	0	0	0	97	162	0	0	272	570	5229
APPROACH %'s :	2.33%	90.79%	6.88%	#DIV/0!	#DIV/0!	#DIV/0!	37.45%	62.55%	0.00%	0.00%	32.30%	67.70%	
PEAK HR START TIME :	500 PM												TOTAL
PEAK HR VOL :	45	1416	85	0	0	0	37	72	0	0	100	250	2005
PEAK HR FACTOR :		0.929			0.000			0.852			0.866		0.946

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Main St

East/West 3rd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	189	0	0	110
BIKES	164	17	28	73
BUSES	183	0	0	40

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	186	8.45	0	0.00	0	0.00	458	7.45
PM PK 15 MIN	356	17.00	0	0.00	0	0.00	339	16.45
AM PK HOUR	675	8.00	0	0.00	0	0.00	1668	7.00
PM PK HOUR	1290	16.30	0	0.00	0	0.00	1325	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	154	439	0	593
8-9	152	523	0	675
9-10	111	449	0	560
15-16	168	823	0	991
16-17	169	1029	0	1198
17-18	183	1098	0	1281
TOTAL	937	4361	0	5298

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
593	31	2	21	2
675	48	7	30	3
560	62	6	62	0
991	60	12	66	1
1198	60	7	55	6
1281	95	14	64	7
5298	356	48	298	19

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
15-16	0	0	0	0
16-17	0	0	0	0
17-18	0	0	0	0
TOTAL	0	0	0	0

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1479	189	1668
8-9	0	1298	140	1438
9-10	0	800	185	985
15-16	0	642	262	904
16-17	0	920	316	1236
17-18	0	889	378	1267
TOTAL	0	6028	1470	7498

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1668	24	5	31	1
1438	54	6	30	1
985	53	4	44	2
904	70	10	62	7
1236	60	9	35	7
1267	73	11	58	8
7498	334	45	260	26

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
7:00 AM	20	107	0	0	0	0	0	0	0	0	381	42	550
7:15 AM	41	113	0	0	0	0	0	0	0	0	369	44	567
7:30 AM	52	108	0	0	0	0	0	0	0	0	332	42	534
7:45 AM	41	111	0	0	0	0	0	0	0	0	397	61	610
8:00 AM	32	120	0	0	0	0	0	0	0	0	343	41	536
8:15 AM	40	138	0	0	0	0	0	0	0	0	374	30	582
8:30 AM	34	125	0	0	0	0	0	0	0	0	303	33	495
8:45 AM	46	140	0	0	0	0	0	0	0	0	278	36	500
9:00 AM	30	122	0	0	0	0	0	0	0	0	249	44	445
9:15 AM	20	107	0	0	0	0	0	0	0	0	175	35	337
9:30 AM	25	107	0	0	0	0	0	0	0	0	193	42	367
9:45 AM	36	113	0	0	0	0	0	0	0	0	183	64	396
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	417	1411	0	0	0	0	0	0	0	0	3577	514	5919
APPROACH %'s :	22.81%	77.19%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	87.44%	12.56%	

PEAK HR START TIME :	730 AM												TOTAL
PEAK HR VOL :	165	477	0	0	0	0	0	0	0	0	1446	174	2262
PEAK HR FACTOR :		0.902			0.000			0.000			0.884		0.927

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-012

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Main St			Main St			3rd St			3rd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	4	0	0	0	0	0	0	0	0	3	1	
3:00 PM	41	177	0	0	0	0	0	0	0	0	147	77	442
3:15 PM	38	182	0	0	0	0	0	0	0	0	141	69	430
3:30 PM	47	222	0	0	0	0	0	0	0	0	152	60	481
3:45 PM	42	242	0	0	0	0	0	0	0	0	202	56	542
4:00 PM	35	248	0	0	0	0	0	0	0	0	200	53	536
4:15 PM	36	256	0	0	0	0	0	0	0	0	227	80	599
4:30 PM	55	283	0	0	0	0	0	0	0	0	245	92	675
4:45 PM	43	242	0	0	0	0	0	0	0	0	248	91	624
5:00 PM	53	303	0	0	0	0	0	0	0	0	252	75	683
5:15 PM	38	273	0	0	0	0	0	0	0	0	196	126	633
5:30 PM	52	246	0	0	0	0	0	0	0	0	198	87	583
5:45 PM	40	276	0	0	0	0	0	0	0	0	243	90	649
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	520	2950	0	0	0	0	0	0	0	0	2451	956	6877
APPROACH %'s :	14.99%	85.01%	0.00%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.00%	71.94%	28.06%	
PEAK HR START TIME :	430 PM												TOTAL
PEAK HR VOL :	189	1101	0	0	0	0	0	0	0	0	941	384	2615
PEAK HR FACTOR :		0.906			0.000			0.000			0.977		0.957

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Los Angeles St

East/West 1st St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	117	79	131	98
BIKES	34	50	78	56
BUSES	7	17	139	144

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	139	8.45	278	9.00	175	8.00	197	8.45
PM PK 15 MIN	309	17.45	164	17.15	298	17.00	166	16.45
AM PK HOUR	526	8.15	1058	8.45	605	7.45	757	8.30
PM PK HOUR	1123	17.00	611	16.30	1118	16.45	645	16.15

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	127	318	33	478
8-9	102	358	45	505
9-10	115	355	49	519
15-16	99	817	116	1032
16-17	93	897	109	1099
17-18	182	841	100	1123
TOTAL	718	3586	452	4756

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	79	600	133	812
8-9	82	722	136	940
9-10	87	794	142	1023
15-16	68	339	98	505
16-17	59	408	127	594
17-18	74	366	152	592
TOTAL	449	3229	788	4466

TOTAL

N-S
1290
1445
1542
1537
1693
1715
9222

XING S/L

Ped	Sch
175	11
271	11
354	11
314	14
290	10
267	16
1671	73

XING N/L

Ped	Sch
104	1
79	6
68	1
100	7
109	2
116	3
576	20

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	26	349	101	476
8-9	33	428	134	595
9-10	38	415	134	587
15-16	66	715	107	888
16-17	83	822	87	992
17-18	76	917	104	1097
TOTAL	322	3646	667	4635

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	52	630	45	727
8-9	77	624	42	743
9-10	66	631	55	752
15-16	46	469	69	584
16-17	60	487	73	620
17-18	48	459	69	576
TOTAL	349	3300	353	4002

TOTAL

E-W
1203
1338
1339
1472
1612
1673
8637

XING W/L

Ped	Sch
84	4
78	2
94	0
92	1
61	0
49	2
458	9

XING E/L

Ped	Sch
97	1
169	6
126	5
145	2
102	0
117	4
756	18

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-015 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Los Angeles St			Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
7:00 AM	34	67	8	22	136	32	2	59	16	9	173	5	563
7:15 AM	29	82	7	16	152	36	6	89	26	9	159	13	624
7:30 AM	37	84	7	20	161	27	8	96	27	17	154	15	653
7:45 AM	27	85	11	21	151	38	10	105	32	17	144	12	653
8:00 AM	24	81	11	18	170	30	9	124	42	20	167	6	702
8:15 AM	29	83	10	26	170	35	9	106	22	23	129	14	656
8:30 AM	21	98	9	18	169	37	8	99	39	12	168	7	685
8:45 AM	28	96	15	20	213	34	7	99	31	22	160	15	740
9:00 AM	27	97	13	24	209	45	10	115	34	17	159	20	770
9:15 AM	24	80	8	15	198	36	7	81	36	19	144	14	662
9:30 AM	35	88	15	27	207	30	8	102	37	15	162	8	734
9:45 AM	29	90	13	21	180	31	13	117	27	15	166	13	715
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	344	1031	127	248	2116	411	97	1192	369	195	1885	142	8157
APPROACH %'s :	22.90%	68.64%	8.46%	8.94%	76.25%	14.81%	5.85%	71.89%	22.26%	8.78%	84.83%	6.39%	
PEAK HR START TIME :	845 AM												TOTAL
PEAK HR VOL :	114	361	51	86	827	145	32	397	138	73	625	57	2906
PEAK HR FACTOR :		0.946			0.951			0.892			0.958		0.944

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-015

Day: Thursday

City: Los Angeles

Date: 3/23/2017

TOTALS

PM

NS/EW Streets:	Los Angeles St			Los Angeles St			1st St			1st St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	3	0	1	3	0	1	2	1	
3:00 PM	28	242	33	22	78	22	20	162	27	10	106	14	764
3:15 PM	14	200	28	11	90	30	17	182	21	16	120	16	745
3:30 PM	33	209	30	16	87	24	18	169	29	10	114	21	760
3:45 PM	24	166	25	19	84	22	11	202	30	10	129	18	740
4:00 PM	21	236	30	4	84	28	27	149	24	13	114	11	741
4:15 PM	28	228	18	16	106	34	13	231	28	13	114	25	854
4:30 PM	21	199	34	19	103	37	21	213	16	13	128	23	827
4:45 PM	23	234	27	20	115	28	22	229	19	21	131	14	883
5:00 PM	28	188	21	21	80	24	22	249	27	12	136	15	823
5:15 PM	48	223	33	20	101	43	20	229	29	14	107	13	880
5:30 PM	57	191	25	20	93	33	17	233	22	13	101	26	831
5:45 PM	49	239	21	13	92	52	17	206	26	9	115	15	854
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	374	2555	325	201	1113	377	225	2454	298	154	1415	211	9702
APPROACH %'s :	11.49%	78.52%	9.99%	11.89%	65.82%	22.29%	7.56%	82.43%	10.01%	8.65%	79.49%	11.85%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	156	836	106	81	389	128	81	940	97	60	475	68	3417
PEAK HR FACTOR :		0.903			0.912			0.938			0.908		0.967

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Los Angeles St

East/West 2nd St

Day: Thursday Date: March 23, 2017 Weather: SUNNY

Hours: 7-10 & 3-6 Chekrs: NDS

School Day: YES District: I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	90	71	22	56
BIKES	40	42	50	50
BUSES	7	9	0	12

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	144	8.45	239	9.15	23	9.00	113	7.30
PM PK 15 MIN	304	17.45	170	16.45	44	16.15	102	17.45
AM PK HOUR	556	8.45	934	8.45	80	8.15	401	7.00
PM PK HOUR	1157	17.00	626	16.00	164	16.15	361	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	19	380	39	438
8-9	46	426	53	525
9-10	53	425	56	534
15-16	66	826	83	975
16-17	96	885	88	1069
17-18	138	927	92	1157
TOTAL	418	3869	411	4698

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	58	523	54	635
8-9	83	669	55	807
9-10	100	713	90	903
15-16	82	405	45	532
16-17	83	503	40	626
17-18	91	428	60	579
TOTAL	497	3241	344	4082

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1073	81	5	64	1
1332	90	7	100	4
1437	81	1	111	2
1507	108	14	108	7
1695	105	4	87	0
1736	145	0	106	0
8780	610	31	576	14

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	18	20	23	61
8-9	21	33	19	73
9-10	15	29	33	77
15-16	23	68	50	141
16-17	17	108	31	156
17-18	23	108	25	156
TOTAL	117	366	181	664

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	57	185	159	401
8-9	45	147	128	320
9-10	32	169	112	313
15-16	50	119	94	263
16-17	49	127	103	279
17-18	51	160	150	361
TOTAL	284	907	746	1937

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
462	27	0	53	2
393	44	0	88	9
390	53	1	78	7
404	73	1	59	6
435	40	0	78	4
517	47	0	79	0
2601	284	2	435	28

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-014 **Day:** Thursday

City: Los Angeles **Date:** 3/23/2017

TOTALS

AM

NS/EW Streets:	Los Angeles St			Los Angeles St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	1	1	0	1	1	0	
7:00 AM	3	86	10	10	110	13	4	9	9	12	41	42	349
7:15 AM	5	99	9	12	140	15	1	6	5	14	45	44	395
7:30 AM	6	98	7	18	128	15	7	1	2	13	59	41	395
7:45 AM	5	97	13	18	145	11	6	4	7	18	40	32	396
8:00 AM	12	101	11	22	159	9	5	6	5	10	24	28	392
8:15 AM	7	104	9	22	149	16	6	10	5	15	36	40	419
8:30 AM	14	111	12	17	160	16	5	10	4	10	42	26	427
8:45 AM	13	110	21	22	201	14	5	7	5	10	45	34	487
9:00 AM	11	118	13	26	178	24	3	8	12	11	44	30	478
9:15 AM	16	101	15	29	184	26	2	6	5	7	35	24	450
9:30 AM	18	109	11	19	188	23	6	7	6	8	54	27	476
9:45 AM	8	97	17	26	163	17	4	8	10	6	36	31	423
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	118	1231	148	241	1905	199	54	82	75	134	501	399	5087
APPROACH %'s :	7.88%	82.23%	9.89%	10.28%	81.24%	8.49%	25.59%	38.86%	35.55%	12.96%	48.45%	38.59%	
PEAK HR START TIME :	845 AM												TOTAL
PEAK HR VOL :	58	438	60	96	751	87	16	28	28	36	178	115	1891
PEAK HR FACTOR :		0.965			0.977			0.783			0.924		0.971

CONTROL : Signalized

Intersection Turning Movement

Prepared by:

National Data & Surveying Services

Project ID: 17-5174-014

Day: Thursday

City: Los Angeles

TOTALS

Date: 3/23/2017

PM

NS/EW Streets:	Los Angeles St			Los Angeles St			2nd St			2nd St			
	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	1	1	1	0	1	1	0	
3:00 PM	11	237	22	18	102	10	6	16	8	8	22	29	489
3:15 PM	8	199	24	21	96	15	8	15	17	15	37	24	479
3:30 PM	15	223	18	24	107	11	8	12	16	16	30	24	504
3:45 PM	32	167	19	19	100	9	1	25	9	11	30	17	439
4:00 PM	25	230	19	26	112	11	4	23	9	12	29	21	521
4:15 PM	14	213	18	19	132	7	6	28	10	6	28	32	513
4:30 PM	25	203	25	20	121	8	5	31	5	18	30	30	521
4:45 PM	32	239	26	18	138	14	2	26	7	13	40	20	575
5:00 PM	30	213	24	23	107	12	5	32	7	13	40	30	536
5:15 PM	34	231	27	23	122	13	8	26	6	12	39	39	580
5:30 PM	30	243	21	20	106	18	7	24	10	15	39	32	565
5:45 PM	44	240	20	25	93	17	3	26	2	11	42	49	572
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
TOTAL VOLUMES :	300	2638	263	256	1336	145	63	284	106	150	406	347	6294
APPROACH %'s :	9.37%	82.41%	8.22%	14.74%	76.91%	8.35%	13.91%	62.69%	23.40%	16.61%	44.96%	38.43%	
PEAK HR START TIME :	445 PM												TOTAL
PEAK HR VOL :	126	926	98	84	473	57	22	108	30	53	158	121	2256
PEAK HR FACTOR :		0.968			0.903			0.909			0.922		0.972

CONTROL : Signalized

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Figueroa St

East/West Sunset Blvd

Day: Tuesday Date: 10/17/2017 Weather: SUNNY

Hours: 7 - 10 & 3 - 6 Chekrs: NDS

School Day: Yes I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	107	27	148	128
BIKES	50	30	106	58
BUSES	89	10	75	94

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	220	7.45	183	7.45	396	8.45	336	7.45
PM PK 15 MIN	436	16.15	85	17.45	301	16.15	287	17.45
AM PK HOUR	673	7.15	697	7.15	1485	8.00	1217	7.30
PM PK HOUR	1653	15.30	259	17.00	1190	16.15	1090	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	130	303	220	653
8-9	106	272	204	582
9-10	119	239	183	541
15-16	342	774	316	1432
16-17	371	818	357	1546
17-18	266	656	366	1288
TOTAL	1334	3062	1646	6042

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	64	538	83	685
8-9	56	479	64	599
9-10	70	363	56	489
15-16	40	155	45	240
16-17	41	118	35	194
17-18	58	146	55	259
TOTAL	329	1799	338	2466

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1338	62	25	83	1
1181	68	1	88	0
1030	45	6	25	1
1672	71	15	43	0
1740	44	9	46	1
1547	79	6	70	0
8508	369	62	355	3

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	111	749	491	1351
8-9	119	883	483	1485
9-10	89	748	479	1316
15-16	99	745	184	1028
16-17	120	907	152	1179
17-18	137	838	149	1124
TOTAL	675	4870	1938	7483

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	341	811	57	1209
8-9	321	769	51	1141
9-10	208	801	51	1060
15-16	126	714	77	917
16-17	124	732	91	947
17-18	172	820	98	1090
TOTAL	1292	4647	425	6364

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
2560	103	0	33	13
2626	134	0	13	0
2376	142	0	20	1
1945	58	0	11	0
2126	58	3	12	2
2214	104	1	11	0
13847	599	4	100	16

National Data & Surveying Services

Intersection Turning Movement Count

Location: Figueroa St & Sunset Blvd
City: Los Angeles
Control: Signalized

Project ID: 17-5693-003
Date: 10/17/2017

Total

NS/EW Streets:	Figueroa St				Figueroa St				Sunset Blvd				Sunset Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	27	52	46	0	8	130	20	0	18	142	127	0	89	195	11	0	865
7:15 AM	39	70	48	0	16	140	16	0	25	178	137	0	68	207	13	0	957
7:30 AM	29	68	54	0	19	129	24	0	32	197	113	0	88	186	16	0	955
7:45 AM	34	113	72	1	21	139	23	0	36	232	114	0	96	223	17	0	1121
8:00 AM	31	62	52	0	18	124	28	0	38	202	115	0	87	183	16	0	956
8:15 AM	18	66	48	0	8	104	9	0	26	239	126	0	72	224	9	0	949
8:30 AM	30	66	49	0	13	119	14	0	32	213	98	0	76	175	9	0	894
8:45 AM	27	78	55	0	17	132	13	0	23	229	144	0	86	187	17	0	1008
9:00 AM	31	51	59	0	16	120	11	1	18	212	105	0	68	186	6	0	884
9:15 AM	32	50	40	0	19	84	7	0	18	190	112	0	48	209	18	0	827
9:30 AM	26	70	40	0	21	86	19	0	27	186	125	0	35	215	14	0	864
9:45 AM	30	68	44	0	13	73	19	0	26	160	137	0	57	191	13	0	831
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	354	814	607	1	189	1380	203	1	319	2380	1453	0	870	2381	159	0	11111
APPROACH %'s :	19.93%	45.83%	34.18%	0.06%	10.66%	77.83%	11.45%	0.06%	7.68%	57.32%	35.00%	0.00%	25.51%	69.82%	4.66%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	133	313	226	1	74	532	91	0	131	809	479	0	339	799	62	0	3989
PEAK HR FACTOR :	0.853	0.692	0.785	0.250	0.881	0.950	0.813	0.000	0.862	0.872	0.874	0.000	0.883	0.896	0.912	0.000	0.890
	0.765				0.952				0.929				0.893				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	0	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	53	150	84	0	14	26	10	0	30	181	50	0	35	145	22	0	800
3:15 PM	85	189	83	0	9	27	15	0	24	173	42	0	27	186	25	0	885
3:30 PM	103	219	71	0	9	54	11	0	23	189	47	0	37	179	10	0	952
3:45 PM	101	216	78	0	8	48	9	0	22	202	45	0	27	204	20	0	980
4:00 PM	110	237	82	0	9	23	8	0	32	215	41	1	26	169	25	0	978
4:15 PM	98	239	99	0	8	25	3	0	28	233	39	1	32	195	21	0	1021
4:30 PM	83	190	89	0	8	45	13	0	34	220	44	0	39	175	22	0	962
4:45 PM	80	152	87	0	16	25	11	0	22	239	28	2	27	193	23	0	905
5:00 PM	69	167	103	0	20	31	14	0	37	235	28	0	30	191	21	0	946
5:15 PM	48	175	81	0	7	38	11	0	33	220	46	0	50	203	31	0	943
5:30 PM	82	163	87	0	9	33	11	0	30	205	43	0	48	206	23	0	940
5:45 PM	67	151	95	0	22	44	19	0	37	178	32	0	44	220	23	0	932
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	979	2248	1039	0	139	419	135	0	352	2490	485	4	422	2266	266	0	11244
APPROACH %'s :	22.95%	52.70%	24.36%	0.00%	20.06%	60.46%	19.48%	0.00%	10.57%	74.75%	14.56%	0.12%	14.29%	76.71%	9.00%	0.00%	
PEAK HR :	03:45 PM - 04:45 PM																TOTAL
PEAK HR VOL :	392	882	348	0	33	141	33	0	116	870	169	2	124	743	88	0	3941
PEAK HR FACTOR :	0.891	0.923	0.879	0.000	0.917	0.734	0.635	0.000	0.853	0.933	0.939	0.500	0.795	0.911	0.880	0.000	0.965
	0.930				0.784				0.961				0.951				

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Beaudry Ave

East/West 2nd St

Day: Tuesday Date: 10/17/2017 Weather: SUNNY

Hours: 7 - 10 & 3 - 6 Chekrs: NDS

School Day: Yes I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	41	45	50	39
BIKES	13	20	108	99
BUSES	64	1	2	0

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	153	8.00	301	8.15	300	8.30	132	7.15
PM PK 15 MIN	309	16.45	160	17.15	189	17.15	163	17.30
AM PK HOUR	501	7.15	1074	7.30	1093	8.00	474	7.00
PM PK HOUR	1184	16.30	557	17.00	685	16.00	617	17.00

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	74	295	79	448
8-9	83	266	114	463
9-10	83	265	132	480
15-16	167	586	182	935
16-17	148	825	179	1152
17-18	134	844	155	1133
TOTAL	689	3081	841	4611

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	158	829	14	1001
8-9	252	786	25	1063
9-10	185	674	43	902
15-16	73	297	18	388
16-17	71	413	15	499
17-18	78	467	12	557
TOTAL	817	3466	127	4410

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
1449	28	2	14	1
1526	39	6	23	1
1382	29	4	14	1
1323	13	3	10	2
1651	43	0	15	2
1690	52	3	23	0
9021	204	18	99	7

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	41	583	268	892
8-9	63	703	327	1093
9-10	41	491	283	815
15-16	47	423	132	602
16-17	94	442	149	685
17-18	83	423	159	665
TOTAL	369	3065	1318	4752

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	96	324	54	474
8-9	84	258	54	396
9-10	67	285	40	392
15-16	49	240	48	337
16-17	91	314	84	489
17-18	141	345	131	617
TOTAL	528	1766	411	2705

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1366	28	2	7	2
1489	40	1	8	1
1207	18	3	4	1
939	19	3	2	0
1174	33	0	8	0
1282	41	0	4	0
7457	179	9	33	4

National Data & Surveying Services

Intersection Turning Movement Count

Location: Beaudry Ave & 2nd St
City: Los Angeles
Control: Signalized

Project ID: 17-5693-001
Date: 10/17/2017

Total

NS/EW Streets:	Beaudry Ave				Beaudry Ave				2nd St				2nd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	0	2	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	17	63	20	0	31	202	5	0	9	157	74	0	22	88	9	0	697
7:15 AM	22	86	21	0	50	193	3	0	13	161	72	0	26	93	13	0	753
7:30 AM	18	91	17	0	44	214	3	0	11	130	64	0	23	74	13	0	702
7:45 AM	17	55	21	0	33	220	3	0	8	135	58	0	25	69	19	0	663
8:00 AM	28	90	35	0	57	193	6	0	19	170	72	0	27	76	15	0	788
8:15 AM	19	68	25	0	73	221	7	0	9	167	66	1	22	50	10	0	738
8:30 AM	20	53	22	0	57	191	6	0	14	189	97	0	15	57	15	0	736
8:45 AM	16	55	32	0	65	181	6	0	20	177	92	0	19	75	14	1	753
9:00 AM	15	61	31	0	65	172	13	0	10	157	73	0	22	51	12	0	682
9:15 AM	18	63	35	0	45	204	12	0	11	128	68	0	15	88	8	0	695
9:30 AM	27	73	34	0	34	142	7	0	11	95	79	0	14	63	15	0	594
9:45 AM	23	68	32	0	41	156	11	0	9	111	63	0	15	83	5	1	618
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	240	826	325	0	595	2289	82	0	144	1777	878	1	245	867	148	2	8419
APPROACH %'s :	17.25%	59.38%	23.36%	0.00%	20.06%	77.17%	2.76%	0.00%	5.14%	63.46%	31.36%	0.04%	19.41%	68.70%	11.73%	0.16%	
PEAK HR :	08:00 AM - 09:00 AM																TOTAL
PEAK HR VOL :	83	266	114	0	252	786	25	0	62	703	327	1	83	258	54	1	3015
PEAK HR FACTOR :	0.741	0.739	0.814	0.000	0.863	0.889	0.893	0.000	0.775	0.930	0.843	0.250	0.769	0.849	0.900	0.250	0.957
	0.757				0.883				0.911				0.839				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	1	0	0	2	0	0	1	3	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	41	107	53	0	19	70	9	0	13	96	35	0	13	46	9	0	511
3:15 PM	42	128	26	0	21	71	4	0	9	94	26	0	11	66	13	0	511
3:30 PM	43	166	53	0	19	63	2	0	14	111	37	0	13	55	16	0	592
3:45 PM	41	185	50	0	14	93	3	0	11	122	34	0	12	73	10	0	648
4:00 PM	37	204	47	0	20	77	2	0	18	129	33	0	18	84	22	0	691
4:15 PM	31	205	50	0	16	106	3	0	29	104	40	0	20	61	18	0	683
4:30 PM	33	201	35	0	17	120	4	0	20	90	44	0	29	67	21	0	681
4:45 PM	47	215	47	0	18	110	6	0	27	119	32	0	24	102	23	0	770
5:00 PM	37	217	52	0	23	92	1	0	17	113	31	0	26	97	31	0	737
5:15 PM	26	241	33	0	27	130	3	0	30	123	36	0	29	74	34	0	786
5:30 PM	42	191	35	0	14	121	5	0	24	88	39	0	43	90	30	0	722
5:45 PM	29	195	35	0	14	124	3	0	12	99	53	0	43	84	36	0	727
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	449	2255	516	0	222	1177	45	0	224	1288	440	0	281	899	263	0	8059
APPROACH %'s :	13.94%	70.03%	16.02%	0.00%	15.37%	81.51%	3.12%	0.00%	11.48%	65.98%	22.54%	0.00%	19.47%	62.30%	18.23%	0.00%	
PEAK HR :	04:45 PM - 05:45 PM																TOTAL
PEAK HR VOL :	152	864	167	0	82	453	15	0	98	443	138	0	122	363	118	0	3015
PEAK HR FACTOR :	0.809	0.896	0.803	0.000	0.759	0.871	0.625	0.000	0.817	0.900	0.885	0.000	0.709	0.890	0.868	0.000	0.959
	0.957				0.859				0.898				0.925				

City Of Los Angeles

Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South Figueroa St

East/West 3rd St

Day: Tuesday Date: 10/17/2017 Weather: SUNNY

Hours: 7 - 10 & 3 - 6 Chekrs: NDS

School Day: Yes I/S CODE

	N/B	S/B	E/B	W/B
DUAL-WHEELED	211	61	2	91
BIKES	133	88	8	14
BUSES	295	48	0	13

	N/B	TIME	S/B	TIME	E/B	TIME	W/B	TIME
AM PK 15 MIN	405	7.45	345	7.15	120	9.00	358	7.00
PM PK 15 MIN	609	17.30	230	15.30	12	16.00	421	17.45
AM PK HOUR	1420	7.15	1356	8.15	383	9.00	1356	7.00
PM PK HOUR	2283	16.45	840	15.00	41	15.45	1579	16.30

NORTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	559	633	182	1374
8-9	454	567	132	1153
9-10	422	596	93	1111
15-16	789	1272	65	2126
16-17	716	1396	84	2196
17-18	778	1379	85	2242
TOTAL	3718	5843	641	10202

SOUTHBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	20	0	1310	1330
8-9	18	0	1327	1345
9-10	22	0	1227	1249
15-16	20	0	820	840
16-17	17	0	719	736
17-18	22	0	650	672
TOTAL	119	0	6053	6172

TOTAL	**XING S/L**		**XING N/L**	
N-S	Ped	Sch	Ped	Sch
2704	29	0	25	0
2498	30	0	42	0
2360	19	0	29	0
2966	25	0	31	0
2932	50	0	44	8
2914	41	0	63	5
16374	194	0	234	13

EASTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	253	0	253
8-9	1	327	0	328
9-10	0	383	0	383
15-16	0	32	0	32
16-17	0	36	0	36
17-18	0	26	0	26
TOTAL	1	1057	0	1058

WESTBOUND Approach

Hours	Lt	Th	Rt	Total
7-8	0	1260	96	1356
8-9	0	1161	81	1242
9-10	0	1195	102	1297
15-16	1	1246	131	1378
16-17	0	1425	127	1552
17-18	0	1463	102	1565
TOTAL	1	7750	639	8390

TOTAL	**XING W/L**		**XING E/L**	
E-W	Ped	Sch	Ped	Sch
1609	5	0	36	2
1570	4	0	83	1
1680	2	0	55	0
1410	1	0	32	3
1588	0	0	37	0
1591	1	0	77	7
9448	13	0	320	13

National Data & Surveying Services

Intersection Turning Movement Count

Location: Figueroa St & 3rd St
City: Los Angeles
Control: Signalized

Project ID: 17-5693-002
Date: 10/17/2017

Total

NS/EW Streets:	Figueroa St				Figueroa St				3rd St				3rd St				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	3	4	0	0	1	0	2	0	0	2	0	0	0	5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	121	138	22	0	1	0	321	0	0	63	0	0	0	341	17	0	1024
7:15 AM	122	149	46	0	8	0	337	0	0	75	0	0	0	295	22	0	1054
7:30 AM	157	160	54	0	6	0	326	0	0	66	0	0	0	309	27	0	1105
7:45 AM	159	186	60	0	5	0	326	0	0	49	0	0	0	315	30	0	1130
8:00 AM	142	144	41	0	7	0	325	0	0	86	0	0	0	302	19	0	1066
8:15 AM	101	130	33	0	4	0	335	0	0	79	0	0	0	303	19	0	1004
8:30 AM	104	145	33	0	5	0	329	0	0	84	0	1	0	270	26	0	997
8:45 AM	107	148	25	0	2	0	338	0	0	78	0	0	0	286	17	0	1001
9:00 AM	99	137	33	0	10	0	333	0	0	120	0	0	0	301	23	0	1056
9:15 AM	94	158	21	0	2	0	308	0	0	86	0	0	0	305	23	0	997
9:30 AM	115	162	22	0	5	0	291	0	0	96	0	0	0	284	24	0	999
9:45 AM	114	139	17	0	5	0	295	0	0	81	0	0	0	305	32	0	988
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	1435	1796	407	0	60	0	3864	0	0	963	0	1	0	3616	279	0	12421
APPROACH %'s :	39.44%	49.37%	11.19%	0.00%	1.53%	0.00%	98.47%	0.00%	0.00%	99.90%	0.00%	0.10%	0.00%	92.84%	7.16%	0.00%	
PEAK HR :	07:15 AM - 08:15 AM																TOTAL
PEAK HR VOL :	580	639	201	0	26	0	1314	0	0	276	0	0	0	1221	98	0	4355
PEAK HR FACTOR :	0.912	0.859	0.838	0.000	0.813	0.000	0.975	0.000	0.000	0.802	0.000	0.000	0.000	0.969	0.817	0.000	0.963
	0.877				0.971				0.802				0.956				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	3	4	0	0	1	0	2	0	0	2	0	0	0	5	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
3:00 PM	197	282	14	0	6	0	209	0	0	5	0	0	0	273	28	0	1014
3:15 PM	192	344	17	0	1	0	195	2	0	9	0	0	0	297	33	0	1090
3:30 PM	202	302	12	0	4	0	226	0	0	8	0	0	0	338	37	1	1130
3:45 PM	198	344	22	0	7	0	190	0	0	10	0	0	0	338	33	0	1142
4:00 PM	200	349	22	0	2	0	188	0	0	12	0	0	0	332	42	0	1147
4:15 PM	156	373	17	0	7	0	195	0	0	7	0	0	0	380	29	0	1164
4:30 PM	172	354	20	0	3	0	167	0	0	12	0	0	0	327	27	0	1082
4:45 PM	188	320	25	0	5	0	169	0	0	5	0	0	0	386	29	0	1127
5:00 PM	189	355	19	0	5	0	166	0	0	5	0	0	0	370	24	0	1133
5:15 PM	209	347	22	0	9	0	172	1	0	4	0	0	0	391	25	0	1180
5:30 PM	216	372	21	0	0	0	158	0	0	9	0	0	0	315	19	0	1110
5:45 PM	164	305	23	0	7	0	154	0	0	8	0	0	0	387	34	0	1082
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	2283	4047	234	0	56	0	2189	3	0	94	0	0	0	4134	360	1	13401
APPROACH %'s :	34.78%	61.65%	3.56%	0.00%	2.49%	0.00%	97.38%	0.13%	0.00%	100.00%	0.00%	0.00%	0.00%	91.97%	8.01%	0.02%	
PEAK HR :	03:30 PM - 04:30 PM																TOTAL
PEAK HR VOL :	756	1368	73	0	20	0	799	0	0	37	0	0	0	1388	141	1	4583
PEAK HR FACTOR :	0.936	0.917	0.830	0.000	0.714	0.000	0.884	0.000	0.000	0.771	0.000	0.000	0.000	0.913	0.839	0.250	0.984
	0.962				0.890				0.771				0.935				

APPENDIX D:
LOS ANALYSIS SHEETS

EXISTING

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
1	North-South Street:	S Figueroa Street	East-West Street:	W 2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 / EB-- 3		SB-- / WB--	0 / 0	NB-- 0 / EB-- 3	SB-- / WB--	0 / 0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	100	1	**100**	191	1	191
	Left-Through		0			0	
	Through	804	2	402	1394	2	**697**
	Through-Right		0			0	
	Right	68	1	60	152	1	133
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	109	1	109	93	1	**93**
	Left-Through		0			0	
	Through	819	1	**454**	327	1	201
	Through-Right		1			1	
	Right	89	0	89	74	0	74
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	71	1	71	179	1	179
	Left-Through		0			0	
	Through	270	1	270	399	1	**399**
	Through-Right		0			0	
	Right	433	1	**333**	385	1	194
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	**16**	38	1	**38**
	Left-Through		0			0	
	Through	91	1	91	130	1	130
	Through-Right		0			0	
	Right	18	1	0	65	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	554		North-South:	790
			East-West:	349		East-West:	437
			SUM:	903		SUM:	1227
VOLUME/CAPACITY (V/C) RATIO:				0.634			0.861
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.534**			**0.761**
LEVEL OF SERVICE (LOS):				**A**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Workheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
2	North-South Street:	S Grand Avenue	East-West Street:	W 1st Street
	Scenario:	Existing		
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date: 5/4/2018

	AM			PM		
No. of Phases			3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--	3	NB-- 3	SB--	3
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	17	1	**17**	60	1	**60**
	Left-Through		0			0	
	Through	86	2	43	438	2	219
	Through-Right		0			0	
	Right	19	1	0	69	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	93	1	93	45	1	45
	Left-Through		0			0	
	Through	804	2	**402**	619	2	**310**
	Through-Right		0			0	
	Right	130	1	0	181	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	169	1	**169**	250	1	**250**
	Left-Through		0			0	
	Through	654	2	292	682	2	287
	Through-Right		1			1	
	Right	221	0	221	179	0	179
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	237	2	130	169	2	93
	Left-Through		0			0	
	Through	655	2	**291**	922	2	**418**
	Through-Right		1			1	
	Right	217	0	217	331	0	331
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	419		*North-South:*	370
			East-West:	460		*East-West:*	668
			SUM:	879		*SUM:*	1038
VOLUME/CAPACITY *(V/C)* RATIO:				0.617			0.728
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.517**			**0.628**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
3	North-South Street:	S Olive Street	East-West Street:	W 1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0	NB-- 3	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	175	2	**96**	472	2	**260**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	333	2	0	540	2	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	543	2	**253**	733	2	264
	Through-Right		1			1	
	Right	216	0	216	60	0	60
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	288	1	**288**	86	1	86
	Left-Through		0			0	
	Through	926	2	463	955	2	**478**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	96		*North-South:*	260
			East-West:	541		*East-West:*	478
			SUM:	637		*SUM:*	738
VOLUME/CAPACITY *(V/C)* RATIO:				0.447			0.518
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.347**			**0.418**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
4	North-South Street:	N Hill Street	East-West Street:	W Temple Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	1	**65**	71	1	71
	Left-Through		0			0	
	Through	188	1	125	782	1	**444**
	Through-Right		1			1	
	Right	62	0	62	106	0	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	184	1	184	122	1	**122**
	Left-Through		0			0	
	Through	1232	2	**616**	846	2	423
	Through-Right		0			0	
	Right	343	1	326	245	1	203
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	35	1	**35**	85	1	**85**
	Left-Through		0			0	
	Through	367	1	246	647	1	352
	Through-Right		1			1	
	Right	124	0	124	57	0	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	190	1	190	39	1	39
	Left-Through		0			0	
	Through	932	1	**505**	777	1	**497**
	Through-Right		1			1	
	Right	77	0	77	217	0	217
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	681		North-South:	566
			East-West:	540		East-West:	582
			SUM:	1221		SUM:	1148
VOLUME/CAPACITY (V/C) RATIO:				0.857			0.806
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.757**			**0.706**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
5	North-South Street:	Hill Street	East-West Street:	W 1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0		NB-- 0	SB--	0
	EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2				2
Override Capacity			0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	1	**50**	69	1	69
	Left-Through		0			0	
	Through	206	1	133	568	1	**362**
	Through-Right		1			1	
	Right	59	0	59	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	130	1	130	152	1	**152**
	Left-Through		0			0	
	Through	1024	2	**512**	751	2	376
	Through-Right		0			0	
	Right	202	1	151	156	1	23
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	102	1	**102**	266	1	**266**
	Left-Through		0			0	
	Through	545	2	273	1032	2	516
	Through-Right		0			0	
	Right	103	1	78	43	1	9
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	117	1	117	53	1	53
	Left-Through		0			0	
	Through	1029	2	**515**	803	2	**402**
	Through-Right		0			0	
	Right	93	1	28	65	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	562		*North-South:*	514
			East-West:	617		*East-West:*	668
			SUM:	1179		*SUM:*	1182
VOLUME/CAPACITY *(V/C)* RATIO:				0.857			0.860
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.757**			**0.760**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
6	North-South Street:	Hill Street	East-West Street:	W 2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

			AM			PM		
No. of Phases					2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB--	0	SB--	2		NB--	0	SB--	2	
	EB--	0	WB--	0		EB--	0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?					2					2
Override Capacity					0					0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	67	1	**67**	121	1	121
	Left-Through		0			0	
	Through	247	1	151	717	1	**384**
	Through-Right		1			1	
	Right	55	0	55	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	34	1	34	27	1	**27**
	Left-Through		0			0	
	Through	901	2	**361**	751	2	272
	Through-Right		1			1	
	Right	181	0	181	65	0	65
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	43	0	43
	Left-Through		0			1	
	Through	133	1	133	346	0	**389**
	Through-Right		0			0	
	Right	351	1	**318**	227	1	167
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	134	1	85	186	1	108
	Through-Right		1			1	
	Right	35	0	35	30	0	30
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	428		*North-South:*	411
			East-West:	318		*East-West:*	389
			SUM:	746		*SUM:*	800
VOLUME/CAPACITY *(V/C)* RATIO:				0.497			0.533
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.397**			**0.433**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
7	North-South Street:	Hill Street	East-West Street:	W 3rd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	58	1	**58**	61	1	**61**
	Left-Through		0			0	
	Through	409	2	205	528	2	264
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	935	2	**468**	893	2	**447**
	Through-Right		0			0	
	Right	224	1	224	218	1	218
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	111	1	111	127	1	127
	Left-Through		0			0	
	Through	1239	2	**620**	936	2	**468**
	Through-Right		0			0	
	Right	127	1	127	161	1	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	526		*North-South:*	508
			East-West:	620		*East-West:*	468
			SUM:	1146		*SUM:*	976
VOLUME/CAPACITY *(V/C)* RATIO:				0.764			0.651
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.664**			**0.551**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
8	North-South Street:	N Broadway	East-West Street:	Aliso Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	251	2	126	1031	2	**516**
	Through-Right		0			0	
	Right	66	1	66	365	1	365
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	113	1	113	61	1	**61**
	Left-Through		0			0	
	Through	889	2	**445**	539	2	270
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	101	0	101	112	0	112
	Left-Through		1			1	
	Through	240	1	171	243	1	**178**
	Through-Right		0			0	
	Right	209	1	**209**	40	1	40
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	445		North-South:	577
			East-West:	209		East-West:	178
			SUM:	654		SUM:	755
	VOLUME/CAPACITY (V/C) RATIO:			0.436			0.503
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.336**			**0.403**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
9	North-South Street:	N Broadway	East-West Street:	W Temple Street	
	Scenario:	Existing			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	63	1	**63**	103	1	103
	Left-Through		0			0	
	Through	237	2	103	952	2	**355**
	Through-Right		1			1	
	Right	73	0	73	114	0	114
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	127	1	127	75	1	**75**
	Left-Through		0			0	
	Through	606	1	**456**	332	1	251
	Through-Right		1			1	
	Right	306	0	306	170	0	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	46	1	**46**	74	1	**74**
	Left-Through		0			0	
	Through	489	1	281	713	1	373
	Through-Right		1			1	
	Right	72	0	72	33	0	33
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	95	1	95	16	1	16
	Left-Through		0			0	
	Through	840	1	**461**	839	1	**532**
	Through-Right		1			1	
	Right	81	0	81	224	0	224
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	519		North-South:	430
			East-West:	507		East-West:	606
			SUM:	1026		SUM:	1036
VOLUME/CAPACITY (V/C) RATIO:				0.720			0.727
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.620**			**0.627**
LEVEL OF SERVICE (LOS):				**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
10	North-South Street:	Broadway	East-West Street:	W 1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	57	1	**57**	60	1	60
	Left-Through		0			0	
	Through	284	2	140	794	2	**350**
	Through-Right		1			1	
	Right	136	0	136	257	0	257
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	57	1	57	60	1	**60**
	Left-Through		0			0	
	Through	346	1	**346**	266	1	266
	Through-Right		0			0	
	Right	236	1	199	99	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	**74**	240	1	**240**
	Left-Through		0			0	
	Through	567	2	284	1056	2	528
	Through-Right		0			0	
	Right	54	1	26	38	1	8
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	114	1	114	32	1	32
	Left-Through		0			0	
	Through	1016	2	**508**	780	2	**390**
	Through-Right		0			0	
	Right	67	1	39	136	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	403		*North-South:*	410
			East-West:	582		*East-West:*	630
			SUM:	985		*SUM:*	1040
VOLUME/CAPACITY *(V/C)* RATIO:				0.691			0.730
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.591**			**0.630**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
11	North-South Street:	S Broadway	East-West Street:	W 2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	76	0	**76**	181	0	181
	Left-Through		1			1	
	Through	373	0	269	824	0	**595**
	Through-Right		1			1	
	Right	13	0	269	3	0	595
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	10	0	10	0	0	**0**
	Left-Through		1			1	
	Through	389	0	**399**	295	0	295
	Through-Right		0			0	
	Right	117	1	117	59	1	59
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	104	0	104	248	0	248
	Left-Through		1			1	
	Through	19	0	123	6	0	**254**
	Through-Right		0			0	
	Right	137	1	**137**	175	1	175
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	475		North-South:	595
			East-West:	137		East-West:	254
			SUM:	612		SUM:	849
VOLUME/CAPACITY (V/C) RATIO:				0.429			0.596
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.329**			**0.496**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
12	North-South Street:	S Broadway	East-West Street:	W 3rd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0		NB-- 0	SB--	0
	EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2				2
Override Capacity			0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	104	0	**104**	87	0	87
	Left-Through		1			1	
	Through	404	1	306	756	1	**465**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	282	1	**282**	372	1	372
	Through-Right		0			0	
	Right	140	1	140	89	1	89
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	26	1	26	47	1	47
	Left-Through		0			0	
	Through	1236	2	**432**	822	2	**329**
	Through-Right		1			1	
	Right	59	0	59	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	386		*North-South:*	465
			East-West:	432		*East-West:*	329
			SUM:	818		*SUM:*	794
VOLUME/CAPACITY *(V/C)* RATIO:				0.574			0.557
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.474**			**0.457**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
13	North-South Street:	S Broadway	East-West Street:	W 4th Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	454	1	274	739	1	**448**
	Through-Right		1			1	
	Right	93	0	93	157	0	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	309	1	**309**	422	1	422
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	102	0	102	100	0	100
	Left-Through		1			1	
	Through	876	2	**265**	1177	2	**343**
	Through-Right		1			1	
	Right	80	0	265	93	0	343
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	309		North-South:	448
			East-West:	265		East-West:	343
			SUM:	574		SUM:	791
VOLUME/CAPACITY (V/C) RATIO:				0.383			0.527
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.283**			**0.427**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
14	North-South Street:	N Spring Street	East-West Street:	Aliso Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	34	1	28	39	1	39
	Through-Right		1			1	
	Right	21	0	21	53	0	**53**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	155	1	155	131	1	**131**
	Left-Through		0			0	
	Through	1119	3	**373**	420	3	140
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	286	2	143	625	2	**224**
	Through-Right		1			1	
	Right	167	0	**167**	48	0	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	373		*North-South:*	184
			East-West:	167		*East-West:*	224
			SUM:	540		*SUM:*	408
VOLUME/CAPACITY *(V/C)* RATIO:				0.360			0.272
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.260**			**0.172**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
15	North-South Street:	N Spring Street	East-West Street:	W Temple Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	55	1	28	95	1	48
	Through-Right		1			1	
	Right	0	0	0	1	0	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	73	0	73	54	0	54
	Left-Through		1			1	
	Through	917	2	**330**	396	2	**150**
	Through-Right		0			0	
	Right	200	1	200	117	1	117
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	532	1	**349**	868	1	**465**
	Through-Right		1			1	
	Right	166	0	166	61	0	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	68	1	**68**	46	1	**46**
	Left-Through		0			0	
	Through	742	2	371	910	2	455
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	330		*North-South:*	150
			East-West:	417		*East-West:*	511
			SUM:	747		*SUM:*	661
VOLUME/CAPACITY *(V/C)* RATIO:				0.524			0.464
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.424**			**0.364**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
16	North-South Street:	Spring Street	East-West Street:	W 1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	101	0	101	42	0	42
	Left-Through		1			1	
	Through	855	1	**478**	215	1	**129**
	Through-Right		0			0	
	Right	269	1	218	150	1	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	51	1	**51**	93	1	93
	Left-Through		0			0	
	Through	576	2	288	1143	2	**572**
	Through-Right		0			0	
	Right	181	1	181	132	1	132
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	79	1	79	53	1	**53**
	Left-Through		0			0	
	Through	878	1	**439**	821	1	411
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	478		*North-South:*	129
			East-West:	490		*East-West:*	625
			SUM:	968		*SUM:*	754
VOLUME/CAPACITY *(V/C)* RATIO:				0.679			0.529
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.579**			**0.429**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
17	North-South Street:	S Spring Street	East-West Street:	W 2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	36	63	0	63
	Left-Through		1			1	
	Through	1013	1	**525**	479	1	**271**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	173	1	**173**	87	1	**87**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	525		North-South:	271
			East-West:	173		East-West:	87
			SUM:	698		SUM:	358
VOLUME/CAPACITY (V/C) RATIO:				0.465			0.239
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.365**			**0.139**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
18	North-South Street:	S Spring Street	East-West Street:	W 3rd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	654	3	**218**	558	3	**186**
	Through-Right		0			0	
	Right	190	1	190	156	1	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	434	1	434	291	1	291
	Left-Through		0			0	
	Through	1146	2	**573**	839	2	**420**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	218		*North-South:*	186
			East-West:	573		*East-West:*	420
			SUM:	791		*SUM:*	606
VOLUME/CAPACITY *(V/C)* RATIO:				0.527			0.404
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.427**			**0.304**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
19	North-South Street:	S Spring Street	East-West Street:	W 4th Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	114	0	114	191	0	191
	Left-Through		1			1	
	Through	895	2	**336**	821	2	**337**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	721	3	**220**	1196	3	**333**
	Through-Right		1			1	
	Right	158	0	158	137	0	137
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	336		North-South:	337
			East-West:	220		East-West:	333
			SUM:	556		SUM:	670
VOLUME/CAPACITY (V/C) RATIO:				0.371			0.447
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.271**			**0.347**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
20	North-South Street:	N Main Street	East-West Street:	E Temple Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	108	0	108	271	0	271
	Left-Through		1			1	
	Through	371	3	**120**	1425	3	**424**
	Through-Right		0			0	
	Right	98	1	98	109	1	109
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	**74**	148	1	**148**
	Left-Through		0			0	
	Through	507	2	254	751	2	376
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	826	1	**454**	742	1	**453**
	Through-Right		1			1	
	Right	82	0	82	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	120		*North-South:*	424
			East-West:	528		*East-West:*	601
			SUM:	648		*SUM:*	1025
VOLUME/CAPACITY *(V/C)* RATIO:				0.455			0.719
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.355**			**0.619**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
21	North-South Street:	Main Street	East-West Street:	1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	213	0	**213**	246	0	246
	Left-Through		1			1	
	Through	389	2	195	1428	2	**558**
	Through-Right		0			0	
	Right	52	1	52	82	1	82
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	0	0	**0**	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	101	1	**101**	164	1	164
	Left-Through		0			0	
	Through	530	2	265	1016	2	**508**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	797	2	**399**	613	2	307
	Through-Right		0			0	
	Right	97	1	97	198	1	198
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	213		*North-South:*	558
			East-West:	500		*East-West:*	508
			SUM:	713		*SUM:*	1066
VOLUME/CAPACITY *(V/C)* RATIO:				0.500			0.748
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.400**			**0.648**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
22	North-South Street:	S Main Street	East-West Street:	2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	36	0	36	45	0	45
	Left-Through		1			1	
	Through	518	2	**185**	1416	2	**487**
	Through-Right		0			0	
	Right	45	1	45	85	1	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	24	1	**24**	37	1	**37**
	Left-Through		0			0	
	Through	20	1	20	72	1	72
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	171	0	**317**	100	0	**350**
	Through-Right		1			1	
	Right	146	0	0	250	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	185		*North-South:*	487
			East-West:	341		*East-West:*	387
			SUM:	526		*SUM:*	874
VOLUME/CAPACITY *(V/C)* RATIO:				0.351			0.583
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.251**			**0.483**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
23	North-South Street:	S Main Street	East-West Street:	3rd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	165	0	165	189	0	189
	Left-Through		1			1	
	Through	477	2	**214**	1101	2	**430**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1446	3	**482**	941	3	314
	Through-Right		0			0	
	Right	174	1	174	384	1	**384**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	214		*North-South:*	430
			East-West:	482		*East-West:*	384
			SUM:	696		*SUM:*	814
VOLUME/CAPACITY *(V/C)* RATIO:				0.464			0.543
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.364**			**0.443**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
24	North-South Street:	Los Angeles Street	East-West Street:	E 1st Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--	0	NB-- 2	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	114	1	**114**	156	1	156
	Left-Through		0			0	
	Through	361	1	206	836	1	**471**
	Through-Right		1			1	
	Right	51	0	51	106	0	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	86	1	86	81	1	**81**
	Left-Through		0			0	
	Through	827	2	**414**	389	2	195
	Through-Right		0			0	
	Right	145	1	129	128	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	32	1	**32**	81	1	81
	Left-Through		0			0	
	Through	397	2	199	940	2	**470**
	Through-Right		0			0	
	Right	138	1	81	97	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	73	1	73	60	1	**60**
	Left-Through		0			0	
	Through	625	2	**313**	475	2	238
	Through-Right		0			0	
	Right	57	1	14	68	1	28
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	528		*North-South:*	552
			East-West:	345		*East-West:*	530
			SUM:	873		*SUM:*	1082
	VOLUME/CAPACITY *(V/C)* RATIO:			0.582			0.721
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.482**			**0.621**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
25	North-South Street:	S Los Angeles Street	East-West Street:	E 2nd Street		
	Scenario:	Existing				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	58	1	**58**	126	1	**126**
	Left-Through		0			0	
	Through	438	1	249	926	1	512
	Through-Right		1			1	
	Right	60	0	60	98	0	98
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	96	1	96	84	1	84
	Left-Through		0			0	
	Through	751	1	**751**	473	1	**473**
	Through-Right		0			0	
	Right	87	1	79	57	1	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	16	1	**16**	22	1	**22**
	Left-Through		0			0	
	Through	28	0	56	108	0	138
	Through-Right		1			1	
	Right	28	0	0	30	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	36	1	36	53	1	53
	Left-Through		0			0	
	Through	178	0	**293**	158	0	**279**
	Through-Right		1			1	
	Right	115	0	0	121	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	809		North-South:	599
			East-West:	309		East-West:	301
			SUM:	1118		SUM:	900
VOLUME/CAPACITY (V/C) RATIO:				0.745			0.600
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.645**			**0.500**
LEVEL OF SERVICE (LOS):				**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
26	North-South Street:	N Figueroa Street	East-West Street:	Sunset Blvd/Cesar Chavez Ave	
	Scenario:	Existing			
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	134	1	**134**	392	1	**392**
	Left-Through		0			0	
	Through	313	2	157	882	2	441
	Through-Right		0			0	
	Right	226	1	57	348	1	286
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	74	1	74	33	1	33
	Left-Through		0			0	
	Through	532	1	**312**	141	1	**87**
	Through-Right		1			1	
	Right	91	0	91	33	0	33
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	131	1	131	118	1	118
	Left-Through		0			0	
	Through	809	2	405	870	2	**435**
	Through-Right		0			0	
	Right	479	1	**412**	169	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	339	1	**339**	124	1	**124**
	Left-Through		0			0	
	Through	799	2	400	743	2	372
	Through-Right		0			0	
	Right	62	1	25	88	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	446		North-South:	479
			East-West:	751		East-West:	559
			SUM:	1197		SUM:	1038
VOLUME/CAPACITY (V/C) RATIO:				0.871			0.755
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.771**			**0.655**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
27	North-South Street:	S Beaudry Avenue	East-West Street:	W 2nd Street		
	Scenario:	Existing				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	83	0	**83**	152	0	152
	Left-Through		1			1	
	Through	266	1	266	864	1	**584**
	Through-Right		0			0	
	Right	114	1	72	167	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	252	0	252	82	0	**82**
	Left-Through		1			1	
	Through	786	0	**658**	453	0	468
	Through-Right		1			1	
	Right	25	0	658	15	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	63	1	63	98	1	**98**
	Left-Through		0			0	
	Through	703	2	**352**	443	2	222
	Through-Right		0			0	
	Right	327	1	286	138	1	138
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	84	1	**84**	122	1	122
	Left-Through		0			0	
	Through	258	1	258	363	1	**363**
	Through-Right		0			0	
	Right	54	1	54	118	1	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	741		*North-South:*	666
			East-West:	436		*East-West:*	461
			SUM:	1177		*SUM:*	1127
VOLUME/CAPACITY *(V/C)* RATIO:				0.785			0.751
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.685**			**0.651**
LEVEL OF SERVICE (LOS):				**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
28	North-South Street:	S Figueroa Street	East-West Street:	W 3rd Street		
	Scenario:	Existing				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

			AM			PM		
		No. of Phases			4			4
		Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
		Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
			EB-- 0	WB--	0	EB-- 0	WB--	0
		ATSAC-1 or ATSAC+ATCS-2?			2			2
		Override Capacity			0			0
	MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND		Left	580	3	**203**	756	3	**265**
		Left-Through		0			0	
		Through	639	3	213	1368	3	456
		Through-Right		0			0	
		Right	201	1	201	73	1	73
		Left-Through-Right		0			0	
		Left-Right		0			0	
SOUTHBOUND		Left	26	1	26	20	1	20
		Left-Through		0			0	
		Through	0	0	0	0	0	0
		Through-Right		0			0	
		Right	1314	2	**723**	799	2	**439**
		Left-Through-Right		0			0	
		Left-Right		0			0	
EASTBOUND		Left	0	0	**0**	0	0	**0**
		Left-Through		0			0	
		Through	276	2	138	37	2	19
		Through-Right		0			0	
		Right	0	0	0	0	0	0
		Left-Through-Right		0			0	
		Left-Right		0			0	
WESTBOUND		Left	0	0	0	0	0	0
		Left-Through		0			0	
		Through	1221	5	**244**	1388	5	**278**
		Through-Right		0			0	
		Right	98	1	85	141	1	131
		Left-Through-Right		0			0	
		Left-Right		0			0	
	CRITICAL VOLUMES			*North-South:*	926		*North-South:*	704
				East-West:	244		*East-West:*	278
				SUM:	1170		*SUM:*	982
	VOLUME/CAPACITY *(V/C)* RATIO:				0.851			0.714
	V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.751**			**0.614**
	LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

EXISTING BASE

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
1	North-South Street:	S Figueroa Street	East-West Street:	W 2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 3	WB--		0	EB-- 3	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	100	1	**100**	191	1	191
	Left-Through		0			0	
	Through	804	2	402	1394	2	**697**
	Through-Right		0			0	
	Right	68	1	60	152	1	133
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	109	1	109	93	1	**93**
	Left-Through		0			0	
	Through	819	1	**454**	327	1	201
	Through-Right		1			1	
	Right	89	0	89	74	0	74
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	71	1	71	179	1	179
	Left-Through		0			0	
	Through	270	1	270	399	1	**399**
	Through-Right		0			0	
	Right	433	1	**333**	385	1	194
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	16	1	**16**	38	1	**38**
	Left-Through		0			0	
	Through	91	1	91	130	1	130
	Through-Right		0			0	
	Right	18	1	0	65	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	554		*North-South:*	790
			East-West:	349		*East-West:*	437
			SUM:	903		*SUM:*	1227
VOLUME/CAPACITY *(V/C)* RATIO:				0.634			0.861
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.534**			**0.761**
LEVEL OF SERVICE (LOS):				**A**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
2	North-South Street:	S Grand Avenue	East-West Street:	W 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3 / EB-- 0		SB-- 3 / WB-- 0		NB-- 3 / EB-- 0		SB-- 3 / WB-- 0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	17	1	**17**	60	1	**60**
	Left-Through		0			0	
	Through	86	2	43	438	2	219
	Through-Right		0			0	
	Right	19	1	0	69	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	93	1	93	45	1	45
	Left-Through		0			0	
	Through	804	2	**402**	619	2	**310**
	Through-Right		0			0	
	Right	130	1	0	181	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	169	1	**169**	250	1	**250**
	Left-Through		0			0	
	Through	654	2	292	682	2	287
	Through-Right		1			1	
	Right	221	0	221	179	0	179
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	237	2	130	169	2	93
	Left-Through		0			0	
	Through	655	2	**291**	922	2	**418**
	Through-Right		1			1	
	Right	217	0	217	331	0	331
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	419		*North-South:*	370
			East-West:	460		*East-West:*	668
			SUM:	879		*SUM:*	1038
VOLUME/CAPACITY *(V/C)* RATIO:				0.617			0.728
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.517**			**0.628**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
3	North-South Street:	S Olive Street	East-West Street:	W 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--	0	NB-- 3	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	175	2	**96**	472	2	**260**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	333	2	0	540	2	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	543	2	**253**	733	2	264
	Through-Right		1			1	
	Right	216	0	216	60	0	60
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	288	1	**288**	86	1	86
	Left-Through		0			0	
	Through	926	2	463	955	2	**478**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	96		North-South:	260
			East-West:	541		East-West:	478
			SUM:	637		SUM:	738
VOLUME/CAPACITY (V/C) RATIO:				0.447			0.518
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.347**			**0.418**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
4	North-South Street:	N Hill Street	East-West Street:	W Temple Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	65	1	**65**	71	1	71
	Left-Through		0			0	
	Through	188	1	125	782	1	**444**
	Through-Right		1			1	
	Right	62	0	62	106	0	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	184	1	184	122	1	**122**
	Left-Through		0			0	
	Through	1232	2	**616**	846	2	423
	Through-Right		0			0	
	Right	343	1	326	245	1	203
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	35	1	**35**	85	1	**85**
	Left-Through		0			0	
	Through	367	1	246	647	1	352
	Through-Right		1			1	
	Right	124	0	124	57	0	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	190	1	190	39	1	39
	Left-Through		0			0	
	Through	932	1	**505**	777	1	**497**
	Through-Right		1			1	
	Right	77	0	77	217	0	217
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	681		North-South:	566
			East-West:	540		East-West:	582
			SUM:	1221		SUM:	1148
VOLUME/CAPACITY (V/C) RATIO:				0.857			0.806
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.757**			**0.706**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
5	North-South Street:	Hill Street	East-West Street:	W 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0		NB-- 0	SB--	0
	EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2				2
Override Capacity			0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	1	**50**	69	1	69
	Left-Through		0			0	
	Through	206	1	133	568	1	**362**
	Through-Right		1			1	
	Right	59	0	59	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	130	1	130	152	1	**152**
	Left-Through		0			0	
	Through	1024	2	**512**	751	2	376
	Through-Right		0			0	
	Right	202	1	151	156	1	23
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	102	1	**102**	266	1	**266**
	Left-Through		0			0	
	Through	545	2	273	1032	2	516
	Through-Right		0			0	
	Right	103	1	78	43	1	9
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	117	1	117	53	1	53
	Left-Through		0			0	
	Through	1029	2	**515**	803	2	**402**
	Through-Right		0			0	
	Right	93	1	28	65	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	562		*North-South:*	514
			East-West:	617		*East-West:*	668
			SUM:	1179		*SUM:*	1182
VOLUME/CAPACITY *(V/C)* RATIO:				0.857			0.860
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.757**			**0.760**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
6	North-South Street:	Hill Street	East-West Street:	W 2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	67	1	**67**	121	1	121
	Left-Through		0			0	
	Through	247	1	151	717	1	**384**
	Through-Right		1			1	
	Right	55	0	55	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	34	1	34	27	1	**27**
	Left-Through		0			0	
	Through	901	2	**361**	751	2	272
	Through-Right		1			1	
	Right	181	0	181	65	0	65
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	43	0	43
	Left-Through		0			1	
	Through	133	1	133	346	0	**389**
	Through-Right		0			0	
	Right	351	1	**318**	227	1	167
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	134	1	85	186	1	108
	Through-Right		1			1	
	Right	35	0	35	30	0	30
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	428		North-South:	411
			East-West:	318		East-West:	389
			SUM:	746		SUM:	800
VOLUME/CAPACITY (V/C) RATIO:				0.497			0.533
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.397**			**0.433**
LEVEL OF SERVICE (LOS):				**A**			**A**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
7	North-South Street:	Hill Street	East-West Street:	W 3rd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	58	1	**58**	61	1	**61**
	Left-Through		0			0	
	Through	409	2	205	528	2	264
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	935	2	**468**	893	2	**447**
	Through-Right		0			0	
	Right	224	1	224	218	1	218
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	111	1	111	127	1	127
	Left-Through		0			0	
	Through	1239	2	**620**	936	2	**468**
	Through-Right		0			0	
	Right	127	1	127	161	1	161
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	526		*North-South:*	508
			East-West:	620		*East-West:*	468
			SUM:	1146		*SUM:*	976
	VOLUME/CAPACITY *(V/C)* RATIO:			0.764			0.651
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.664**			**0.551**
	LEVEL OF SERVICE (LOS):			**B**			**A**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
8	North-South Street:	N Broadway	East-West Street:	Aliso Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	251	2	126	1031	2	**516**
	Through-Right		0			0	
	Right	66	1	66	365	1	365
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	113	1	113	61	1	**61**
	Left-Through		0			0	
	Through	889	2	**445**	539	2	270
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	101	0	101	112	0	112
	Left-Through		1			1	
	Through	240	1	171	243	1	**178**
	Through-Right		0			0	
	Right	209	1	**209**	40	1	40
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	445		North-South:	577
			East-West:	209		East-West:	178
			SUM:	654		SUM:	755
VOLUME/CAPACITY (V/C) RATIO:				0.436			0.503
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.336**			**0.403**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
9	North-South Street:	N Broadway	East-West Street:	W Temple Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	63	1	**63**	103	1	103
	Left-Through		0			0	
	Through	237	2	103	952	2	**355**
	Through-Right		1			1	
	Right	73	0	73	114	0	114
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	127	1	127	75	1	**75**
	Left-Through		0			0	
	Through	606	1	**456**	332	1	251
	Through-Right		1			1	
	Right	306	0	306	170	0	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	46	1	**46**	74	1	**74**
	Left-Through		0			0	
	Through	489	1	281	713	1	373
	Through-Right		1			1	
	Right	72	0	72	33	0	33
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	95	1	95	16	1	16
	Left-Through		0			0	
	Through	840	1	**461**	839	1	**532**
	Through-Right		1			1	
	Right	81	0	81	224	0	224
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	519		North-South:	430
			East-West:	507		East-West:	606
			SUM:	1026		SUM:	1036
	VOLUME/CAPACITY (V/C) RATIO:			0.720			0.727
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.620**			**0.627**
	LEVEL OF SERVICE (LOS):			**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
10	North-South Street:	Broadway	East-West Street:	W 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	57	1	**57**	60	1	60
	Left-Through		0			0	
	Through	284	2	140	794	2	**350**
	Through-Right		1			1	
	Right	136	0	136	257	0	257
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	57	1	57	60	1	**60**
	Left-Through		0			0	
	Through	346	1	**346**	266	1	266
	Through-Right		0			0	
	Right	236	1	199	99	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	**74**	240	1	**240**
	Left-Through		0			0	
	Through	567	2	284	1056	2	528
	Through-Right		0			0	
	Right	54	1	26	38	1	8
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	114	1	114	32	1	32
	Left-Through		0			0	
	Through	1016	2	**508**	780	2	**390**
	Through-Right		0			0	
	Right	67	1	39	136	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	403		North-South:	410
			East-West:	582		East-West:	630
			SUM:	985		SUM:	1040
VOLUME/CAPACITY (V/C) RATIO:				0.691			0.730
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.591**			**0.630**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
11	North-South Street:	S Broadway	East-West Street:	W 2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	76	0	**76**	181	0	181
	Left-Through		1			1	
	Through	373	0	321	824	0	**630**
	Through-Right		1			1	
	Right	116	0	321	73	0	630
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	51	0	51	26	0	**26**
	Left-Through		1			1	
	Through	389	0	**440**	295	0	321
	Through-Right		0			0	
	Right	117	1	117	59	1	59
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	27	0	27	0	0	0
	Left-Through		1			0	
	Through	571	0	**598**	604	1	**604**
	Through-Right		0			0	
	Right	74	1	74	79	1	79
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	28	0	**28**	0	0	**0**
	Left-Through		1			0	
	Through	376	0	404	491	1	491
	Through-Right		0			0	
	Right	39	1	39	41	1	41
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	516		*North-South:*	656
			East-West:	626		*East-West:*	604
			SUM:	1142		*SUM:*	1260
VOLUME/CAPACITY *(V/C)* RATIO:				0.801			0.884
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.701**			**0.784**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
12	North-South Street:	S Broadway	East-West Street:	W 3rd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	104	0	**104**	87	0	87
	Left-Through		1			1	
	Through	404	1	306	756	1	**465**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	282	1	**282**	372	1	372
	Through-Right		0			0	
	Right	140	1	140	89	1	89
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	26	1	26	47	1	47
	Left-Through		0			0	
	Through	1236	2	**432**	822	2	**329**
	Through-Right		1			1	
	Right	59	0	59	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	386		*North-South:*	465
			East-West:	432		*East-West:*	329
			SUM:	818		*SUM:*	794
VOLUME/CAPACITY *(V/C)* RATIO:				0.574			0.557
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.474**			**0.457**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
13	North-South Street:	S Broadway	East-West Street:	W 4th Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	454	1	274	739	1	**448**
	Through-Right		1			1	
	Right	93	0	93	157	0	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	309	1	**309**	422	1	422
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	102	0	102	100	0	100
	Left-Through		1			1	
	Through	876	2	**265**	1177	2	**343**
	Through-Right		1			1	
	Right	80	0	265	93	0	343
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	309		North-South:	448
			East-West:	265		East-West:	343
			SUM:	574		SUM:	791
VOLUME/CAPACITY (V/C) RATIO:				0.383			0.527
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.283**			**0.427**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
14	North-South Street:	N Spring Street	East-West Street:	Aliso Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	34	1	28	39	1	39
	Through-Right		1			1	
	Right	21	0	21	53	0	**53**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	155	1	155	131	1	**131**
	Left-Through		0			0	
	Through	1119	3	**373**	420	3	140
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	286	2	143	625	2	**224**
	Through-Right		1			1	
	Right	167	0	**167**	48	0	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	373		North-South:	184
			East-West:	167		East-West:	224
			SUM:	540		SUM:	408
VOLUME/CAPACITY (V/C) RATIO:				0.360			0.272
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.260**			**0.172**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
15	North-South Street:	N Spring Street	East-West Street:	W Temple Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	55	1	28	95	1	48
	Through-Right		1			1	
	Right	0	0	0	1	0	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	73	0	73	54	0	54
	Left-Through		1			1	
	Through	917	2	**330**	396	2	**150**
	Through-Right		0			0	
	Right	200	1	200	117	1	117
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	532	1	**349**	868	1	**465**
	Through-Right		1			1	
	Right	166	0	166	61	0	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	68	1	**68**	46	1	**46**
	Left-Through		0			0	
	Through	742	2	371	910	2	455
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	330		*North-South:*	150
			East-West:	417		*East-West:*	511
			SUM:	747		*SUM:*	661
VOLUME/CAPACITY *(V/C)* RATIO:				0.524			0.464
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.424**			**0.364**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
16	North-South Street:	Spring Street	East-West Street:	W 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	101	0	101	42	0	42
	Left-Through		1			1	
	Through	855	2	**319**	215	2	**86**
	Through-Right		0			0	
	Right	269	1	218	150	1	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	51	1	**51**	93	1	93
	Left-Through		0			0	
	Through	576	2	288	1143	2	**572**
	Through-Right		0			0	
	Right	181	1	181	132	1	132
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	79	1	79	53	1	**53**
	Left-Through		0			0	
	Through	878	1	**439**	821	1	411
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	319		*North-South:*	86
			East-West:	490		*East-West:*	625
			SUM:	809		*SUM:*	711
VOLUME/CAPACITY *(V/C)* RATIO:				0.568			0.499
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.468**			**0.399**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
17	North-South Street:	S Spring Street	East-West Street:	W 2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	36	63	0	63
	Left-Through		1			1	
	Through	1013	2	**350**	479	2	**181**
	Through-Right		0			0	
	Right	86	1	86	24	1	24
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	363	1	**363**	486	1	**486**
	Through-Right		0			0	
	Right	318	1	318	177	1	177
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	173	1	**173**	87	1	**87**
	Left-Through		0			0	
	Through	349	1	349	534	1	534
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	350		*North-South:*	181
			East-West:	536		*East-West:*	573
			SUM:	886		*SUM:*	754
VOLUME/CAPACITY *(V/C)* RATIO:				0.591			0.503
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.491**			**0.403**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
18	North-South Street:	S Spring Street	East-West Street:	W 3rd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	654	3	**218**	558	3	**186**
	Through-Right		0			0	
	Right	190	1	190	156	1	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	434	1	434	291	1	291
	Left-Through		0			0	
	Through	1146	2	**573**	839	2	**420**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	218		*North-South:*	186
			East-West:	573		*East-West:*	420
			SUM:	791		*SUM:*	606
VOLUME/CAPACITY *(V/C)* RATIO:				0.527			0.404
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.427**			**0.304**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
19	North-South Street:	S Spring Street	East-West Street:	W 4th Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	114	0	114	191	0	191
	Left-Through		1			1	
	Through	895	2	**336**	821	2	**337**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	721	3	**220**	1196	3	**333**
	Through-Right		1			1	
	Right	158	0	158	137	0	137
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	336		North-South:	337
			East-West:	220		East-West:	333
			SUM:	556		SUM:	670
VOLUME/CAPACITY (V/C) RATIO:				0.371			0.447
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.271**			**0.347**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
20	North-South Street:	N Main Street	East-West Street:	E Temple Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	108	0	108	271	0	271
	Left-Through		1			1	
	Through	371	3	**120**	1425	3	**424**
	Through-Right		0			0	
	Right	98	1	98	109	1	109
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	**74**	148	1	**148**
	Left-Through		0			0	
	Through	507	2	254	751	2	376
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	826	1	**454**	742	1	**453**
	Through-Right		1			1	
	Right	82	0	82	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	120		*North-South:*	424
			East-West:	528		*East-West:*	601
			SUM:	648		*SUM:*	1025
VOLUME/CAPACITY *(V/C)* RATIO:				0.455			0.719
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.355**			**0.619**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
21	North-South Street:	Main Street	East-West Street:	1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	213	0	**213**	246	0	246
	Left-Through		1			1	
	Through	389	2	195	1428	2	**558**
	Through-Right		0			0	
	Right	52	1	52	82	1	82
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	0	0	**0**	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	101	1	**101**	164	1	164
	Left-Through		0			0	
	Through	530	2	265	1016	2	**508**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	797	2	**399**	613	2	307
	Through-Right		0			0	
	Right	97	1	97	198	1	198
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	213		*North-South:*	558
			East-West:	500		*East-West:*	508
			SUM:	713		*SUM:*	1066
VOLUME/CAPACITY *(V/C)* RATIO:				0.500			0.748
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.400**			**0.648**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
22	North-South Street:	S Main Street	East-West Street:	2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	36	0	36	45	0	45
	Left-Through		1			1	
	Through	518	2	**185**	1416	2	**487**
	Through-Right		0			0	
	Right	45	1	45	85	1	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	24	1	**24**	37	1	**37**
	Left-Through		0			0	
	Through	353	1	353	432	1	432
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	335	0	**369**	462	0	**506**
	Through-Right		1			1	
	Right	34	0	0	44	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	185		*North-South:*	487
			East-West:	393		*East-West:*	543
			SUM:	578		*SUM:*	1030
VOLUME/CAPACITY *(V/C)* RATIO:				0.385			0.687
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.285**			**0.587**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
23	North-South Street:	S Main Street	East-West Street:	3rd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	165	0	165	189	0	189
	Left-Through		1			1	
	Through	477	2	**214**	1101	2	**430**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1446	3	**482**	941	3	314
	Through-Right		0			0	
	Right	174	1	174	384	1	**384**
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	214		*North-South:*	430
			East-West:	482		*East-West:*	384
			SUM:	696		*SUM:*	814
VOLUME/CAPACITY *(V/C)* RATIO:				0.464			0.543
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.364**			**0.443**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
24	North-South Street:	Los Angeles Street	East-West Street:	E 1st Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--	0	NB-- 2	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	114	1	**114**	156	1	156
	Left-Through		0			0	
	Through	361	1	206	836	1	**471**
	Through-Right		1			1	
	Right	51	0	51	106	0	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	86	1	86	81	1	**81**
	Left-Through		0			0	
	Through	827	2	**414**	389	2	195
	Through-Right		0			0	
	Right	145	1	129	128	1	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	32	1	**32**	81	1	81
	Left-Through		0			0	
	Through	397	2	199	940	2	**470**
	Through-Right		0			0	
	Right	138	1	81	97	1	19
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	73	1	73	60	1	**60**
	Left-Through		0			0	
	Through	625	2	**313**	475	2	238
	Through-Right		0			0	
	Right	57	1	14	68	1	28
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	528		*North-South:*	552
			East-West:	345		*East-West:*	530
			SUM:	873		*SUM:*	1082
	VOLUME/CAPACITY *(V/C)* RATIO:			0.582			0.721
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.482**			**0.621**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
25	North-South Street:	S Los Angeles Street	East-West Street:	E 2nd Street		
	Scenario:	Existing Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	58	1	**58**	126	1	**126**
	Left-Through		0			0	
	Through	438	1	249	926	1	512
	Through-Right		1			1	
	Right	60	0	60	98	0	98
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	96	1	96	84	1	84
	Left-Through		0			0	
	Through	751	1	**751**	473	1	**473**
	Through-Right		0			0	
	Right	87	1	79	57	1	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	16	1	**16**	22	1	**22**
	Left-Through		0			0	
	Through	225	0	253	376	0	406
	Through-Right		1			1	
	Right	28	0	0	30	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	36	1	36	53	1	53
	Left-Through		0			0	
	Through	276	0	**391**	349	0	**470**
	Through-Right		1			1	
	Right	115	0	0	121	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	809		North-South:	599
			East-West:	407		East-West:	492
			SUM:	1216		SUM:	1091
VOLUME/CAPACITY (V/C) RATIO:				0.811			0.727
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.711**			**0.627**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
26	North-South Street:	N Figueroa Street	East-West Street:	Sunset Blvd/Cesar Chavez Ave	
	Scenario:	Existing Base			
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2	
Override Capacity			0			0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	134	1	**134**	392	1	**392**
	Left-Through		0			0	
	Through	313	2	157	882	2	441
	Through-Right		0			0	
	Right	226	1	57	348	1	286
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	74	1	74	33	1	33
	Left-Through		0			0	
	Through	532	1	**312**	141	1	**87**
	Through-Right		1			1	
	Right	91	0	91	33	0	33
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	131	1	131	118	1	118
	Left-Through		0			0	
	Through	809	2	405	870	2	**435**
	Through-Right		0			0	
	Right	479	1	**412**	169	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	339	1	**339**	124	1	**124**
	Left-Through		0			0	
	Through	799	2	400	743	2	372
	Through-Right		0			0	
	Right	62	1	25	88	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	446		North-South:	479
			East-West:	751		East-West:	559
			SUM:	1197		SUM:	1038
VOLUME/CAPACITY (V/C) RATIO:				0.871			0.755
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.771**			**0.655**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
27	North-South Street:	S Beaudry Avenue	East-West Street:	W 2nd Street		
	Scenario:	Existing Base				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	83	0	**83**	152	0	152
	Left-Through		1			1	
	Through	266	1	266	864	1	**584**
	Through-Right		0			0	
	Right	114	1	72	167	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	252	0	252	82	0	**82**
	Left-Through		1			1	
	Through	786	0	**658**	453	0	468
	Through-Right		1			1	
	Right	25	0	658	15	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	63	1	63	98	1	**98**
	Left-Through		0			0	
	Through	703	2	**352**	443	2	222
	Through-Right		0			0	
	Right	327	1	286	138	1	138
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	84	1	**84**	122	1	122
	Left-Through		0			0	
	Through	258	1	258	363	1	**363**
	Through-Right		0			0	
	Right	54	1	54	118	1	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	741		*North-South:*	666
			East-West:	436		*East-West:*	461
			SUM:	1177		*SUM:*	1127
VOLUME/CAPACITY *(V/C)* RATIO:				0.785			0.751
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.685**			**0.651**
LEVEL OF SERVICE (LOS):				**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
28	North-South Street:	S Figueroa Street	East-West Street:	W 3rd Street		
	Scenario:	Existing Base				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	580	3	**203**	756	3	**265**
	Left-Through		0			0	
	Through	639	3	213	1368	3	456
	Through-Right		0			0	
	Right	201	1	201	73	1	73
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	26	1	26	20	1	20
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	1314	2	**723**	799	2	**439**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	276	2	138	37	2	19
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1221	5	**244**	1388	5	**278**
	Through-Right		0			0	
	Right	98	1	85	141	1	131
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	926		*North-South:*	704
			East-West:	244		*East-West:*	278
			SUM:	1170		*SUM:*	982
VOLUME/CAPACITY *(V/C)* RATIO:				0.851			0.714
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.751**			**0.614**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

EXISTING PLUS PROJECT

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
1	North-South Street:	S Figueroa Street	East-West Street:	W 2nd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0		NB-- 0	SB--	0	
		EB-- 3	WB--	0		EB-- 3	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	100	1	**100**		191	1	191	
	Left-Through		0				0		
	Through	804	2	402		1394	2	**697**	
	Through-Right		0				0		
	Right	68	1	60		152	1	133	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	109	1	109		103	1	**103**	
	Left-Through		0				0		
	Through	819	1	**454**		327	1	201	
	Through-Right		1				1		
	Right	89	0	89		74	0	74	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	71	1	71		179	1	179	
	Left-Through		0				0		
	Through	271	1	271		421	1	**421**	
	Through-Right		0				0		
	Right	433	1	**333**		385	1	194	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	17	1	**17**		38	1	**38**	
	Left-Through		0				0		
	Through	114	1	114		132	1	132	
	Through-Right		0				0		
	Right	30	1	0		66	1	15	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			North-South:	554			North-South:	800	
			East-West:	350			East-West:	459	
			SUM:	904			SUM:	1259	
VOLUME/CAPACITY (V/C) RATIO:				0.634				0.884	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.534**				**0.784**	
LEVEL OF SERVICE (LOS):				**A**				**C**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
2	North-South Street:	S Grand Avenue	East-West Street:	W 1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--		3	NB-- 3	SB--		3
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	17	1	**17**		60	1	**60**	
	Left-Through		0				0		
	Through	86	2	43		438	2	219	
	Through-Right		0				0		
	Right	19	1	0		69	1	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	93	1	93		54	1	54	
	Left-Through		0				0		
	Through	804	2	**402**		619	2	**310**	
	Through-Right		0				0		
	Right	130	1	0		181	1	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	169	1	**169**		250	1	**250**	
	Left-Through		0				0		
	Through	655	2	292		701	2	293	
	Through-Right		1				1		
	Right	221	0	221		179	0	179	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	241	2	133		169	2	93	
	Left-Through		0				0		
	Through	670	2	**301**		923	2	**419**	
	Through-Right		1				1		
	Right	234	0	234		333	0	333	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	419			*North-South:*	370	
			East-West:	470			*East-West:*	669	
			SUM:	889			*SUM:*	1039	
VOLUME/CAPACITY *(V/C)* RATIO:				0.624				0.729	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.524**				**0.629**	
LEVEL OF SERVICE (LOS):				**A**				**B**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
3	North-South Street:	S Olive Street	East-West Street:	W 1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				3				3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0	NB-- 3	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	175	2	**96**		472	2	**260**	
	Left-Through		0				0		
	Through	0	0	0		0	0	0	
	Through-Right		0				0		
	Right	333	2	0		544	2	213	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	0	0	0		0	0	0	
	Left-Through		0				0		
	Through	0	0	**0**		0	0	**0**	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	0	0	0		0	0	**0**	
	Left-Through		0				0		
	Through	544	2	**253**		761	2	274	
	Through-Right		1				1		
	Right	216	0	216		60	0	60	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	288	1	**288**		86	1	86	
	Left-Through		0				0		
	Through	962	2	481		958	2	**479**	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		North-South:	96			North-South:	260	
			East-West:	541			East-West:	479	
			SUM:	637			SUM:	739	
	VOLUME/CAPACITY (V/C) RATIO:			0.447				0.519	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.347**				**0.419**	
	LEVEL OF SERVICE (LOS):			**A**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
4	North-South Street:	N Hill Street	East-West Street:	W Temple Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				3				3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	65	1	**65**		71	1	71	
	Left-Through		0				0		
	Through	195	1	129		783	1	**445**	
	Through-Right		1				1		
	Right	62	0	62		106	0	106	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	184	1	184		122	1	**122**	
	Left-Through		0				0		
	Through	1232	2	**616**		852	2	426	
	Through-Right		0				0		
	Right	343	1	326		245	1	203	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	35	1	**35**		85	1	**85**	
	Left-Through		0				0		
	Through	367	1	246		658	1	358	
	Through-Right		1				1		
	Right	124	0	124		57	0	57	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	190	1	190		39	1	39	
	Left-Through		0				0		
	Through	944	1	**511**		778	1	**498**	
	Through-Right		1				1		
	Right	77	0	77		217	0	217	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	681			*North-South:*	567	
			East-West:	546			*East-West:*	583	
			SUM:	1227			*SUM:*	1150	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.861				0.807	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.761**				**0.707**	
	LEVEL OF SERVICE (LOS):			**C**				**C**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
5	North-South Street:	Hill Street	East-West Street:	W 1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	50	1	**50**	69	1	69
	Left-Through		0			0	
	Through	207	1	133	568	1	**362**
	Through-Right		1			1	
	Right	59	0	59	156	0	156
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	130	1	130	156	1	**156**
	Left-Through		0			0	
	Through	1024	2	**512**	752	2	376
	Through-Right		0			0	
	Right	202	1	151	156	1	23
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	102	1	**102**	266	1	**266**
	Left-Through		0			0	
	Through	546	2	273	1064	2	532
	Through-Right		0			0	
	Right	103	1	78	43	1	9
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	117	1	117	53	1	53
	Left-Through		0			0	
	Through	1065	2	**533**	806	2	**403**
	Through-Right		0			0	
	Right	98	1	33	65	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	562		North-South:	518
			East-West:	635		East-West:	669
			SUM:	1197		SUM:	1187
VOLUME/CAPACITY (V/C) RATIO:				0.871			0.863
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.771**			**0.763**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
6	North-South Street:	Hill Street	East-West Street:	W 2nd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				2				2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		2	NB-- 0	SB--		2
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	67	1	**67**		121	1	121	
	Left-Through		0				0		
	Through	247	1	152		717	1	**391**	
	Through-Right		1				1		
	Right	56	0	56		64	0	64	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	34	1	34		28	1	**28**	
	Left-Through		0				0		
	Through	901	2	**361**		751	2	272	
	Through-Right		1				1		
	Right	181	0	181		65	0	65	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	0	0	0		43	0	43	
	Left-Through		0				1		
	Through	134	1	134		378	0	**421**	
	Through-Right		0				0		
	Right	351	1	**318**		227	1	167	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	0	0	**0**		0	0	**0**	
	Left-Through		0				0		
	Through	170	1	103		189	1	110	
	Through-Right		1				1		
	Right	36	0	36		30	0	30	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		North-South:	428			North-South:	419	
			East-West:	318			East-West:	421	
			SUM:	746			SUM:	840	
	VOLUME/CAPACITY (V/C) RATIO:			0.497				0.560	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.397**				**0.460**	
	LEVEL OF SERVICE (LOS):			**A**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
7	North-South Street:	Hill Street	East-West Street:	W 3rd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				2				2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	58	1	**58**		61	1	**61**	
	Left-Through		0				0		
	Through	410	2	205		542	2	271	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	0	0	0		0	0	0	
	Left-Through		0				0		
	Through	935	2	**468**		893	2	**447**	
	Through-Right		0				0		
	Right	224	1	224		218	1	218	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	0	0	**0**		0	0	**0**	
	Left-Through		0				0		
	Through	0	0	0		0	0	0	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	127	1	127		128	1	128	
	Left-Through		0				0		
	Through	1265	2	**633**		938	2	**469**	
	Through-Right		0				0		
	Right	127	1	127		161	1	161	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	526			*North-South:*	508	
			East-West:	633			*East-West:*	469	
			SUM:	1159			*SUM:*	977	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.773				0.651	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.673**				**0.551**	
	LEVEL OF SERVICE (LOS):			**B**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
8	North-South Street:	N Broadway	East-West Street:	Aliso Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	290	2	145	1034	2	**517**
	Through-Right		0			0	
	Right	84	1	84	367	1	367
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	113	1	113	61	1	**61**
	Left-Through		0			0	
	Through	890	2	**445**	562	2	281
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	101	0	101	112	0	112
	Left-Through		1			1	
	Through	240	1	171	243	1	**178**
	Through-Right		0			0	
	Right	209	1	**209**	46	1	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	445		North-South:	578
			East-West:	209		East-West:	178
			SUM:	654		SUM:	756
VOLUME/CAPACITY (V/C) RATIO:				0.436			0.504
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.336**			**0.404**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
9	North-South Street:	N Broadway	East-West Street:	W Temple Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	75	1	**75**	104	1	104
	Left-Through		0			0	
	Through	294	2	127	957	2	**357**
	Through-Right		1			1	
	Right	88	0	88	115	0	115
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	127	1	127	75	1	**75**
	Left-Through		0			0	
	Through	607	1	**457**	361	1	266
	Through-Right		1			1	
	Right	306	0	306	170	0	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	46	1	**46**	74	1	**74**
	Left-Through		0			0	
	Through	489	1	281	713	1	379
	Through-Right		1			1	
	Right	72	0	72	44	0	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	95	1	95	22	1	22
	Left-Through		0			0	
	Through	840	1	**461**	839	1	**532**
	Through-Right		1			1	
	Right	81	0	81	224	0	224
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	532		North-South:	432
			East-West:	507		East-West:	606
			SUM:	1039		SUM:	1038
VOLUME/CAPACITY (V/C) RATIO:				0.729			0.728
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.629**			**0.628**
LEVEL OF SERVICE (LOS):				**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
10	North-South Street:	Broadway	East-West Street:	W 1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	98	1	**98**	64	1	64
	Left-Through		0			0	
	Through	369	2	185	801	2	**355**
	Through-Right		1			1	
	Right	191	0	134	263	0	263
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	57	1	57	60	1	**60**
	Left-Through		0			0	
	Through	348	1	**348**	312	1	312
	Through-Right		0			0	
	Right	236	1	199	99	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	74	1	**74**	240	1	**240**
	Left-Through		0			0	
	Through	567	2	284	1056	2	528
	Through-Right		0			0	
	Right	55	1	6	74	1	42
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	114	1	114	37	1	37
	Left-Through		0			0	
	Through	1016	2	**508**	780	2	**390**
	Through-Right		0			0	
	Right	67	1	39	136	1	106
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	446		North-South:	415
			East-West:	582		East-West:	630
			SUM:	1028		SUM:	1045
VOLUME/CAPACITY (V/C) RATIO:				0.721			0.733
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.621**			**0.633**
LEVEL OF SERVICE (LOS):				**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
11	North-South Street:	S Broadway	East-West Street:	W 2nd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	76	0	**76**	181	0	181
	Left-Through		1			1	
	Through	374	0	321	857	0	**651**
	Through-Right		1			1	
	Right	116	0	321	83	0	651
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	66	0	66	42	0	**42**
	Left-Through		1			1	
	Through	424	0	**490**	299	0	341
	Through-Right		0			0	
	Right	136	1	136	61	1	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	28	0	28	0	0	0
	Left-Through		1			0	
	Through	572	0	**600**	651	1	**651**
	Through-Right		0			0	
	Right	74	1	74	79	1	79
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	41	0	**41**	0	0	**0**
	Left-Through		1			0	
	Through	395	0	436	493	1	493
	Through-Right		0			0	
	Right	58	1	58	73	1	73
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	566		*North-South:*	693
			East-West:	641		*East-West:*	651
			SUM:	1207		*SUM:*	1344
	VOLUME/CAPACITY *(V/C)* RATIO:			0.847			0.943
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.747**			**0.843**
	LEVEL OF SERVICE (LOS):			**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
12	North-South Street:	S Broadway	East-West Street:	W 3rd Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	104	0	**104**	87	0	87
	Left-Through		1			1	
	Through	406	1	307	799	1	**487**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	291	1	**291**	373	1	373
	Through-Right		0			0	
	Right	179	1	179	92	1	92
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	26	1	26	47	1	47
	Left-Through		0			0	
	Through	1239	2	**433**	823	2	**329**
	Through-Right		1			1	
	Right	59	0	59	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	395		*North-South:*	487
			East-West:	433		*East-West:*	329
			SUM:	828		*SUM:*	816
VOLUME/CAPACITY *(V/C)* RATIO:				0.581			0.573
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.481**			**0.473**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
13	North-South Street:	S Broadway	East-West Street:	W 4th Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	455	1	274	759	1	**458**
	Through-Right		1			1	
	Right	93	0	93	157	0	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	318	1	**318**	423	1	423
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	103	0	103	123	0	123
	Left-Through		1			1	
	Through	876	2	**265**	1177	2	**348**
	Through-Right		1			1	
	Right	80	0	265	93	0	348
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	318		North-South:	458
			East-West:	265		East-West:	348
			SUM:	583		SUM:	806
	VOLUME/CAPACITY (V/C) RATIO:			0.389			0.537
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.289**			**0.437**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
14	North-South Street:	N Spring Street	East-West Street:	Aliso Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	34	1	28	39	1	39
	Through-Right		1			1	
	Right	21	0	21	53	0	**53**
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	155	1	155	131	1	**131**
	Left-Through		0			0	
	Through	1120	3	**373**	447	3	149
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	304	2	152	627	2	**225**
	Through-Right		1			1	
	Right	167	0	**167**	48	0	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	373		North-South:	184
			East-West:	167		East-West:	225
			SUM:	540		SUM:	409
VOLUME/CAPACITY (V/C) RATIO:				0.360			0.273
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.260**			**0.173**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
15	North-South Street:	N Spring Street	East-West Street:	W Temple Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				3				3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	0	0	**0**		0	0	**0**	
	Left-Through		0				0		
	Through	55	1	28		95	1	48	
	Through-Right		1				1		
	Right	0	0	0		1	0	1	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	73	0	73		54	0	54	
	Left-Through		1				1		
	Through	918	2	**330**		421	2	**158**	
	Through-Right		0				0		
	Right	200	1	200		118	1	118	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	0	0	0		0	0	0	
	Left-Through		0				0		
	Through	547	1	**357**		869	1	**465**	
	Through-Right		1				1		
	Right	166	0	166		61	0	61	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	68	1	**68**		56	1	**56**	
	Left-Through		0				0		
	Through	742	2	371		915	2	458	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	330			*North-South:*	158	
			East-West:	425			*East-West:*	521	
			SUM:	755			*SUM:*	679	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.530				0.476	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.430**				**0.376**	
	LEVEL OF SERVICE (LOS):			**A**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
16	North-South Street:	Spring Street	East-West Street:	W 1st Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
	No. of Phases				3				3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0				0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		3	NB-- 0	SB--		3
		EB-- 0	WB--		0	EB-- 0	WB--		0
	ATSAC-1 or ATSAC+ATCS-2?				2				2
	Override Capacity				0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	0	0	**0**		0	0	**0**	
	Left-Through		0				0		
	Through	0	0	0		0	0	0	
	Through-Right		0				0		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	101	0	101		42	0	42	
	Left-Through		1				1		
	Through	856	2	**319**		250	2	**97**	
	Through-Right		0				0		
	Right	269	1	218		150	1	57	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	51	1	**51**		93	1	93	
	Left-Through		0				0		
	Through	604	2	302		1145	2	**573**	
	Through-Right		0				0		
	Right	209	1	209		135	1	135	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	79	1	79		64	1	**64**	
	Left-Through		0				0		
	Through	878	1	**439**		826	1	413	
	Through-Right		1				1		
	Right	0	0	0		0	0	0	
	Left-Through-Right		0				0		
	Left-Right		0				0		
	CRITICAL VOLUMES		*North-South:*	319			*North-South:*	97	
			East-West:	490			*East-West:*	637	
			SUM:	809			*SUM:*	734	
	VOLUME/CAPACITY *(V/C)* RATIO:			0.568				0.515	
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.468**				**0.415**	
	LEVEL OF SERVICE (LOS):			**A**				**A**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
17	North-South Street:	S Spring Street	East-West Street:	W 2nd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	36	0	36	63	0	63
	Left-Through		1			1	
	Through	1039	2	**358**	482	2	**182**
	Through-Right		0			0	
	Right	89	1	89	71	1	71
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	373	1	**373**	487	1	**487**
	Through-Right		0			0	
	Right	333	1	333	178	1	178
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	173	1	**173**	87	1	**87**
	Left-Through		0			0	
	Through	350	1	350	563	1	563
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	358		*North-South:*	182
			East-West:	546		*East-West:*	574
			SUM:	904		*SUM:*	756
	VOLUME/CAPACITY *(V/C)* RATIO:			0.603			0.504
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.503**			**0.404**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
18	North-South Street:	S Spring Street	East-West Street:	W 3rd Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	692	3	**231**	561	3	**187**
	Through-Right		0			0	
	Right	193	1	193	157	1	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	434	1	434	291	1	291
	Left-Through		0			0	
	Through	1146	2	**573**	839	2	**420**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	231		*North-South:*	187
			East-West:	573		*East-West:*	420
			SUM:	804		*SUM:*	607
VOLUME/CAPACITY *(V/C)* RATIO:				0.536			0.405
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.436**			**0.305**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
19	North-South Street:	S Spring Street	East-West Street:	W 4th Street		
	Scenario:	Existing + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	126	0	126	192	0	192
	Left-Through		1			1	
	Through	921	2	**349**	823	2	**338**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	721	3	**220**	1196	3	**333**
	Through-Right		1			1	
	Right	158	0	158	137	0	137
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	349		North-South:	338
			East-West:	220		East-West:	333
			SUM:	569		SUM:	671
	VOLUME/CAPACITY (V/C) RATIO:			0.379			0.447
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.279**			**0.347**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
20	North-South Street:	N Main Street	East-West Street:	E Temple Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	108	0	108	271	0	271
	Left-Through		1			1	
	Through	374	3	**121**	1425	3	**424**
	Through-Right		0			0	
	Right	104	1	104	110	1	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	78	1	**78**	148	1	**148**
	Left-Through		0			0	
	Through	519	2	260	752	2	376
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	827	1	**455**	757	1	**461**
	Through-Right		1			1	
	Right	82	0	82	164	0	164
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	121		*North-South:*	424
			East-West:	533		*East-West:*	609
			SUM:	654		*SUM:*	1033
VOLUME/CAPACITY *(V/C)* RATIO:				0.459			0.725
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.359**			**0.625**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
21	North-South Street:	Main Street	East-West Street:	1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	213	0	**213**	246	0	246
	Left-Through		1			1	
	Through	389	2	195	1428	2	**558**
	Through-Right		0			0	
	Right	52	1	52	82	1	82
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	0	0	**0**	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	110	1	**110**	165	1	165
	Left-Through		0			0	
	Through	549	2	275	1018	2	**509**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	798	2	**399**	629	2	315
	Through-Right		0			0	
	Right	97	1	97	198	1	198
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	213		*North-South:*	558
			East-West:	509		*East-West:*	509
			SUM:	722		*SUM:*	1067
VOLUME/CAPACITY *(V/C)* RATIO:				0.507			0.749
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.407**			**0.649**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
22	North-South Street:	S Main Street	East-West Street:	2nd Street
	Scenario:	Existing + Project		
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	37	0	37	65	0	65
	Left-Through		1			1	
	Through	518	2	**185**	1416	2	**494**
	Through-Right		0			0	
	Right	45	1	45	85	1	85
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	24	1	**24**	37	1	**37**
	Left-Through		0			0	
	Through	363	1	363	433	1	433
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	335	0	**369**	471	0	**515**
	Through-Right		1			1	
	Right	34	0	0	44	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	185		*North-South:*	494
			East-West:	393		*East-West:*	552
			SUM:	578		*SUM:*	1046
VOLUME/CAPACITY *(V/C)* RATIO:				0.385			0.697
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.285**			**0.597**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
23	North-South Street:	S Main Street	East-West Street:	3rd Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	165	0	165	189	0	189
	Left-Through		1			1	
	Through	477	2	**214**	1111	2	**433**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1446	3	**482**	941	3	314
	Through-Right		0			0	
	Right	174	1	174	394	1	**394**
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	214		*North-South:*	433
			East-West:	482		*East-West:*	394
			SUM:	696		*SUM:*	827
	VOLUME/CAPACITY *(V/C)* RATIO:			0.464			0.551
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.364**			**0.451**
	LEVEL OF SERVICE (LOS):			**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
24	North-South Street:	Los Angeles Street	East-West Street:	E 1st Street	
	Scenario:	Existing + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 2	SB--		0	NB-- 2	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	114	1	**114**		156	1	156	
	Left-Through		0				0		
	Through	361	1	206		836	1	**471**	
	Through-Right		1				1		
	Right	51	0	51		106	0	106	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	86	1	86		81	1	**81**	
	Left-Through		0				0		
	Through	827	2	**414**		389	2	195	
	Through-Right		0				0		
	Right	145	1	129		128	1	88	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	32	1	**32**		81	1	81	
	Left-Through		0				0		
	Through	416	2	208		942	2	**471**	
	Through-Right		0				0		
	Right	138	1	81		97	1	19	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	73	1	73		60	1	**60**	
	Left-Through		0				0		
	Through	626	2	**313**		491	2	246	
	Through-Right		0				0		
	Right	57	1	14		68	1	28	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	528			*North-South:*	552	
			East-West:	345			*East-West:*	531	
			SUM:	873			*SUM:*	1083	
VOLUME/CAPACITY *(V/C)* RATIO:				0.582				0.722	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.482**				**0.622**	
LEVEL OF SERVICE (LOS):				**A**				**B**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
25	North-South Street:	S Los Angeles Street	East-West Street:	E 2nd Street
	Scenario:	Existing + Project		
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	58	1	**58**	126	1	**126**
	Left-Through		0			0	
	Through	438	1	249	926	1	512
	Through-Right		1			1	
	Right	60	0	60	98	0	98
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	96	1	96	84	1	84
	Left-Through		0			0	
	Through	751	1	**751**	473	1	**473**
	Through-Right		0			0	
	Right	87	1	79	57	1	46
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	16	1	**16**	22	1	**22**
	Left-Through		0			0	
	Through	235	0	263	377	0	407
	Through-Right		1			1	
	Right	28	0	0	30	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	36	1	36	53	1	53
	Left-Through		0			0	
	Through	276	0	**391**	358	0	**479**
	Through-Right		1			1	
	Right	115	0	0	121	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	809		North-South:	599
			East-West:	407		East-West:	501
			SUM:	1216		SUM:	1100
VOLUME/CAPACITY (V/C) RATIO:				0.811			0.733
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.711**			**0.633**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
26	North-South Street:	N Figueroa Street	East-West Street:	Sunset Blvd/Cesar Chavez Ave
	Scenario:	Existing + Project		
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	150	1	**150**	393	1	**393**
	Left-Through		0			0	
	Through	321	2	161	883	2	442
	Through-Right		0			0	
	Right	226	1	57	348	1	286
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	74	1	74	33	1	33
	Left-Through		0			0	
	Through	532	1	**312**	148	1	**91**
	Through-Right		1			1	
	Right	91	0	91	33	0	33
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	131	1	131	118	1	118
	Left-Through		0			0	
	Through	809	2	**405**	880	2	**440**
	Through-Right		0			0	
	Right	480	1	405	183	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	339	1	**339**	124	1	**124**
	Left-Through		0			0	
	Through	811	2	406	744	2	372
	Through-Right		0			0	
	Right	62	1	25	88	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	462		North-South:	484
			East-West:	744		East-West:	564
			SUM:	1206		SUM:	1048
VOLUME/CAPACITY (V/C) RATIO:				0.877			0.762
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.777**			**0.662**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
27	North-South Street:	S Beaudry Avenue	East-West Street:	W 2nd Street
	Scenario:	Existing + Project		
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	83	0	**83**	152	0	152
	Left-Through		1			1	
	Through	266	1	266	864	1	**584**
	Through-Right		0			0	
	Right	114	1	72	168	1	107
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	252	0	252	82	0	**82**
	Left-Through		1			1	
	Through	786	0	**658**	453	0	468
	Through-Right		1			1	
	Right	25	0	658	15	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	63	1	63	98	1	**98**
	Left-Through		0			0	
	Through	704	2	**352**	463	2	232
	Through-Right		0			0	
	Right	327	1	286	138	1	138
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	84	1	**84**	122	1	122
	Left-Through		0			0	
	Through	281	1	281	365	1	**365**
	Through-Right		0			0	
	Right	54	1	54	118	1	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	741		North-South:	666
			East-West:	436		East-West:	463
			SUM:	1177		SUM:	1129
	VOLUME/CAPACITY (V/C) RATIO:			0.785			0.753
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.685**			**0.653**
	LEVEL OF SERVICE (LOS):			**B**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
28	North-South Street:	S Figueroa Street	East-West Street:	W 3rd Street	
	Scenario:	Existing + Project			
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	580	3	**203**	756	3	**265**
	Left-Through		0			0	
	Through	639	3	213	1368	3	456
	Through-Right		0			0	
	Right	201	1	201	73	1	73
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	26	1	26	20	1	20
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	1315	2	**723**	799	2	**439**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	276	2	138	37	2	19
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1241	5	**248**	1390	5	**278**
	Through-Right		0			0	
	Right	98	1	85	141	1	131
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	926		*North-South:*	704
			East-West:	248		*East-West:*	278
			SUM:	1174		*SUM:*	982
VOLUME/CAPACITY *(V/C)* RATIO:				0.854			0.714
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.754**			**0.614**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

FUTURE BASE

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
1	North-South Street:	S Figueroa Street	East-West Street:	W 2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 / EB-- 3	SB--		0 / 0	NB-- 0 / EB-- 3	SB--	0 / 0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	125	1	**125**	229	1	229
	Left-Through		0			0	
	Through	895	2	448	1508	2	**754**
	Through-Right		0			0	
	Right	72	1	64	161	1	141
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	137	1	137	131	1	**131**
	Left-Through		0			0	
	Through	870	1	**482**	349	1	214
	Through-Right		1			1	
	Right	94	0	94	79	0	79
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	75	1	75	190	1	190
	Left-Through		0			0	
	Through	458	1	**458**	606	1	**606**
	Through-Right		0			0	
	Right	460	1	335	409	1	180
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	17	1	**17**	40	1	**40**
	Left-Through		0			0	
	Through	228	1	228	295	1	295
	Through-Right		0			0	
	Right	22	1	0	75	1	10
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	607		*North-South:*	885
			East-West:	475		*East-West:*	646
			SUM:	1082		*SUM:*	1531
VOLUME/CAPACITY *(V/C)* RATIO:				0.759			1.074
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.659**			**0.974**
LEVEL OF SERVICE (LOS):				**B**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
2	North-South Street:	S Grand Avenue	East-West Street:	W 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3 / EB-- 0		SB-- 3 / WB-- 0		NB-- 3 / EB-- 0		SB-- 3 / WB-- 0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	81	1	**81**	198	1	**198**
	Left-Through		0			0	
	Through	154	2	77	599	2	300
	Through-Right		0			0	
	Right	241	1	0	543	1	229
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	105	1	105	67	1	67
	Left-Through		0			0	
	Through	969	2	**485**	795	2	**398**
	Through-Right		0			0	
	Right	138	1	0	192	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	179	1	179	265	1	**265**
	Left-Through		0			0	
	Through	960	2	**430**	998	2	437
	Through-Right		1			1	
	Right	331	0	331	314	0	314
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	574	2	**316**	571	2	314
	Left-Through		0			0	
	Through	902	2	389	1232	2	**541**
	Through-Right		1			1	
	Right	266	0	266	391	0	391
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	566		*North-South:*	596
			East-West:	746		*East-West:*	806
			SUM:	1312		*SUM:*	1402
VOLUME/CAPACITY *(V/C)* RATIO:				0.921			0.984
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.821**			**0.884**
LEVEL OF SERVICE (LOS):				**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
3	North-South Street:	S Olive Street	East-West Street:	W 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 3	SB--		0	NB-- 3	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	232	2	**128**	548	2	**301**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	374	2	0	588	2	232
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	1063	2	433	1522	2	535
	Through-Right		1			1	
	Right	235	0	235	83	0	83
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	306	1	306	91	1	91
	Left-Through		0			0	
	Through	1501	2	**751**	1651	2	**826**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	128		*North-South:*	301
			East-West:	751		*East-West:*	826
			SUM:	879		*SUM:*	1127
VOLUME/CAPACITY *(V/C)* RATIO:				0.617			0.791
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.517**			**0.691**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
4	North-South Street:	N Hill Street	East-West Street:	W Temple Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	77	1	**77**	97	1	97
	Left-Through		0			0	
	Through	369	1	219	1006	1	**562**
	Through-Right		1			1	
	Right	69	0	69	117	0	117
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	195	1	195	130	1	**130**
	Left-Through		0			0	
	Through	1429	2	**715**	1117	2	559
	Through-Right		0			0	
	Right	364	1	346	260	1	215
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	37	1	**37**	90	1	**90**
	Left-Through		0			0	
	Through	605	1	379	854	1	465
	Through-Right		1			1	
	Right	153	0	153	76	0	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	204	1	204	45	1	45
	Left-Through		0			0	
	Through	1093	1	**588**	1056	1	**643**
	Through-Right		1			1	
	Right	82	0	82	230	0	230
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	792		*North-South:*	692
			East-West:	625		*East-West:*	733
			SUM:	1417		*SUM:*	1425
VOLUME/CAPACITY *(V/C)* RATIO:				0.994			1.000
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.894**			**0.900**
LEVEL OF SERVICE (LOS):				**D**			**D**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
5	North-South Street:	Hill Street	East-West Street:	W 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	130	1	**130**	150	1	**150**
	Left-Through		0			0	
	Through	356	1	237	730	1	466
	Through-Right		1			1	
	Right	118	0	118	202	0	202
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	138	1	138	161	1	161
	Left-Through		0			0	
	Through	1186	2	**593**	978	2	**489**
	Through-Right		0			0	
	Right	260	1	185	222	1	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	151	1	**151**	357	1	**357**
	Left-Through		0			0	
	Through	996	2	498	1679	2	840
	Through-Right		0			0	
	Right	158	1	93	147	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	154	1	154	130	1	130
	Left-Through		0			0	
	Through	1487	2	**744**	1357	2	**679**
	Through-Right		0			0	
	Right	99	1	30	69	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	723		*North-South:*	639
			East-West:	895		*East-West:*	1036
			SUM:	1618		*SUM:*	1675
VOLUME/CAPACITY *(V/C)* RATIO:				1.177			1.218
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.077**			**1.118**
LEVEL OF SERVICE (LOS):				**F**			**F**

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Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
6	North-South Street:	Hill Street	East-West Street:	W 2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	84	1	**84**	142	1	142
	Left-Through		0			0	
	Through	531	1	298	1002	1	**530**
	Through-Right		1			1	
	Right	64	0	64	57	0	57
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	36	1	36	31	1	**31**
	Left-Through		0			0	
	Through	1133	2	**442**	1151	2	407
	Through-Right		1			1	
	Right	192	0	192	69	0	69
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	46	0	46
	Left-Through		0			1	
	Through	307	1	307	533	0	**579**
	Through-Right		0			0	
	Right	399	1	**357**	289	1	218
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	263	1	150	346	1	189
	Through-Right		1			1	
	Right	37	0	37	32	0	32
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	526		North-South:	561
			East-West:	357		East-West:	579
			SUM:	883		SUM:	1140
	VOLUME/CAPACITY (V/C) RATIO:			0.589			0.760
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.489**			**0.660**
	LEVEL OF SERVICE (LOS):			**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
7	North-South Street:	Hill Street	East-West Street:	W 3rd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	148	1	**148**	124	1	**124**
	Left-Through		0			0	
	Through	673	2	337	764	2	382
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1195	2	**598**	1339	2	**670**
	Through-Right		0			0	
	Right	238	1	238	232	1	232
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	194	1	194	279	1	279
	Left-Through		0			0	
	Through	1541	2	**771**	1225	2	**613**
	Through-Right		0			0	
	Right	184	1	184	232	1	232
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	746		*North-South:*	794
			East-West:	771		*East-West:*	613
			SUM:	1517		*SUM:*	1407
VOLUME/CAPACITY *(V/C)* RATIO:				1.011			0.938
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.911**			**0.838**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
8	North-South Street:	N Broadway	East-West Street:	Aliso Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	458	2	229	1366	2	**683**
	Through-Right		0			0	
	Right	104	1	104	420	1	420
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	133	1	133	90	1	**90**
	Left-Through		0			0	
	Through	1189	2	**595**	856	2	428
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	107	0	107	119	0	119
	Left-Through		1			1	
	Through	255	1	181	258	1	**189**
	Through-Right		0			0	
	Right	222	1	**222**	42	1	42
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	595		North-South:	773
			East-West:	222		East-West:	189
			SUM:	817		SUM:	962
VOLUME/CAPACITY (V/C) RATIO:				0.545			0.641
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.445**			**0.541**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
9	North-South Street:	N Broadway	East-West Street:	W Temple Street	
	Scenario:	Future Base			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	75	1	**75**	131	1	131
	Left-Through		0			0	
	Through	466	2	181	1221	2	**447**
	Through-Right		1			1	
	Right	77	0	77	121	0	121
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	228	1	228	124	1	**124**
	Left-Through		0			0	
	Through	795	1	**560**	593	1	387
	Through-Right		1			1	
	Right	325	0	325	180	0	180
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	49	1	**49**	79	1	**79**
	Left-Through		0			0	
	Through	715	1	406	913	1	482
	Through-Right		1			1	
	Right	97	0	97	50	0	50
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	101	1	101	17	1	17
	Left-Through		0			0	
	Through	991	1	**545**	1104	1	**718**
	Through-Right		1			1	
	Right	98	0	98	332	0	332
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	635		North-South:	571
			East-West:	594		East-West:	797
			SUM:	1229		SUM:	1368
VOLUME/CAPACITY (V/C) RATIO:				0.862			0.960
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.762**			**0.860**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
10	North-South Street:	Broadway	East-West Street:	W 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	116	1	**116**	97	1	**97**
	Left-Through		0			0	
	Through	462	2	212	980	2	424
	Through-Right		1			1	
	Right	175	0	175	291	0	291
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	70	1	70	74	1	74
	Left-Through		0			0	
	Through	485	1	**485**	472	1	**472**
	Through-Right		0			0	
	Right	297	1	232	161	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	**130**	343	1	**343**
	Left-Through		0			0	
	Through	953	2	477	1570	2	785
	Through-Right		0			0	
	Right	128	1	70	124	1	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	129	1	129	61	1	61
	Left-Through		0			0	
	Through	1403	2	**702**	1317	2	**659**
	Through-Right		0			0	
	Right	82	1	47	152	1	115
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	601		*North-South:*	569
			East-West:	832		*East-West:*	1002
			SUM:	1433		*SUM:*	1571
VOLUME/CAPACITY *(V/C)* RATIO:				1.006			1.102
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.906**			**1.002**
LEVEL OF SERVICE (LOS):				**E**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
11	North-South Street:	S Broadway	East-West Street:	W 2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	111	0	**111**	212	0	212
	Left-Through		1			1	
	Through	643	0	632	1063	0	**1011**
	Through-Right		1			1	
	Right	176	0	632	110	0	1011
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	67	0	67	50	0	**50**
	Left-Through		1			1	
	Through	597	0	**664**	592	0	642
	Through-Right		0			0	
	Right	124	1	124	63	1	63
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	29	0	29	0	0	0
	Left-Through		1			0	
	Through	731	0	**760**	765	1	**765**
	Through-Right		0			0	
	Right	127	1	127	132	1	132
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	30	0	**30**	0	0	**0**
	Left-Through		1			0	
	Through	490	0	520	650	1	650
	Through-Right		0			0	
	Right	41	1	41	44	1	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	775		*North-South:*	1061
			East-West:	790		*East-West:*	765
			SUM:	1565		*SUM:*	1826
VOLUME/CAPACITY *(V/C)* RATIO:				1.098			1.281
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.998**			**1.181**
LEVEL OF SERVICE (LOS):				**E**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
12	North-South Street:	S Broadway	East-West Street:	W 3rd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0		NB-- 0	SB--	0
	EB-- 0	WB--	0		EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2				2
Override Capacity			0				0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	179	0	**179**	138	0	138
	Left-Through		1			1	
	Through	794	1	576	1074	1	**813**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	411	1	**411**	619	1	619
	Through-Right		0			0	
	Right	174	1	174	125	1	125
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	69	1	69	174	1	174
	Left-Through		0			0	
	Through	1569	2	**549**	1235	2	**475**
	Through-Right		1			1	
	Right	79	0	79	189	0	189
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	590		*North-South:*	813
			East-West:	549		*East-West:*	475
			SUM:	1139		*SUM:*	1288
VOLUME/CAPACITY *(V/C)* RATIO:				0.799			0.904
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.699**			**0.804**
LEVEL OF SERVICE (LOS):				**B**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
13	North-South Street:	S Broadway	East-West Street:	W 4th Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	815	1	**495**	1034	1	626
	Through-Right		1			1	
	Right	174	0	174	217	0	217
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	481	1	481	796	1	**796**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	209	0	209	173	0	173
	Left-Through		1			1	
	Through	1232	2	**387**	1628	2	**490**
	Through-Right		1			1	
	Right	106	0	387	157	0	490
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	495		*North-South:*	796
			East-West:	387		*East-West:*	490
			SUM:	882		*SUM:*	1286
VOLUME/CAPACITY *(V/C)* RATIO:				0.588			0.857
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.488**			**0.757**
LEVEL OF SERVICE (LOS):				**A**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
14	North-South Street:	N Spring Street	East-West Street:	Aliso Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	36	1	29	41	1	41
	Through-Right		1			1	
	Right	22	0	22	56	0	56
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	165	1	165	139	1	139
	Left-Through		0			0	
	Through	1455	3	**485**	730	3	**243**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	338	2	169	696	2	**257**
	Through-Right		1			1	
	Right	190	0	**190**	76	0	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	485		*North-South:*	243
			East-West:	190		*East-West:*	257
			SUM:	675		*SUM:*	500
VOLUME/CAPACITY *(V/C)* RATIO:				0.450			0.333
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.350**			**0.233**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
15	North-South Street:	N Spring Street	East-West Street:	W Temple Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	58	1	29	101	1	51
	Through-Right		1			1	
	Right	0	0	0	1	0	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	172	0	172	103	0	103
	Left-Through		1			1	
	Through	1154	2	**442**	679	2	**261**
	Through-Right		0			0	
	Right	214	1	214	127	1	127
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	828	1	**515**	1098	1	**593**
	Through-Right		1			1	
	Right	202	0	202	88	0	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	72	1	**72**	50	1	**50**
	Left-Through		0			0	
	Through	896	2	448	1270	2	635
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	442		*North-South:*	261
			East-West:	587		*East-West:*	643
			SUM:	1029		*SUM:*	904
	VOLUME/CAPACITY *(V/C)* RATIO:			0.722			0.634
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.622**			**0.534**
	LEVEL OF SERVICE (LOS):			**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
16	North-South Street:	Spring Street	East-West Street:	W 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	3	NB-- 0	SB--	3
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	109	1	109	50	1	50
	Left-Through		0			0	
	Through	1098	2	**549**	479	2	**240**
	Through-Right		0			0	
	Right	301	1	247	186	1	87
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	**54**	99	1	99
	Left-Through		0			0	
	Through	963	2	482	1611	2	**806**
	Through-Right		0			0	
	Right	231	1	231	218	1	218
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	135	1	135	141	1	**141**
	Left-Through		0			0	
	Through	1259	1	**630**	1369	1	685
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	549		*North-South:*	240
			East-West:	684		*East-West:*	947
			SUM:	1233		*SUM:*	1187
VOLUME/CAPACITY *(V/C)* RATIO:				0.865			0.833
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.765**			**0.733**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
17	North-South Street:	S Spring Street	East-West Street:	W 2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	40	1	40	70	1	70
	Left-Through		0			0	
	Through	1352	2	**676**	920	2	**460**
	Through-Right		0			0	
	Right	91	1	91	25	1	25
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	559	1	**559**	672	1	**672**
	Through-Right		0			0	
	Right	354	1	354	210	1	210
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	330	1	**330**	196	1	**196**
	Left-Through		0			0	
	Through	461	1	461	696	1	696
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	676		*North-South:*	460
			East-West:	889		*East-West:*	868
			SUM:	1565		*SUM:*	1328
VOLUME/CAPACITY *(V/C)* RATIO:				1.043			0.885
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.943**			**0.785**
LEVEL OF SERVICE (LOS):				**E**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
18	North-South Street:	S Spring Street	East-West Street:	W 3rd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	904	2	**452**	974	2	**487**
	Through-Right		0			0	
	Right	205	1	205	176	1	176
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	534	1	534	398	1	398
	Left-Through		0			0	
	Through	1529	2	**765**	1382	2	**691**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	452		North-South:	487
			East-West:	765		East-West:	691
			SUM:	1217		SUM:	1178
	VOLUME/CAPACITY (V/C) RATIO:			0.811			0.785
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.711**			**0.685**
	LEVEL OF SERVICE (LOS):			**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
19	North-South Street:	S Spring Street	East-West Street:	W 4th Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	186	1	186	265	1	265
	Left-Through		0			0	
	Through	1169	2	**585**	1223	2	**612**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1172	3	**344**	1699	3	**474**
	Through-Right		1			1	
	Right	202	0	202	196	0	196
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	585		North-South:	612
			East-West:	344		East-West:	474
			SUM:	929		SUM:	1086
VOLUME/CAPACITY (V/C) RATIO:				0.619			0.724
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.519**			**0.624**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
20	North-South Street:	N Main Street	East-West Street:	E Temple Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	131	1	131	316	1	316
	Left-Through		0			0	
	Through	577	3	**192**	1663	3	**554**
	Through-Right		0			0	
	Right	105	1	105	116	1	116
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	80	1	**80**	161	1	**161**
	Left-Through		0			0	
	Through	895	2	448	1016	2	508
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	970	1	**535**	1064	1	**668**
	Through-Right		1			1	
	Right	100	0	100	272	0	272
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	192		*North-South:*	554
			East-West:	615		*East-West:*	829
			SUM:	807		*SUM:*	1383
	VOLUME/CAPACITY *(V/C)* RATIO:			0.566			0.971
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.466**			**0.871**
	LEVEL OF SERVICE (LOS):			**A**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
21	North-South Street:	Main Street	East-West Street:	1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	294	1	**294**	333	1	333
	Left-Through		0			0	
	Through	590	2	235	1672	2	**597**
	Through-Right		1			1	
	Right	114	0	114	119	0	119
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	0	0	**0**	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	108	1	**108**	178	1	**178**
	Left-Through		0			0	
	Through	916	2	458	1478	2	739
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1157	2	**579**	1161	2	**581**
	Through-Right		0			0	
	Right	124	1	124	228	1	228
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	294		*North-South:*	597
			East-West:	687		*East-West:*	759
			SUM:	981		*SUM:*	1356
VOLUME/CAPACITY *(V/C)* RATIO:				0.688			0.952
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.588**			**0.852**
LEVEL OF SERVICE (LOS):				**A**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
22	North-South Street:	S Main Street	East-West Street:	2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	AM Volume	AM No. of Lanes	AM Lane Volume	PM Volume	PM No. of Lanes	PM Lane Volume
NORTHBOUND	Left	132	1	132	113	1	113
	Left-Through		0			0	
	Through	849	2	**425**	1759	2	**880**
	Through-Right		0			0	
	Right	126	1	126	142	1	142
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	30	1	**30**	41	1	**41**
	Left-Through		0			0	
	Through	546	1	546	615	1	615
	Through-Right		0			0	
	Right	0	0	0	2	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	498	0	**535**	658	0	**709**
	Through-Right		1			1	
	Right	37	0	0	51	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	425		*North-South:*	880
			East-West:	565		*East-West:*	750
			SUM:	990		*SUM:*	1630
VOLUME/CAPACITY *(V/C)* RATIO:				0.660			1.087
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.560**			**0.987**
LEVEL OF SERVICE (LOS):				**A**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
23	North-South Street:	S Main Street	East-West Street:	3rd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	219	1	219	261	1	261
	Left-Through		0			0	
	Through	941	2	**471**	1519	2	**760**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	2	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1876	3	**625**	1517	3	**506**
	Through-Right		0			0	
	Right	221	1	221	430	1	430
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	471		*North-South:*	760
			East-West:	625		*East-West:*	506
			SUM:	1096		*SUM:*	1266
VOLUME/CAPACITY *(V/C)* RATIO:				0.731			0.844
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.631**			**0.744**
LEVEL OF SERVICE (LOS):				**B**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
24	North-South Street:	Los Angeles Street	East-West Street:	E 1st Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 2	SB--		0	NB-- 2	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	168	1	**168**	204	1	204
	Left-Through		0			0	
	Through	634	1	355	1061	1	**598**
	Through-Right		1			1	
	Right	75	0	75	134	0	134
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	91	1	91	89	1	**89**
	Left-Through		0			0	
	Through	1041	2	**521**	709	2	355
	Through-Right		0			0	
	Right	208	1	115	311	1	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	187	1	**187**	200	1	200
	Left-Through		0			0	
	Through	649	2	325	1273	2	**637**
	Through-Right		0			0	
	Right	178	1	94	146	1	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	98	1	98	87	1	**87**
	Left-Through		0			0	
	Through	895	2	**448**	819	2	410
	Through-Right		0			0	
	Right	64	1	19	73	1	29
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	689		*North-South:*	687
			East-West:	635		*East-West:*	724
			SUM:	1324		*SUM:*	1411
VOLUME/CAPACITY *(V/C)* RATIO:				0.883			0.941
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.783**			**0.841**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
25	North-South Street:	S Los Angeles Street	East-West Street:	E 2nd Street		
	Scenario:	Future Base				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	77	1	**77**	150	1	**150**
	Left-Through		0			0	
	Through	737	1	411	1189	1	655
	Through-Right		1			1	
	Right	84	0	84	120	0	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	102	1	102	89	1	89
	Left-Through		0			0	
	Through	987	1	**987**	830	1	**830**
	Through-Right		0			0	
	Right	118	1	86	95	1	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	65	1	**65**	50	1	50
	Left-Through		0			0	
	Through	402	0	470	537	0	**611**
	Through-Right		1			1	
	Right	68	0	0	74	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	70	1	70	101	1	**101**
	Left-Through		0			0	
	Through	395	0	**517**	492	0	620
	Through-Right		1			1	
	Right	122	0	0	128	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	1064		*North-South:*	980
			East-West:	582		*East-West:*	712
			SUM:	1646		*SUM:*	1692
VOLUME/CAPACITY *(V/C)* RATIO:				1.097			1.128
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.997**			**1.028**
LEVEL OF SERVICE (LOS):				**E**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
26	North-South Street:	N Figueroa Street	East-West Street:	Sunset Blvd/Cesar Chavez Ave		
	Scenario:	Future Base				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	185	1	**185**	464	1	**464**
	Left-Through		0			0	
	Through	348	2	174	946	2	473
	Through-Right		0			0	
	Right	240	1	60	369	1	303
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	79	1	79	35	1	35
	Left-Through		0			0	
	Through	573	1	**335**	167	1	**101**
	Through-Right		1			1	
	Right	97	0	97	35	0	35
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	139	1	139	125	1	125
	Left-Through		0			0	
	Through	899	2	450	970	2	**485**
	Through-Right		0			0	
	Right	550	1	**458**	233	1	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	360	1	**360**	132	1	**132**
	Left-Through		0			0	
	Through	883	2	442	830	2	415
	Through-Right		0			0	
	Right	66	1	27	93	1	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	520		*North-South:*	565
			East-West:	818		*East-West:*	617
			SUM:	1338		*SUM:*	1182
VOLUME/CAPACITY *(V/C)* RATIO:				0.973			0.860
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.873**			**0.760**
LEVEL OF SERVICE (LOS):				**D**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
27	North-South Street:	S Beaudry Avenue	East-West Street:	W 2nd Street		
	Scenario:	Future Base				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	88	0	**88**	161	0	161
	Left-Through		1			1	
	Through	282	1	282	917	1	**620**
	Through-Right		0			0	
	Right	121	1	77	177	1	112
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	268	0	268	87	0	**87**
	Left-Through		1			1	
	Through	834	0	**699**	481	0	497
	Through-Right		1			1	
	Right	27	0	699	16	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	67	1	67	104	1	**104**
	Left-Through		0			0	
	Through	917	2	**459**	652	2	326
	Through-Right		0			0	
	Right	367	1	323	170	1	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	89	1	**89**	130	1	130
	Left-Through		0			0	
	Through	424	1	424	568	1	**568**
	Through-Right		0			0	
	Right	57	1	57	125	1	82
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	787		*North-South:*	707
			East-West:	548		*East-West:*	672
			SUM:	1335		*SUM:*	1379
VOLUME/CAPACITY *(V/C)* RATIO:				0.890			0.919
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.790**			**0.819**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
28	North-South Street:	S Figueroa Street	East-West Street:	W 3rd Street		
	Scenario:	Future Base				
	Count Date:	10/17/2017	Analyst:	Fehr & Peers	Date:	5/4/2018

		AM			PM		
	No. of Phases			4			4
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	616	3	**216**	803	3	**281**
	Left-Through		0			0	
	Through	715	3	238	1488	3	496
	Through-Right		0			0	
	Right	213	1	213	77	1	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	28	1	28	21	1	21
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	1396	2	**768**	850	2	**468**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	293	2	147	39	2	20
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1560	5	**312**	1707	5	**341**
	Through-Right		0			0	
	Right	128	1	114	167	1	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	984		North-South:	749
			East-West:	312		East-West:	341
			SUM:	1296		SUM:	1090
	VOLUME/CAPACITY (V/C) RATIO:			0.943			0.793
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.843**			**0.693**
	LEVEL OF SERVICE (LOS):			**D**			**B**

Version: 1i Beta; 8/4/2011

FUTURE PLUS PROJECT

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
1	North-South Street:	S Figueroa Street	East-West Street:	W 2nd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0 / EB-- 3	SB--		0 / 0	NB-- 0 / EB-- 3	SB--	0 / 0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	125	1	**125**	229	1	229
	Left-Through		0			0	
	Through	895	2	448	1508	2	**754**
	Through-Right		0			0	
	Right	72	1	63	161	1	141
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	137	1	137	141	1	**141**
	Left-Through		0			0	
	Through	870	1	**482**	349	1	214
	Through-Right		1			1	
	Right	94	0	94	79	0	79
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	75	1	75	190	1	190
	Left-Through		0			0	
	Through	459	1	**459**	628	1	**628**
	Through-Right		0			0	
	Right	460	1	335	409	1	180
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	18	1	**18**	40	1	**40**
	Left-Through		0			0	
	Through	251	1	251	297	1	297
	Through-Right		0			0	
	Right	34	1	0	76	1	6
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	607		*North-South:*	895
			East-West:	477		*East-West:*	668
			SUM:	1084		*SUM:*	1563
VOLUME/CAPACITY *(V/C)* RATIO:				0.761			1.097
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.661**			**0.997**
LEVEL OF SERVICE (LOS):				**B**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
2	North-South Street:	S Grand Avenue	East-West Street:	W 1st Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--		3	NB-- 3	SB--		3
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
	MOVEMENT	Volume	No. of Lanes		Lane Volume	Volume	No. of Lanes		Lane Volume
NORTHBOUND	Left	81	1		**81**	198	1		**198**
	Left-Through		0				0		
	Through	154	2		77	599	2		300
	Through-Right		0				0		
	Right	241	1		0	543	1		229
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	105	1		105	76	1		76
	Left-Through		0				0		
	Through	969	2		**485**	795	2		**398**
	Through-Right		0				0		
	Right	138	1		0	192	1		0
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	179	1		179	265	1		**265**
	Left-Through		0				0		
	Through	961	2		**431**	1017	2		444
	Through-Right		1				1		
	Right	331	0		331	314	0		314
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	578	2		**318**	571	2		314
	Left-Through		0				0		
	Through	917	2		400	1233	2		**542**
	Through-Right		1				1		
	Right	283	0		283	393	0		393
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES				North-South:	566			North-South:	596
				East-West:	749			East-West:	807
				SUM:	1315			SUM:	1403
VOLUME/CAPACITY (V/C) RATIO:					0.923				0.985
V/C LESS ATSAC/ATCS ADJUSTMENT:					**0.823**				**0.885**
LEVEL OF SERVICE (LOS):					**D**				**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
3	North-South Street:	S Olive Street	East-West Street:	W 1st Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 3	SB--	0	NB-- 3	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	232	2	**128**	548	2	**301**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	374	2	0	592	2	235
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	0	0	**0**	0	0	**0**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	1064	2	433	1550	2	544
	Through-Right		1			1	
	Right	235	0	235	83	0	83
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	306	1	306	91	1	91
	Left-Through		0			0	
	Through	1537	2	**769**	1654	2	**827**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	128		*North-South:*	301
			East-West:	769		*East-West:*	827
			SUM:	897		*SUM:*	1128
VOLUME/CAPACITY *(V/C)* RATIO:				0.629			0.792
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.529**			**0.692**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
4	North-South Street:	N Hill Street	East-West Street:	W Temple Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					3				3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0		NB-- 0	SB--	0	
		EB-- 0	WB--	0		EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
MOVEMENT		Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	77	1	**77**		97	1	97	
	Left-Through		0				0		
	Through	376	1	223		1007	1	**562**	
	Through-Right		1				1		
	Right	69	0	69		117	0	117	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	195	1	195		130	1	**130**	
	Left-Through		0				0		
	Through	1429	2	**715**		1123	2	562	
	Through-Right		0				0		
	Right	364	1	346		260	1	215	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	37	1	**37**		90	1	**90**	
	Left-Through		0				0		
	Through	605	1	379		865	1	471	
	Through-Right		1				1		
	Right	153	0	153		76	0	76	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	204	1	204		45	1	45	
	Left-Through		0				0		
	Through	1105	1	**594**		1057	1	**644**	
	Through-Right		1				1		
	Right	82	0	82		230	0	230	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	792			*North-South:*	692	
			East-West:	631			*East-West:*	734	
			SUM:	1423			*SUM:*	1426	
VOLUME/CAPACITY *(V/C)* RATIO:				0.999				1.001	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.899**				**0.901**	
LEVEL OF SERVICE (LOS):				**D**				**E**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
5	North-South Street:	Hill Street	East-West Street:	W 1st Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2	
Override Capacity			0			0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	130	1	**130**	150	1	**150**
	Left-Through		0			0	
	Through	357	1	238	730	1	466
	Through-Right		1			1	
	Right	118	0	118	202	0	202
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	138	1	138	165	1	165
	Left-Through		0			0	
	Through	1186	2	**593**	979	2	**490**
	Through-Right		0			0	
	Right	260	1	185	222	1	44
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	151	1	**151**	357	1	**357**
	Left-Through		0			0	
	Through	997	2	499	1711	2	856
	Through-Right		0			0	
	Right	158	1	93	147	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	154	1	154	130	1	130
	Left-Through		0			0	
	Through	1523	2	**762**	1360	2	**680**
	Through-Right		0			0	
	Right	104	1	35	69	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	723		North-South:	640
			East-West:	913		East-West:	1037
			SUM:	1636		SUM:	1677
VOLUME/CAPACITY (V/C) RATIO:				1.190			1.220
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.090**			**1.120**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
6	North-South Street:	Hill Street	East-West Street:	W 2nd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	84	1	**84**	142	1	142
	Left-Through		0			0	
	Through	531	1	298	1002	1	**537**
	Through-Right		1			1	
	Right	65	0	65	71	0	71
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	36	1	36	32	1	**32**
	Left-Through		0			0	
	Through	1133	2	**442**	1151	2	407
	Through-Right		1			1	
	Right	192	0	192	69	0	69
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	46	0	46
	Left-Through		0			1	
	Through	308	1	308	565	0	**611**
	Through-Right		0			0	
	Right	399	1	**357**	289	1	218
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	299	1	169	349	1	191
	Through-Right		1			1	
	Right	38	0	38	32	0	32
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	526		North-South:	569
			East-West:	357		East-West:	611
			SUM:	883		SUM:	1180
VOLUME/CAPACITY (V/C) RATIO:				0.589			0.787
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.489**			**0.687**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
7	North-South Street:	Hill Street	East-West Street:	W 3rd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--		0	NB-- 0	SB--	0
	EB-- 0	WB--		0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	148	1	**148**	124	1	**124**
	Left-Through		0			0	
	Through	674	2	337	778	2	389
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1195	2	**598**	1339	2	**670**
	Through-Right		0			0	
	Right	238	1	238	232	1	232
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	210	1	210	280	1	280
	Left-Through		0			0	
	Through	1567	2	**784**	1227	2	**614**
	Through-Right		0			0	
	Right	184	1	184	232	1	232
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	746		*North-South:*	794
			East-West:	784		*East-West:*	614
			SUM:	1530		*SUM:*	1408
VOLUME/CAPACITY *(V/C)* RATIO:				1.020			0.939
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.920**			**0.839**
LEVEL OF SERVICE (LOS):				**E**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
8	North-South Street:	N Broadway	East-West Street:	Aliso Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	497	2	249	1369	2	**685**
	Through-Right		0			0	
	Right	122	1	122	422	1	422
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	133	1	133	90	1	**90**
	Left-Through		0			0	
	Through	1190	2	**595**	879	2	440
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	107	0	107	119	0	119
	Left-Through		1			1	
	Through	255	1	181	258	1	**189**
	Through-Right		0			0	
	Right	222	1	**222**	48	1	48
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	595		*North-South:*	775
			East-West:	222		*East-West:*	189
			SUM:	817		*SUM:*	964
VOLUME/CAPACITY *(V/C)* RATIO:				0.545			0.643
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.445**			**0.543**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
9	North-South Street:	N Broadway	East-West Street:	W Temple Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	87	1	**87**	132	1	132
	Left-Through		0			0	
	Through	523	2	205	1226	2	**449**
	Through-Right		1			1	
	Right	92	0	92	122	0	122
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	228	1	228	124	1	**124**
	Left-Through		0			0	
	Through	796	1	**561**	622	1	401
	Through-Right		1			1	
	Right	325	0	325	180	0	180
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	49	1	**49**	79	1	**79**
	Left-Through		0			0	
	Through	715	1	406	913	1	487
	Through-Right		1			1	
	Right	97	0	97	61	0	61
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	101	1	101	23	1	23
	Left-Through		0			0	
	Through	991	1	**545**	1104	1	**718**
	Through-Right		1			1	
	Right	98	0	98	332	0	332
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	648		North-South:	573
			East-West:	594		East-West:	797
			SUM:	1242		SUM:	1370
VOLUME/CAPACITY (V/C) RATIO:				0.872			0.961
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.772**			**0.861**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
10	North-South Street:	Broadway	East-West Street:	W 1st Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	157	1	**157**	101	1	**101**
	Left-Through		0			0	
	Through	547	2	259	987	2	428
	Through-Right		1			1	
	Right	230	0	230	297	0	297
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	70	1	70	74	1	74
	Left-Through		0			0	
	Through	487	1	**487**	518	1	**518**
	Through-Right		0			0	
	Right	297	1	232	161	1	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	130	1	**130**	343	1	**343**
	Left-Through		0			0	
	Through	953	2	477	1570	2	785
	Through-Right		0			0	
	Right	129	1	51	160	1	110
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	129	1	129	66	1	66
	Left-Through		0			0	
	Through	1403	2	**702**	1317	2	**659**
	Through-Right		0			0	
	Right	82	1	47	152	1	115
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	644		*North-South:*	619
			East-West:	832		*East-West:*	1002
			SUM:	1476		*SUM:*	1621
	VOLUME/CAPACITY *(V/C)* RATIO:			1.036			1.138
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.936**			**1.038**
	LEVEL OF SERVICE (LOS):			**E**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
11	North-South Street:	S Broadway	East-West Street:	W 2nd Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	111	0	**111**	212	0	212
	Left-Through		1			1	
	Through	644	0	632	1096	0	**1032**
	Through-Right		1			1	
	Right	176	0	632	120	0	1032
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	82	0	82	66	0	**66**
	Left-Through		1			1	
	Through	632	0	**714**	596	0	662
	Through-Right		0			0	
	Right	143	1	143	65	1	65
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	30	0	30	0	0	0
	Left-Through		1			0	
	Through	732	0	**762**	812	1	**812**
	Through-Right		0			0	
	Right	127	1	127	132	1	132
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	43	0	**43**	0	0	**0**
	Left-Through		1			0	
	Through	509	0	552	652	1	652
	Through-Right		0			0	
	Right	60	1	60	76	1	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	825		*North-South:*	1098
			East-West:	805		*East-West:*	812
			SUM:	1630		*SUM:*	1910
VOLUME/CAPACITY *(V/C)* RATIO:				1.144			1.340
V/C LESS ATSAC/ATCS ADJUSTMENT:				**1.044**			**1.240**
LEVEL OF SERVICE (LOS):				**F**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
12	North-South Street:	S Broadway	East-West Street:	W 3rd Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	179	0	179	138	0	138
	Left-Through		1			1	
	Through	796	1	**756**	1117	1	**835**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	420	1	420	620	1	620
	Through-Right		0			0	
	Right	213	1	213	128	1	128
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	69	1	69	174	1	174
	Left-Through		0			0	
	Through	1572	2	**550**	1236	2	**475**
	Through-Right		1			1	
	Right	79	0	79	189	0	189
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	756		North-South:	835
			East-West:	550		East-West:	475
			SUM:	1306		SUM:	1310
VOLUME/CAPACITY (V/C) RATIO:				0.916			0.919
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.816**			**0.819**
LEVEL OF SERVICE (LOS):				**D**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
13	North-South Street:	S Broadway	East-West Street:	W 4th Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	816	1	**495**	1054	1	636
	Through-Right		1			1	
	Right	174	0	174	217	0	217
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	0
	Left-Through		0			0	
	Through	490	1	490	797	1	**797**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	210	0	210	196	0	196
	Left-Through		1			1	
	Through	1232	2	**387**	1628	2	**495**
	Through-Right		1			1	
	Right	106	0	387	157	0	495
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	495		North-South:	797
			East-West:	387		East-West:	495
			SUM:	882		SUM:	1292
	VOLUME/CAPACITY (V/C) RATIO:			0.588			0.861
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.488**			**0.761**
	LEVEL OF SERVICE (LOS):			**A**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
14	North-South Street:	N Spring Street	East-West Street:	Aliso Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	36	1	29	41	1	41
	Through-Right		1			1	
	Right	22	0	22	56	0	56
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	165	1	165	139	1	139
	Left-Through		0			0	
	Through	1456	3	**485**	757	3	**252**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	356	2	178	698	2	**258**
	Through-Right		1			1	
	Right	190	0	**190**	76	0	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	485		*North-South:*	252
			East-West:	190		*East-West:*	258
			SUM:	675		*SUM:*	510
VOLUME/CAPACITY *(V/C)* RATIO:				0.450			0.340
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.350**			**0.240**
LEVEL OF SERVICE (LOS):				**A**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
15	North-South Street:	N Spring Street	East-West Street:	W Temple Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	58	1	29	101	1	51
	Through-Right		1			1	
	Right	0	0	0	1	0	1
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	172	0	172	103	0	103
	Left-Through		1			1	
	Through	1155	2	**442**	704	2	**269**
	Through-Right		0			0	
	Right	214	1	214	128	1	128
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	843	1	**523**	1099	1	**594**
	Through-Right		1			1	
	Right	202	0	202	88	0	88
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	72	1	**72**	60	1	**60**
	Left-Through		0			0	
	Through	896	2	448	1275	2	638
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	442		*North-South:*	269
			East-West:	595		*East-West:*	654
			SUM:	1037		*SUM:*	923
	VOLUME/CAPACITY *(V/C)* RATIO:			0.728			0.648
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.628**			**0.548**
	LEVEL OF SERVICE (LOS):			**B**			**A**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
16	North-South Street:	Spring Street	East-West Street:	W 1st Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	3	NB-- 0	SB--	3
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	109	1	109	50	1	50
	Left-Through		0			0	
	Through	1099	2	**550**	514	2	**257**
	Through-Right		0			0	
	Right	301	1	247	186	1	87
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	54	1	**54**	99	1	99
	Left-Through		0			0	
	Through	991	2	496	1613	2	**807**
	Through-Right		0			0	
	Right	259	1	259	221	1	221
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	135	1	135	152	1	**152**
	Left-Through		0			0	
	Through	1259	1	**630**	1374	1	687
	Through-Right		1			1	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	550		*North-South:*	257
			East-West:	684		*East-West:*	959
			SUM:	1234		*SUM:*	1216
VOLUME/CAPACITY *(V/C)* RATIO:				0.866			0.853
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.766**			**0.753**
LEVEL OF SERVICE (LOS):				**C**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
17	North-South Street:	S Spring Street	East-West Street:	W 2nd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	40	1	40	70	1	70
	Left-Through		0			0	
	Through	1378	2	**689**	923	2	**462**
	Through-Right		0			0	
	Right	94	1	94	72	1	72
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	569	1	**569**	673	1	**673**
	Through-Right		0			0	
	Right	369	1	369	211	1	211
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	330	1	**330**	196	1	**196**
	Left-Through		0			0	
	Through	462	1	462	725	1	725
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	689		*North-South:*	462
			East-West:	899		*East-West:*	869
			SUM:	1588		*SUM:*	1331
VOLUME/CAPACITY *(V/C)* RATIO:				1.059			0.887
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.959**			**0.787**
LEVEL OF SERVICE (LOS):				**E**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
18	North-South Street:	S Spring Street	East-West Street:	W 3rd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	2	NB-- 0	SB--	2
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	942	2	**471**	977	2	**489**
	Through-Right		0			0	
	Right	208	1	208	177	1	177
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	534	1	534	398	1	398
	Left-Through		0			0	
	Through	1529	2	**765**	1382	2	**691**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	471		*North-South:*	489
			East-West:	765		*East-West:*	691
			SUM:	1236		*SUM:*	1180
VOLUME/CAPACITY *(V/C)* RATIO:				0.824			0.787
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.724**			**0.687**
LEVEL OF SERVICE (LOS):				**C**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
19	North-South Street:	S Spring Street	East-West Street:	W 4th Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	198	1	198	266	1	266
	Left-Through		0			0	
	Through	1195	2	**598**	1225	2	**613**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1172	3	**344**	1699	3	**474**
	Through-Right		1			1	
	Right	202	0	202	196	0	196
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	598		*North-South:*	613
			East-West:	344		*East-West:*	474
			SUM:	942		*SUM:*	1087
VOLUME/CAPACITY *(V/C)* RATIO:				0.628			0.725
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.528**			**0.625**
LEVEL OF SERVICE (LOS):				**A**			**B**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
20	North-South Street:	N Main Street	East-West Street:	E Temple Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			3			3
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	131	1	131	316	1	316
	Left-Through		0			0	
	Through	580	3	**193**	1663	3	**554**
	Through-Right		0			0	
	Right	111	1	111	117	1	117
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	84	1	**84**	161	1	**161**
	Left-Through		0			0	
	Through	907	2	454	1017	2	509
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	971	1	**536**	1079	1	**676**
	Through-Right		1			1	
	Right	100	0	100	272	0	272
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		North-South:	193		North-South:	554
			East-West:	620		East-West:	837
			SUM:	813		SUM:	1391
	VOLUME/CAPACITY (V/C) RATIO:			0.571			0.976
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.471**			**0.876**
	LEVEL OF SERVICE (LOS):			**A**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
21	North-South Street:	Main Street	East-West Street:	1st Street
	Scenario:	Future + Project		
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
No. of Phases				3			3
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	294	1	**294**	333	1	333
	Left-Through		0			0	
	Through	590	2	235	1672	2	**597**
	Through-Right		1			1	
	Right	114	0	114	119	0	119
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	0	0	0	**0**
	Left-Through		0			0	
	Through	0	0	**0**	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	117	1	**117**	179	1	**179**
	Left-Through		0			0	
	Through	935	2	468	1480	2	740
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1158	2	**579**	1177	2	**589**
	Through-Right		0			0	
	Right	124	1	124	228	1	228
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	294		*North-South:*	597
			East-West:	696		*East-West:*	768
			SUM:	990		*SUM:*	1365
VOLUME/CAPACITY *(V/C)* RATIO:				0.695			0.958
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.595**			**0.858**
LEVEL OF SERVICE (LOS):				**A**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square				
22	North-South Street:	S Main Street	East-West Street:	2nd Street		
	Scenario:	Future + Project				
	Count Date:	3/23/2017	Analyst:	Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?				2			2
Override Capacity				0			0
MOVEMENT		Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	133	1	133	133	1	133
	Left-Through		0			0	
	Through	849	2	**425**	1759	2	**880**
	Through-Right		0			0	
	Right	126	1	126	142	1	142
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	30	1	**30**	41	1	**41**
	Left-Through		0			0	
	Through	556	1	556	616	1	616
	Through-Right		0			0	
	Right	0	0	0	2	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	498	0	**535**	667	0	**718**
	Through-Right		1			1	
	Right	37	0	0	51	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	425		North-South:	880
			East-West:	565		East-West:	759
			SUM:	990		SUM:	1639
VOLUME/CAPACITY (V/C) RATIO:				0.660			1.093
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.560**			**0.993**
LEVEL OF SERVICE (LOS):				**A**			**E**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
23	North-South Street:	S Main Street	East-West Street:	3rd Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
	No. of Phases			2			2
	Opposed Ø'ing: N/S-1, E/W-2 or Both-3?			0			0
	Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
		EB-- 0	WB--	0	EB-- 0	WB--	0
	ATSAC-1 or ATSAC+ATCS-2?			2			2
	Override Capacity			0			0
	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	219	1	219	261	1	261
	Left-Through		0			0	
	Through	941	2	**471**	1529	2	**765**
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	2	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1876	3	**625**	1517	3	**506**
	Through-Right		0			0	
	Right	221	1	221	440	1	440
	Left-Through-Right		0			0	
	Left-Right		0			0	
	CRITICAL VOLUMES		*North-South:*	471		*North-South:*	765
			East-West:	625		*East-West:*	506
			SUM:	1096		*SUM:*	1271
	VOLUME/CAPACITY *(V/C)* RATIO:			0.731			0.847
	V/C LESS ATSAC/ATCS ADJUSTMENT:			**0.631**			**0.747**
	LEVEL OF SERVICE (LOS):			**B**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
24	North-South Street:	Los Angeles Street	East-West Street:	E 1st Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM				PM			
No. of Phases					2				2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?					0				0
Right Turns: FREE-1, NRTOR-2 or OLA-3?		NB-- 2	SB--		0	NB-- 2	SB--		0
		EB-- 0	WB--		0	EB-- 0	WB--		0
ATSAC-1 or ATSAC+ATCS-2?					2				2
Override Capacity					0				0
	MOVEMENT	Volume	No. of Lanes	Lane Volume		Volume	No. of Lanes	Lane Volume	
NORTHBOUND	Left	168	1	**168**		204	1	204	
	Left-Through		0				0		
	Through	634	1	355		1061	1	**598**	
	Through-Right		1				1		
	Right	75	0	75		134	0	134	
	Left-Through-Right		0				0		
	Left-Right		0				0		
SOUTHBOUND	Left	91	1	91		89	1	**89**	
	Left-Through		0				0		
	Through	1041	2	**521**		709	2	355	
	Through-Right		0				0		
	Right	208	1	115		311	1	211	
	Left-Through-Right		0				0		
	Left-Right		0				0		
EASTBOUND	Left	187	1	**187**		200	1	200	
	Left-Through		0				0		
	Through	668	2	334		1275	2	**638**	
	Through-Right		0				0		
	Right	178	1	94		146	1	44	
	Left-Through-Right		0				0		
	Left-Right		0				0		
WESTBOUND	Left	98	1	98		87	1	**87**	
	Left-Through		0				0		
	Through	896	2	**448**		835	2	418	
	Through-Right		0				0		
	Right	64	1	19		73	1	29	
	Left-Through-Right		0				0		
	Left-Right		0				0		
CRITICAL VOLUMES			*North-South:*	689			*North-South:*	687	
			East-West:	635			*East-West:*	725	
			SUM:	1324			*SUM:*	1412	
VOLUME/CAPACITY *(V/C)* RATIO:				0.883				0.941	
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.783**				**0.841**	
LEVEL OF SERVICE (LOS):				**C**				**D**	

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
25	North-South Street:	S Los Angeles Street	East-West Street:	E 2nd Street	
	Scenario:	Future + Project			
	Count Date:	3/23/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	77	1	**77**	150	1	**150**
	Left-Through		0			0	
	Through	737	1	411	1189	1	655
	Through-Right		1			1	
	Right	84	0	84	120	0	120
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	102	1	102	89	1	89
	Left-Through		0			0	
	Through	987	1	**987**	830	1	**830**
	Through-Right		0			0	
	Right	118	1	86	95	1	70
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	65	1	**65**	50	1	50
	Left-Through		0			0	
	Through	412	0	480	538	0	**612**
	Through-Right		1			1	
	Right	68	0	0	74	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	70	1	70	101	1	**101**
	Left-Through		0			0	
	Through	395	0	**517**	501	0	629
	Through-Right		1			1	
	Right	122	0	0	128	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	1064		*North-South:*	980
			East-West:	582		*East-West:*	713
			SUM:	1646		*SUM:*	1693
VOLUME/CAPACITY *(V/C)* RATIO:				1.097			1.129
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.997**			**1.029**
LEVEL OF SERVICE (LOS):				**E**			**F**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square		
26	North-South Street:	N Figueroa Street	East-West Street:	Sunset Blvd/Cesar Chavez Ave
	Scenario:	Future + Project		
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date: 5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0	
	EB-- 0	WB--	0	EB-- 0	WB--	0	
ATSAC-1 or ATSAC+ATCS-2?			2			2	
Override Capacity			0			0	

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	201	1	**201**	465	1	**465**
	Left-Through		0			0	
	Through	356	2	178	947	2	474
	Through-Right		0			0	
	Right	240	1	60	369	1	303
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	79	1	79	35	1	35
	Left-Through		0			0	
	Through	573	1	**335**	174	1	**105**
	Through-Right		1			1	
	Right	97	0	97	35	0	35
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	139	1	139	125	1	125
	Left-Through		0			0	
	Through	899	2	450	980	2	**490**
	Through-Right		0			0	
	Right	551	1	**451**	247	1	15
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	360	1	**360**	132	1	**132**
	Left-Through		0			0	
	Through	895	2	448	831	2	416
	Through-Right		0			0	
	Right	66	1	27	93	1	76
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	536		*North-South:*	570
			East-West:	811		*East-West:*	622
			SUM:	1347		*SUM:*	1192
VOLUME/CAPACITY *(V/C)* RATIO:				0.980			0.867
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.880**			**0.767**
LEVEL OF SERVICE (LOS):				**D**			**C**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
27	North-South Street:	S Beaudry Avenue	East-West Street:	W 2nd Street	
	Scenario:	Future + Project			
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				2			2
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	0	NB-- 0	SB--	0
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	88	0	**88**	161	0	161
	Left-Through		1			1	
	Through	282	1	282	917	1	**620**
	Through-Right		0			0	
	Right	121	1	77	178	1	113
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	268	0	268	87	0	**87**
	Left-Through		1			1	
	Through	834	0	**699**	481	0	497
	Through-Right		1			1	
	Right	27	0	699	16	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	67	1	67	104	1	**104**
	Left-Through		0			0	
	Through	918	2	**459**	672	2	336
	Through-Right		0			0	
	Right	367	1	323	170	1	170
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	89	1	**89**	130	1	130
	Left-Through		0			0	
	Through	447	1	447	570	1	**570**
	Through-Right		0			0	
	Right	57	1	57	125	1	82
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			North-South:	787		North-South:	707
			East-West:	548		East-West:	674
			SUM:	1335		SUM:	1381
VOLUME/CAPACITY (V/C) RATIO:				0.890			0.921
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.790**			**0.821**
LEVEL OF SERVICE (LOS):				**C**			**D**

Version: 1i Beta; 8/4/2011

Level of Service Worksheet
(Circular 212 Method)

I/S #:	PROJECT TITLE:	Times Mirror Square			
28	North-South Street:	S Figueroa Street	East-West Street:	W 3rd Street	
	Scenario:	Future + Project			
	Count Date:	10/17/2017	Analyst: Fehr & Peers	Date:	5/9/2018

		AM			PM		
No. of Phases				4			4
Opposed Ø'ing: N/S-1, E/W-2 or Both-3?				0			0
Right Turns: FREE-1, NRTOR-2 or OLA-3?	NB-- 0	SB--	2	NB-- 0	SB--	2
	EB-- 0	WB--	0	EB-- 0	WB--	0
ATSAC-1 or ATSAC+ATCS-2?			2			2
Override Capacity			0			0

	MOVEMENT	Volume	No. of Lanes	Lane Volume	Volume	No. of Lanes	Lane Volume
NORTHBOUND	Left	616	3	**216**	803	3	**281**
	Left-Through		0			0	
	Through	715	3	238	1488	3	496
	Through-Right		0			0	
	Right	213	1	213	77	1	77
	Left-Through-Right		0			0	
	Left-Right		0			0	
SOUTHBOUND	Left	28	1	28	21	1	21
	Left-Through		0			0	
	Through	0	0	0	0	0	0
	Through-Right		0			0	
	Right	1397	2	**768**	850	2	**468**
	Left-Through-Right		0			0	
	Left-Right		0			0	
EASTBOUND	Left	0	0	**0**	0	0	**0**
	Left-Through		0			0	
	Through	293	2	147	39	2	20
	Through-Right		0			0	
	Right	0	0	0	0	0	0
	Left-Through-Right		0			0	
	Left-Right		0			0	
WESTBOUND	Left	0	0	0	0	0	0
	Left-Through		0			0	
	Through	1580	5	**316**	1709	5	**342**
	Through-Right		0			0	
	Right	128	1	114	167	1	157
	Left-Through-Right		0			0	
	Left-Right		0			0	
CRITICAL VOLUMES			*North-South:*	984		*North-South:*	749
			East-West:	316		*East-West:*	342
			SUM:	1300		*SUM:*	1091
VOLUME/CAPACITY *(V/C)* RATIO:				0.945			0.793
V/C LESS ATSAC/ATCS ADJUSTMENT:				**0.845**			**0.693**
LEVEL OF SERVICE (LOS):				**D**			**B**

Version: 1i Beta; 8/4/2011

EXISTING PLUS PROJECT – DRIVEWAY ANALYSIS

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	153	484	63	67	596
Future Vol, veh/h	43	153	484	63	67	596
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	166	526	68	73	648

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1030	297	0	0	595	0
Stage 1	560	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	262	596	-	-	611	-
Stage 1	458	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	213	596	-	-	611	-
Mov Cap-2 Maneuver	308	-	-	-	-	-
Stage 1	458	-	-	-	-	-
Stage 2	468	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.6	0	2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	308	596	611	-
HCM Lane V/C Ratio	-	-	0.152	0.279	0.119	-
HCM Control Delay (s)	-	-	18.8	13.4	11.7	0.9
HCM Lane LOS	-	-	C	B	B	A
HCM 95th %tile Q(veh)	-	-	0.5	1.1	0.4	-

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	51	496	88	56	583
Future Vol, veh/h	41	51	496	88	56	583
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	55	539	96	61	634

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1026	317	0	0	635	0
Stage 1	587	-	-	-	-	-
Stage 2	439	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	263	579	-	-	585	-
Stage 1	441	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	221	579	-	-	585	-
Mov Cap-2 Maneuver	314	-	-	-	-	-
Stage 1	441	-	-	-	-	-
Stage 2	501	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.2	0	1.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	421	585	-
HCM Lane V/C Ratio	-	-	0.238	0.104	-
HCM Control Delay (s)	-	-	16.2	11.9	0.8
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.3	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	756	489	78	13	60
Future Vol, veh/h	80	756	489	78	13	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	822	532	85	14	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	616	0	-	0	1570	574
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	996	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	964	-	-	-	122	518
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	357	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	964	-	-	-	102	518
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	563	-
Stage 2	-	-	-	-	298	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	21.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	964	-	-	-	300
HCM Lane V/C Ratio	0.09	-	-	-	0.264
HCM Control Delay (s)	9.1	0	-	-	21.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.3	-	-	-	1

Intersection	
Int Delay, s/veh	4.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	203	961	43	67	418
Future Vol, veh/h	46	203	961	43	67	418
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	221	1045	47	73	454

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1441	546	0	0	1091	0
Stage 1	1068	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	151	413	-	-	354	-
Stage 1	225	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	109	413	-	-	354	-
Mov Cap-2 Maneuver	179	-	-	-	-	-
Stage 1	225	-	-	-	-	-
Stage 2	466	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	25	0	4.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	179	413	354	-
HCM Lane V/C Ratio	-	-	0.279	0.534	0.206	-
HCM Control Delay (s)	-	-	32.7	23.3	17.8	1.9
HCM Lane LOS	-	-	D	C	C	A
HCM 95th %tile Q(veh)	-	-	1.1	3.1	0.8	-

Intersection	
Int Delay, s/veh	3.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	68	936	65	56	408
Future Vol, veh/h	66	68	936	65	56	408
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	74	1017	71	61	443

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1396	544	0	0	1088	0
Stage 1	1053	-	-	-	-	-
Stage 2	343	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	160	414	-	-	355	-
Stage 1	229	-	-	-	-	-
Stage 2	666	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	414	-	-	355	-
Mov Cap-2 Maneuver	189	-	-	-	-	-
Stage 1	229	-	-	-	-	-
Stage 2	514	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.9	0	3.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	261	355	-
HCM Lane V/C Ratio	-	-	0.558	0.171	-
HCM Control Delay (s)	-	-	34.9	17.2	1.5
HCM Lane LOS	-	-	D	C	A
HCM 95th %tile Q(veh)	-	-	3.1	0.6	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	714	610	78	16	57
Future Vol, veh/h	124	714	610	78	16	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	776	663	85	17	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	748	0	-	0	1751	705
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	1046	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	861	-	-	-	94	436
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	338	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	861	-	-	-	68	436
Mov Cap-2 Maneuver	-	-	-	-	68	-
Stage 1	-	-	-	-	490	-
Stage 2	-	-	-	-	245	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	34.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	861	-	-	-	199
HCM Lane V/C Ratio	0.157	-	-	-	0.399
HCM Control Delay (s)	10	0	-	-	34.6
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.6	-	-	-	1.8

FUTURE PLUS PROJECT – DRIVEWAY ANALYSIS

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	153	756	63	67	824
Future Vol, veh/h	43	153	756	63	67	824
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	166	822	68	73	896

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1449	445	0	0	890	0
Stage 1	856	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	149	479	-	-	442	-
Stage 1	303	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	100	479	-	-	442	-
Mov Cap-2 Maneuver	191	-	-	-	-	-
Stage 1	303	-	-	-	-	-
Stage 2	335	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.4	0	3.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	191	479	442	-
HCM Lane V/C Ratio	-	-	0.245	0.347	0.165	-
HCM Control Delay (s)	-	-	29.8	16.5	14.7	2.1
HCM Lane LOS	-	-	D	C	B	A
HCM 95th %tile Q(veh)	-	-	0.9	1.5	0.6	-

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	41	51	768	88	56	811
Future Vol, veh/h	41	51	768	88	56	811
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	55	835	96	61	882

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1446	465	0	0	930	0
Stage 1	883	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	150	465	-	-	423	-
Stage 1	292	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	108	465	-	-	423	-
Mov Cap-2 Maneuver	197	-	-	-	-	-
Stage 1	292	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.9	0	2.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	289	423	-
HCM Lane V/C Ratio	-	-	0.346	0.144	-
HCM Control Delay (s)	-	-	23.9	14.9	1.9
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.5	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	992	606	78	13	60
Future Vol, veh/h	80	992	606	78	13	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	1078	659	85	14	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	743	0	-	0	1953	701
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	1252	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	864	-	-	-	70	439
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	269	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	864	-	-	-	52	439
Mov Cap-2 Maneuver	-	-	-	-	52	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	201	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	37.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	864	-	-	-	189
HCM Lane V/C Ratio	0.101	-	-	-	0.42
HCM Control Delay (s)	9.6	0	-	-	37.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.3	-	-	-	1.9

Intersection	
Int Delay, s/veh	6.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	203	1203	43	67	739
Future Vol, veh/h	46	203	1203	43	67	739
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	221	1308	47	73	803

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1878	677	0	0	1354	0
Stage 1	1331	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	83	339	-	-	263	-
Stage 1	154	-	-	-	-	-
Stage 2	527	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 41	339	-	-	263	-
Mov Cap-2 Maneuver	106	-	-	-	-	-
Stage 1	154	-	-	-	-	-
Stage 2	263	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	39.5	0	6.7
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	106	339	263	-
HCM Lane V/C Ratio	-	-	0.472	0.651	0.277	-
HCM Control Delay (s)	-	-	66.2	33.4	23.8	5.1
HCM Lane LOS	-	-	F	D	C	A
HCM 95th %tile Q(veh)	-	-	2.1	4.3	1.1	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	66	68	1178	65	56	729
Future Vol, veh/h	66	68	1178	65	56	729
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	74	1280	71	61	792

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1834	676	0	0	1351	0
Stage 1	1316	-	-	-	-	-
Stage 2	518	-	-	-	-	-
Critical Hdwy	6.29	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.67	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	88	339	-	-	264	-
Stage 1	157	-	-	-	-	-
Stage 2	545	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 52	339	-	-	264	-
Mov Cap-2 Maneuver	116	-	-	-	-	-
Stage 1	157	-	-	-	-	-
Stage 2	320	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	84.6	0	5.4
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	174	264	-
HCM Lane V/C Ratio	-	-	0.837	0.231	-
HCM Control Delay (s)	-	-	84.6	22.7	4.1
HCM Lane LOS	-	-	F	C	A
HCM 95th %tile Q(veh)	-	-	5.8	0.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	124	936	773	78	16	57
Future Vol, veh/h	124	936	773	78	16	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	135	1017	840	85	17	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	925	0	-	0	2170	883
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	1287	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	739	-	-	-	51	345
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	259	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	739	-	-	-	30	345
Mov Cap-2 Maneuver	-	-	-	-	30	-
Stage 1	-	-	-	-	404	-
Stage 2	-	-	-	-	150	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	105.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	739	-	-	-	105
HCM Lane V/C Ratio	0.182	-	-	-	0.756
HCM Control Delay (s)	11	0	-	-	105.5
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	4.1

L-2 LADOT Correspondence Approving the Traffic Study

FORM GEN. 160A (Rev. 1/82)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

222 W. 1st St
DOT Case No. CEN 17-45603

Date: May 21, 2018

To: Luciralia Ibarra, Senior City Planner
Department of City Planning

From: Wes Pringle, Transportation Engineer
Department of Transportation

Subject: **TRANSPORTATION IMPACT ANALYSIS FOR THE PROPOSED MIXED-USE DEVELOPMENT LOCATED AT 202 WEST 1st STREET (ENV-2017-433-EIR/CPC-2017-432-CPU-CA/VTT-74761)**

The Department of Transportation (DOT) has reviewed the transportation impact analysis dated May, 2018, prepared by Fehr & Peers, for the proposed Times Mirror Square Project located on a city block bounded by West 1st Street, South Spring Street, West 2nd Street, and South Broadway, in Downtown Los Angeles. In order to evaluate the effects of the project's traffic on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change to the volume-to-capacity (V/C) ratio between the "future no project" and the "future with project" scenarios. This change in the V/C ratio is compared to DOT's established threshold standards to assess the project-related traffic impacts. The transportation impact analysis included the detailed analysis of 28 signalized intersections and three unsignalized intersections. Based on DOT's current traffic impact criteria[1], six (6) of these signalized intersections would be significantly impacted by project-related traffic prior to mitigation. The results of the transportation impact analysis, which accounted for the other known development projects in evaluating potential cumulative impacts, adequately evaluated the project's traffic impacts on the surrounding community and is summarized in **Attachment 1**.

DISCUSSION AND FINDINGS

A. Project Description

The project site is currently divided in the two portions: the eastern portion is occupied by the Times, Plant, and Mirror buildings and the western portion is occupied by the 6-story parking structure and the 6-story Executive Building. The proposed project consists of renovating the existing Times, Plant, and Mirror buildings and constructing two mixed-use towers. The existing Times, Plant, and Mirror buildings would be retained and renovated to provide 307,288 square feet of office space, 18,817 square feet of restaurant space, and a 50,000 square foot grocery space. The existing 6-story parking structure and 6-story Executive Building would be demolished and

[1] Per the DOT Transportation Impact Study Guidelines, a significant impact is identified as an increase in the Critical Movement Analysis (CMA) value, due to project related traffic, of 0.01 or more when the final ("with project") Level of Service (LOS) is LOS E or F; an increase of 0.020 or more when the final LOS is LOS D; or an increase of 0.040 or more when the final LOS is LOS C.

replaced with a 37-story Tower (North Tower) at the corner of West 1st Street and South Broadway and 53-story Tower (South Tower) at the corner of West 2nd Street and South Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include 34,572 square feet of restaurant space at ground level. A pedestrian paseo would be constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between West 1st Street and West 2nd Street.

A five-level above-ground parking podium and a nine-level subterranean garage would be included as part of the construction of the two towers along the Broadway frontage. The project would provide a total of 1,465 vehicular parking spaces and 1,274 bicycle parking spaces (130 short-term and 1,144 long-term). Access to the site will be provided through three full-access driveways: one on West 2nd Street between Broadway and South Spring Street and two on Broadway between West 1st Street and West 2nd Street. The project is expected to be completed by 2023.

B. Trip Generation

The project is estimated to generate a net increase of approximately 6,994 daily trips, a net increase of 300 trips in the a.m. peak hour, and a net increase of 279 trips in the p.m. peak hour. The trip generation estimates are based on formulas published by the Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition, 2012. . These trip generation rates are typically derived from surveys of similar stand-alone (single) land use projects in suburban areas with little to no transit service. Therefore, DOT's transportation impact study guidelines allow projects to reduce their total trip generation to account for potential transit usage to and from the site and for the internal-trip making opportunities that are afforded by mixed-use projects. Consistent with these guidelines, the estimated trip generation includes trip credits to account for the mixed-use nature of the project and for the expected transit mode share. A copy of the trip generation table can be found in **Attachment 2**.

C. Freeway Analysis

The traffic study included a freeway impact analysis that was prepared in accordance with the State-mandated Congestion Management Program (CMP) administered by the Los Angeles County Metropolitan Transportation Authority (MTA). According to this analysis, the project would not result in significant traffic impacts on any of the evaluated freeway mainline segments. To comply with the Freeway Analysis Agreement executed between Caltrans and DOT in December 2015, the study also included a screening analysis to determine if additional evaluation of freeway mainline and ramp segments was necessary beyond the CMP requirements. Exceeding one of the four screening criteria would require the applicant to work directly with Caltrans to prepare more detailed freeway analyses. According to this analysis, the project would not exceed the freeway mainline and off-ramp screening criteria at four locations; therefore, no further analysis of the freeway segment is required for CMP purposes.

D. Traffic Impacts

The study determined that the project would result in significant traffic impacts (pre-mitigation) at the following intersections for future plus project 2023 traffic conditions:

1. South Figueroa Street and West 2nd Street (P.M. Peak Hour)
5. Hill Street and West 1st Street (A.M. Peak Hour)

10. Broadway and West 1st Street (both Peak Hours)
11. South Broadway and West 2nd Street (both Peak Hours)
12. South Broadway and West 3rd Street (A.M. Peak Hour)
17. South Spring Street and West 2nd Street (A.M. Peak Hour)

In consideration of the City's goals to reduce greenhouse gas emissions, the transportation study proposed a transportation demand management program designed to reduce project-related trips and promote other travel modes. The transportation demand management (TDM), described below, would partially but not fully mitigate the project's significant traffic impacts during the peak commute hours at the above intersections.

Physical improvements and intersection modification options at the impacted intersections were considered in an attempt to fully mitigate the impacts. However, these mitigation measures have been determined to be infeasible due to the constraints of the existing physical conditions, secondary impacts to the existing on-street parking and loading zones, the recent adoption of Vision Zero, Mobility Plan 2035, and Complete Streets Design Guide. Therefore, all six intersections would remain significantly and unavoidably impacted event after the implementation of TDM program.

E. Construction Impacts

DOT recommends that a construction work site traffic control plan be submitted to DOT's Citywide Temporary Traffic Control Section or Permit Plan Review Section for review and approval prior to the start of any construction work. Refer to http://ladot.lacity.org/what-we-do/plan-review to determine which section to coordinate review of the work site traffic control plan. The plan should show the location of any roadway or sidewalk closures, traffic detours, haul routes, hours of operation, protective devices, warning signs and access to abutting properties. DOT also recommends that all construction related truck traffic be restricted to off-peak hours.

PROJECT DESIGN FEATURE

Install Two-Way Left-Turn Lane On Broadway

The project proposes to restripe Broadway between 1st Street and 2nd Street and install a two-way left-turn lane that will facilitate left-turn movements to and from the driveways. DOT conceptually approves of the improvement.

The applicant shall be responsible for the cost and implementation of the two-way left-turn channelization improvement described above. All improvement work within the City of Los Angeles must be **guaranteed** through Bureau of Engineering's (BOE) B-Permit process, prior to the issuance of any building permits and **completed** prior to the issuance of any certificates of occupancy. Temporary certificates of occupancy may be granted in the event of any delay through no fault of the applicant, provided that, in each case, the applicant has demonstrated reasonable efforts and due diligence to the satisfaction of DOT. Prior to setting the bond amount, BOE shall require that the developer's engineer or contractor email DOT's B-Permit Coordinator at ladot.planprocessing@lacity.org to arrange a pre-design meeting to finalize the proposed design needed for the project.

PROJECT REQUIREMENTS

A. Traffic Demand Management and Mitigation Program

Consistent with City policies on sustainability and smart growth and with DOT's trip reduction and multi-modal transportation goals, the project includes the development of a trip reduction program and solutions that promote other modes of travel. The traffic demand management and mitigation program includes the following improvements:

1. **Transportation Demand Management (TDM)**

The purpose of a TDM plan is to reduce the use of single occupant vehicles (SOV) by increasing the number of trips by walking, bicycle, carpool, vanpool and transit. A TDM plan should include design features, transportation services, education, and incentives intended to reduce the amount of SOV during commute hours. Through strategic building design and orientation, this project can facilitate access to transit, can provide a pedestrian-friendly environment, can promote non-automobile travel and can support the goals of a trip-reduction program.

A preliminary TDM program shall be prepared and provided for DOT review prior to the issuance of the first building permit for this project and a final TDM program approved by DOT is required prior to the issuance of the first certificate of occupancy for the project. The TDM program should include, but not be limited to, the following strategies:

- Promote Commute Trip Reduction (CTR) through information sharing and marketing for new employee orientations of trip reduction, even promotions, and publications;
- Provide unbundled parking that separates the cost of obtaining assigned parking spaces from the cost of purchasing or renting residential units;
- Provide a program to discount transit passes for residents/employees possibly through negotiated bulk purchasing of passes with transit providers;
- Facilitate a Car-Share Program by allowing a car share service within the project parking facilities. A car share program is a model of car rental where people rent cars for short periods of time, often by the hour.
- Facilitate rideshare programs with provision to include on-site transit and rideshare information center.
- Provide priority locations for carpools and vanpools within the parking garages;
- Accommodate flexible/alternative work schedules and telecommuting programs;
- Project design elements to ensure a bicycle, transit, and pedestrian friendly environment;
- Provide bicycle parking in conformance with Section 12.21 A.16 of the LAMC with safe and convenient access to bicycle facilities;
- A Covenant and Agreement to ensure that the TDM program will be maintained;
- Make a one-time financial contribution of **$100,000** to the City of Los Angeles Department of Transportation to be used in the implementation of the Mobility Hub in the general area of the Project;
- Make a one-time fixed-fee financial contribution of **$100,000** to the City's Bicycle Plan Trust Fund to implement bicycle improvements in the general

Downtown Los Angeles area of the Project.

2. **Downtown Transportation Management Organization (TMO)**
The project should participate in the Downtown Transportation Management Organization (TMO) when the TMO has been formally established. Project representatives would attend organization meetings for the TMO, provide parking and travel demand data to the TMO, pay any established dues to the TMO, and make available information to project tenants relative to the services provided by the TMO.

- The TMO would offer similar services to those described above but would have a much wider reach than the project's local TDM plan and can result in much greater trip reduction benefits. The TMOs in other major employment centers of Los Angeles County have proved beneficial in reducing traffic and improving air quality. A TMO in Downtown can be instrumental in promoting the use of transit and the City's bike share and car share programs that will be installed in the coming years within the Downtown area. The TMO's activities would help augment or implement some of the strategies described above for the project specific TDM plan. TMOs typically implement and promote TDM strategies such as the following:
- Employee flex time and modified work schedules;
- Vanpool and carpool programs;
- Provide information on rail, bus, and shuttle services;
- Satellite parking;
- Non- vehicular commuting;
- Parking management strategies;
- Telecommuting programs;
- Matching services for multi-employer carpools/vanpools (to serve areas that are identified as underserved by transit;
- Promotion and implementation of pedestrians, bicycle, and transit stop enhancements (such as transit/bicycle lanes).

B. Highway Dedication and Street Widening Requirements

On January 20, 2016, the City Council adopted the Mobility Plan 2035 which is the new Mobility Element of the General Plan. A key feature of the updated plan is to revise street standards in an effort to provide a more enhanced balance between traffic flow and other important street functions including transit routes and stops, pedestrian environments, bicycle routes, building design and site access, etc. Per the new Mobility Element, **Broadway** has been designated as Modified Avenue II, which would require a 28-foot half-width roadway within a 40-foot half-width right-of-way. **Spring Street** has been designated as Modified Avenue II, which would require a 26-foot half-width roadway within a 40-foot half-width right-of-way. **West 1st Street** has been designated as a Modified Boulevard II, which would require a 37-foot half-width roadway within a 55-foot half-width right-of-way. **West 2nd Street** has been designated as a Modified Avenue III, which would require a 22-foot half-width roadway within a 37-foot half-width right-of-way. The applicant should check with BOE's Land Development Group to determine the specific highway dedication, street widening and/or sidewalk requirements for this project.

C. Parking Requirements

The project will provide 1,465 vehicular parking spaces and 1,274 bicycle parking spaces (130 short-term and 1,144 long-term) within a five-level above-ground parking podium and a nine-level subterranean garage. The applicant should also check with the Department of Building and Safety on the number of Code-required parking spaces needed for the project.

D. Driveway Access and Circulation

The project proposed to provide three full-access driveways, two driveways on Broadway and another driveway on West 2nd Street as illustrated in **Attachment 3**. Conceptually, the proposed site plan is acceptable to DOT. The review of this study does not constitute approval of the driveway dimensions, access and circulation scheme, and loading/unloading area for the project. Any changes to the project's site access, circulation scheme, or loading/unloading area after issuance of this report would require separate review and approval and should be coordinated with DOT's Citywide Planning Coordination Section at 201 N. Figueroa Street, 5th Floor, Room 550, at (213) 482-7024. The applicant should contact DOT for driveway width and internal circulation requirements prior to the commencement of building or parking layout design efforts so that such traffic flow considerations are designed and incorporated early into the building and parking layout plans. All driveways should be Case 2 driveways and 30 feet for two-way operations or 18 feet for one-way operations. All delivery truck loading and unloading should take place on site with no vehicles having to back into the project via any of the project driveways.

E. Development Review Fees

An ordinance adding Section 19.15 to the Los Angeles Municipal Code relative to application fees paid to DOT for permit issuance activities was adopted by the Los Angeles City Council in 2009 and updated in 2014. This ordinance identifies specific fees for transportation impact analysis review, condition clearance, and permit issuance. The applicant shall comply with any applicable fees per this ordinance.

If you have any questions, please contact me at (213) 972-8482.

Attachments

K:\Letters\2018\CEN 17-45603_202 W 1st St_Times Mirror Square ts ltr.doc

c: Shawn Kuk, Council District No. 14
Mehrdad Moshksar, Central, DOT
Taimour Tanavoli, Case Management Office, DOT
Carl Mills, Central District, BOE
Amanda Heinke, Fehr & Peers

ATTACHMENT 1

TABLE 8
TIMES MIRROR SQUARE
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.661	B	0.002	No
	W 2nd Street	PM	0.974	E	0.997	E	0.023	**Yes**
2	S Grand Avenue &	AM	0.821	D	0.823	D	0.002	No
	W 1st Street	PM	0.884	D	0.885	D	0.001	No
3	S Olive Street &	AM	0.517	A	0.529	A	0.012	No
	W 1st Street	PM	0.691	B	0.692	B	0.001	No
4	N Hill Street &	AM	0.894	D	0.899	D	0.005	No
	W Temple Street	PM	0.900	D	0.901	E	0.001	No
5	Hill Street &	AM	1.077	F	1.090	F	0.013	**Yes**
	W 1st Street	PM	1.118	F	1.120	F	0.002	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.687	B	0.027	No
7	Hill Street &	AM	0.911	E	0.920	E	0.009	No
	W 3rd Street	PM	0.838	D	0.839	D	0.001	No
8	N Broadway &	AM	0.445	A	0.445	A	0.000	No
	Aliso Street	PM	0.541	A	0.543	A	0.002	No
9	N Broadway &	AM	0.762	C	0.772	C	0.010	No
	W Temple Street	PM	0.860	D	0.861	D	0.001	No
10	Broadway &	AM	0.906	E	0.936	E	0.030	**Yes**
	W 1st Street	PM	1.002	F	1.038	F	0.036	**Yes**
11	S Broadway &	AM	0.998	E	1.044	F	0.046	**Yes**
	W 2nd Street	PM	1.181	F	1.240	F	0.059	**Yes**
12	S Broadway &	AM	0.699	B	0.816	D	0.117	**Yes**
	W 3rd Street	PM	0.804	D	0.819	D	0.015	No
13	S Broadway &	AM	0.488	A	0.488	A	0.000	No
	W 4th Street	PM	0.757	C	0.761	C	0.004	No
14	N Spring Street &	AM	0.350	A	0.350	A	0.000	No
	Aliso Street	PM	0.233	A	0.240	A	0.007	No
15	N Spring Street &	AM	0.622	B	0.628	B	0.006	No
	W Temple Street	PM	0.534	A	0.548	A	0.014	No
16	Spring Street &	AM	0.765	C	0.766	C	0.001	No
	W 1st Street	PM	0.733	C	0.753	C	0.020	No
17	S Spring Street &	AM	0.943	E	0.959	E	0.016	**Yes**
	W 2nd Street	PM	0.785	C	0.787	C	0.002	No
18	S Spring Street &	AM	0.711	C	0.724	C	0.013	No
	W 3rd Street	PM	0.685	B	0.687	B	0.002	No
19	S Spring Street &	AM	0.519	A	0.528	A	0.009	No
	W 4th Street	PM	0.624	B	0.625	B	0.001	No
20	N Main Street &	AM	0.466	A	0.471	A	0.005	No
	E Temple Street	PM	0.871	D	0.876	D	0.005	No
21	Main Street &	AM	0.588	A	0.595	A	0.007	No
	1st Street	PM	0.852	D	0.858	D	0.006	No
22	S Main Street &	AM	0.560	A	0.560	A	0.000	No
	2nd Street	PM	0.987	E	0.993	E	0.006	No
23	S Main Street &	AM	0.631	B	0.631	B	0.000	No
	3rd Street	PM	0.744	C	0.747	C	0.003	No
24	Los Angeles Street &	AM	0.783	C	0.783	C	0.000	No
	E 1st Street	PM	0.841	D	0.841	D	0.000	No
25	S Los Angeles Street &	AM	0.997	E	0.997	E	0.000	No
	E 2nd Street	PM	1.028	F	1.029	F	0.001	No
26	N Figueroa Street &	AM	0.873	D	0.880	D	0.007	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.760	C	0.767	C	0.007	No
27	S Beaudry Avenue &	AM	0.790	C	0.790	C	0.000	No
	W 2nd Street	PM	0.819	D	0.821	D	0.002	No
28	S Figueroa Street	AM	0.843	D	0.845	D	0.002	No
	W 3rd Street	PM	0.693	B	0.693	B	0.000	No

ATTACHMENT 2

TABLE 5
TIMES MIRROR SQUARE
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	1,127 DU	4.20	0.34	19%	81%	0.38	62%	38%	4,733	73	310	383	265	163	428
Less: Internal Capture [b]			*18%*		*3%*	*5%*		*40%*	*43%*	*(852)*	*(2)*	*(15)*	*(17)*	*(107)*	*(70)*	*(177)*
Net External Vehicle Trips										3,881	71	295	366	158	93	251
Office	710	307.288 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,389	422	57	479	78	380	458
Less: Internal Capture [b]			*10%*		*8%*	*43%*		*28%*	*12%*	*(339)*	*(35)*	*(24)*	*(59)*	*(22)*	*(45)*	*(67)*
Less: Transit Credit [c]			*16%*	*25%*			*25%*			*(488)*	*(97)*	*(8)*	*(105)*	*(14)*	*(84)*	*(98)*
Net External Vehicle Trips										2,562	290	25	315	42	251	293
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*31%*		*15%*	*32%*		*40%*	*57%*	*(1,585)*	*(15)*	*(20)*	*(35)*	*(98)*	*(132)*	*(230)*
Less: Transit Credit [c]			*11%*	*25%*			*25%*			*(388)*	*(23)*	*(11)*	*(34)*	*(36)*	*(25)*	*(61)*
Total Driveway Trips										3,139	67	34	101	108	75	183
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,255)*	*(26)*	*(13)*	*(39)*	*(43)*	*(30)*	*(73)*
Net External Vehicle Trips										1,884	41	21	62	65	45	110
Quality Restaurant [h]	931	53.389 ksf	89.95	0.81	55%	45%	7.49	67%	33%	4,802	24	19	43	268	132	400
Less: Internal Capture [b]			*36%*		*76%*	*47%*		*38%*	*62%*	*(1,729)*	*(18)*	*(9)*	*(27)*	*(101)*	*(82)*	*(183)*
Less: Transit Credit [c]			*10%*	*25%*			*25%*			*(307)*	*(2)*	*(3)*	*(5)*	*(42)*	*(13)*	*(55)*
Total Driveway Trips										2,766	4	7	11	125	37	162
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(276)*	*0*	*0*	*0*	*(12)*	*(3)*	*(15)*
Net External Vehicle Trips										2,490	4	7	11	113	34	147
TOTAL PROJECT DRIVEWAY TRIPS										12,348	432	361	793	433	456	889
TOTAL PROJECT EXTERNAL TRIPS										10,817	406	348	754	378	423	801
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										6,994	9	291	300	253	26	279

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook*, 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines*, December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be located directly adjacent to the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines*, December 2016.

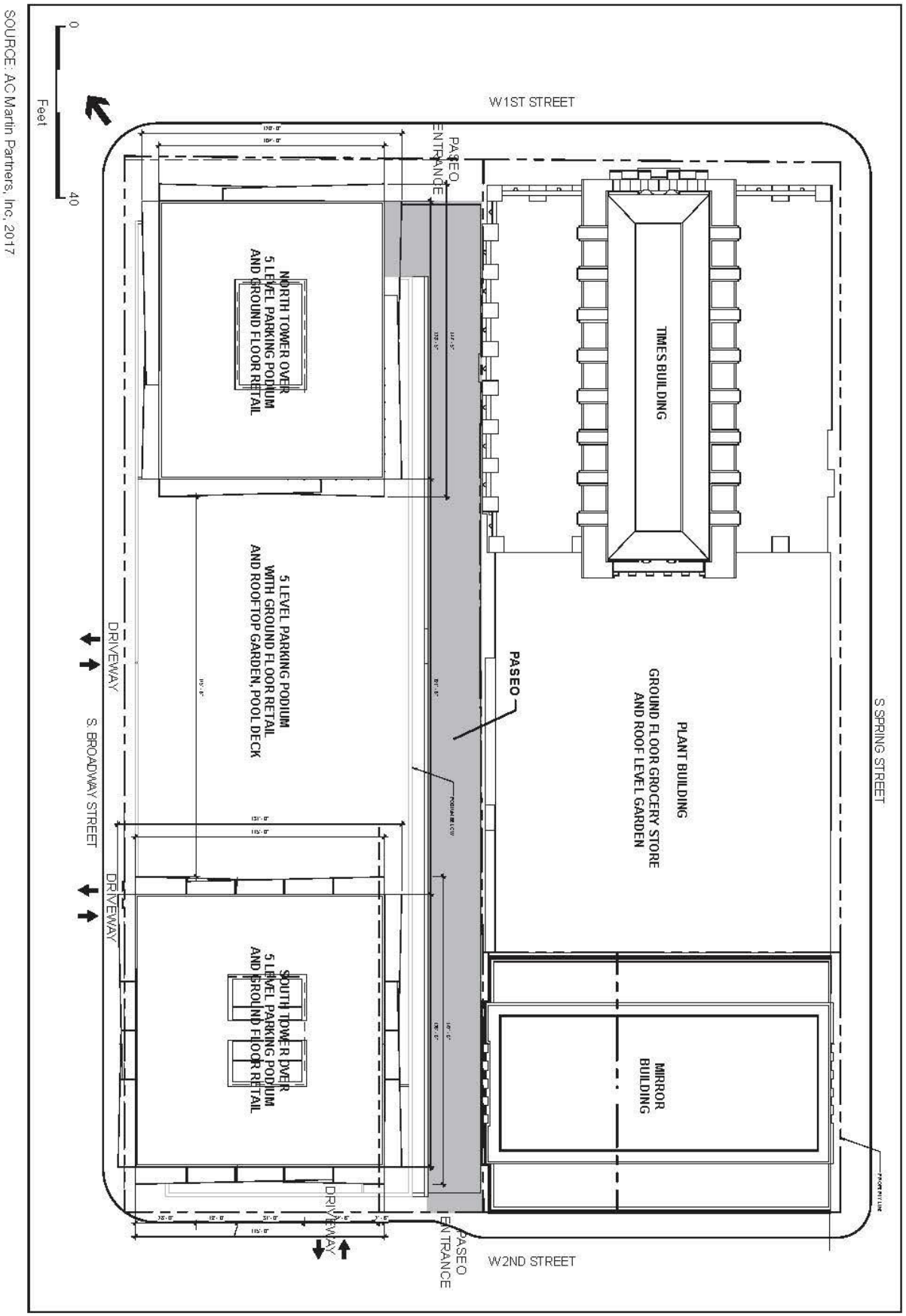
[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

ATTACHMENT 3



L-3 Technical Memorandum

FEHR PEERS

TECHNICAL MEMORANDUM

Date: December 20, 2018

To: Wes Pringle, LADOT

From: Tom Gaul and Amanda Heinke, Fehr & Peers

Subject: ***Updated Construction Analysis for LA Times Project***

Ref: LA17-2909

This technical memorandum summarizes the updated construction trip generation for the Times Mirror Square Project. The Times Mirror Square Project Traffic Study was approved by LADOT in May 2018. Subsequently, the anticipated duration of the concrete pour has been updated; thus requiring an update to the construction trip generation. This memorandum summarizes the changes to the construction assumptions and construction trip generation.

PROJECT DESCRIPTION

The Project would retain and renovate the existing Times, Plant, and Mirror Buildings to provide 307,288 square feet of office space, 18,817 square feet of restaurant space, and a 50,000 square foot grocery store. These three buildings are aligned along South Spring Street, with frontages along both West 1st Street and West 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the site and construct two mixed-use towers (North and South Towers).

The Project's 37-story North Tower and 53-story South Tower mixed-use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of West 1st Street and South Broadway and the 6-story parking structure at the corner of West 2nd Street and South Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. The towers would include 34,572 square feet of restaurant space, located at ground level. The Project would include a pedestrian paseo constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between West 1st Street to West 2nd Street.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023. The project site is currently occupied by five buildings used by the Los Angeles Times, a bank, and other office uses.

CONSTRUCTION ASSUMPTIONS

As documented in the May 2018 Traffic Study, the delivery/equipment trucks during Phase 5 Foundation/Concrete Pour were anticipated to arrive and depart over a 12-hour delivery period to facilitate the concrete pour. However, additional information regarding the concrete pour has

revealed that the concrete pour will be a continuous pour. With a continuous pour method, it is anticipated that the concrete pour would occur over an 18-hour period over two consecutive days.

CONSTRUCTION PERIOD TRIP GENERATION

Based on the aforementioned information, the construction period trip generation analysis was updated to reflect the updated concrete pour duration. Table 1 shows the construction trip generation from the May 2018 Traffic Study.

Table 2 shows the updated construction period trip generation under each phase of construction. Increasing the duration of the concrete pour affects the peak hour trips shown in Phase 5 in the trip generation, but the daily number of trips remain the same. With the change, the Phase 5 peak hour trips would be reduced from 242 PCE trips to 164 PCE trips.

As discussed in the Traffic Study, the highest number of peak hour trips would occur during the overlap of Phase 2 and Phase 6 which would result in 388 PCE trips occurring during each of the morning and evening peak hours. As the updated concrete pour duration to 18-hours only affects Phase 5, the trip generation in Phase 2 and 6 would remain the same as shown in the Traffic Study and the highest number of peak hour trips would continue to be 388 PCE trips.

As such, the peak construction activity would continue to generate fewer daily and peak hour trips than are projected for the Project once it is completed and occupied.

SUMMARY

The updated trip generation due to a longer duration of the concrete pour would result in a reduction in peak hour trips in Phase 5 than previously found in the May 2018 Traffic Study. However, the highest number of peak hour trips would continue to be 388 PCE trips as disclosed in the May 2018 Traffic Study.

TABLE 1
TIMES MIRROR SQUARE - MAY 2018 TRAFFIC STUDY
CONSTRUCTION PERIOD TRIP GENERATION

Peak Daily Activity Under Each Phase

	Phase 1: Demolition	Phase 2: Renovation	Phase 3: Site Preparation	Phase 4: Grading	Phase 5. Foundation/Concrete Pour	Phase 6. Construction
Construction Workers	*29*	*62*	*29*	*30*	*19*	*728*
Passenger Car Equivalent (PCE) factor	1.0	1.0	1.0	1.0	1.0	1.0
Haul Trucks	*10*	*0*	*0*	*140*	*0*	*0*
Passenger Car Equivalent (PCE) factor	2.5	2.5	2.5	2.5	2.5	2.5
Delivery/Equipment Trucks	*0*	*0*	*0*	*0*	*703*	*179*
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0	2.0	2.0

CONSTRUCTION PERIOD TRIP GENERATION

Phase	Daily PCE Trips [1]	Morning Peak Hour PCE Trips			Evening Peak Hour PCE Trips		
		In	Out	Total	In	Out	Total
Phase 1. Demolition							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	50	3	3	6	3	3	6
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 1 Total	***108***	***15***	***3***	***18***	***3***	***15***	***18***
Phase 2. Renovation [4]							
Construction Worker Trips [2]	124	25	0	25	0	25	25
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 2 Total	***124***	***25***	***0***	***25***	***0***	***25***	***25***
Phase 3. Site Preparation							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 3 Total	***58***	***12***	***0***	***12***	***0***	***12***	***12***
Phase 4. Grading							
Construction Worker Trips [2]	60	12	0	12	0	12	12
Haul Truck Trips [3]	700	35	35	70	35	35	70
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 4 Total	***760***	***47***	***35***	***82***	***35***	***47***	***82***
Phase 5. Foundation/Concrete Pour							
Construction Worker Trips [2]	38	8	0	8	0	8	8
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	2,812	117	117	234	117	117	234
Phase 5 Total	***2,850***	***125***	***117***	***242***	***117***	***125***	***242***
Phase 6. Construction							
Construction Worker Trips [2]	1,456	291	0	291	0	291	291
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	716	36	36	72	36	36	72
Phase 6 Total	***2,172***	***327***	***36***	***363***	***36***	***327***	***363***

PCE - Passenger car equivalent

Notes:

[1] - Daily trips were calculated by counting two trips, one inbound and one outbound trip for each vehicle

[2] - Up to 40% of the construction workers were assumed to arrive during the morning peak hour of adjacent street traffic. A total of up to 40% worker were assumed to depart during the evening peak hour.

[3] - Daily haul, delivery/equipment, and trash truck trips were assumed to occur evenly throughout an 10-hour construction day. Trips for the concrete pour were assumed to occur on a 12-hour day. Therefore, the daily truck trips for haul and delivery/equipment were divided by 10 hours to calculate morning and evening peak hour truck trips. The daily concrete truck trips were divided by 12 hours to calculate peak hour truck trips.

[4] The Renovation phase is expected to last approximately two years and may occur concurrently with any other phases.

TABLE 2
TIMES MIRROR SQUARE - UPDATED
CONSTRUCTION PERIOD TRIP GENERATION

Peak Daily Activity Under Each Phase

	Phase 1: Demolition	Phase 2: Renovation	Phase 3: Site Preparation	Phase 4: Grading	Phase 5. Foundation/Concrete Pour	Phase 6. Construction
Construction Workers	*29*	*62*	*29*	*30*	*19*	*728*
Passenger Car Equivalent (PCE) factor	1.0	1.0	1.0	1.0	1.0	1.0
Haul Trucks	*10*	*0*	*0*	*140*	*0*	*0*
Passenger Car Equivalent (PCE) factor	2.5	2.5	2.5	2.5	2.5	2.5
Delivery/Equipment Trucks	*0*	*0*	*0*	*0*	*703*	*179*
Passenger Car Equivalent (PCE) factor	2.0	2.0	2.0	2.0	2.0	2.0

CONSTRUCTION PERIOD TRIP GENERATION

Phase	Daily PCE Trips [1]	Morning Peak Hour PCE Trips			Evening Peak Hour PCE Trips		
		In	Out	Total	In	Out	Total
Phase 1. Demolition							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	50	3	3	6	3	3	6
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 1 Total	***108***	***15***	***3***	***18***	***3***	***15***	***18***
Phase 2. Renovation [4]							
Construction Worker Trips [2]	124	25	0	25	0	25	25
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 2 Total	***124***	***25***	***0***	***25***	***0***	***25***	***25***
Phase 3. Site Preparation							
Construction Worker Trips [2]	58	12	0	12	0	12	12
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 3 Total	***58***	***12***	***0***	***12***	***0***	***12***	***12***
Phase 4. Grading							
Construction Worker Trips [2]	60	12	0	12	0	12	12
Haul Truck Trips [3]	700	35	35	70	35	35	70
Delivery/Equipment Truck Trips [3]	0	0	0	0	0	0	0
Phase 4 Total	***760***	***47***	***35***	***82***	***35***	***47***	***82***
Phase 5. Foundation/Concrete Pour							
Construction Worker Trips [2]	38	8	0	8	0	8	8
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	2,812	78	78	156	78	78	156
Phase 5 Total	***2,850***	***86***	***78***	***164***	***78***	***86***	***164***
Phase 6. Construction							
Construction Worker Trips [2]	1,456	291	0	291	0	291	291
Haul Truck Trips [3]	0	0	0	0	0	0	0
Delivery/Equipment Truck Trips [3]	716	36	36	72	36	36	72
Phase 6 Total	***2,172***	***327***	***36***	***363***	***36***	***327***	***363***

PCE - Passenger car equivalent

Notes:

[1] - Daily trips were calculated by counting two trips, one inbound and one outbound trip for each vehicle

[2] - Up to 40% of the construction workers were assumed to arrive during the morning peak hour of adjacent street traffic. A total of up to 40% worker were assumed to depart during the evening peak hour.

[3] - Daily haul, delivery/equipment, and trash truck trips were assumed to occur evenly throughout an 10-hour construction day. Trips for the concrete pour were assumed to occur on a 18-hour day. Therefore, the daily truck trips for haul and delivery/equipment were divided by 10 hours to calculate morning and evening peak hour truck trips. The daily concrete truck trips were divided by 18 hours to calculate peak hour truck trips.

[4] The Renovation phase is expected to last approximately two years and may occur concurrently with any other phases.

APPENDIX M
Utilities Documentation

ESA

M-1 Utility Infrastructure Technical Report: Water, Wastewater, and Energy

700 S. Flower Street, Suite 2100 Los Angeles, CA 90017 213.418.0201 kpff.com

ONNI TIMES SQUARE PROJECT
(201 W. FIRST STREET, LOS ANGELES CA 90012)

UTILITY INFRASTRUCTURE TECHNICAL REPORT: WATER, WASTEWATER, AND ENERGY

SEPTEMBER 26, 2018

PREPARED BY:

KPFF Consulting Engineers

700 S. Flower Street, Suite 2100

Los Angeles, CA 90017

(213) 418-0201

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Appendix

Exhibit 1- LADWP "Service Advisory Report" (SAR) Results

Exhibit 2- LA Sanitation's Email Correspondence dated July 16, 2018/LA Sanitation Times Mirror Square- Notice of Preparation of Environmental Impact Report and Public Scoping Letter/ LA Sanitation's Email Correspondence dated December 6, 2018

Exhibit 3- LADWP "Information of Fire Flow Availability Request" (IFFAR) Results

Exhibit 4- LADWP Approved Will-Serve Letter

Exhibit 5- SoCal Gas Approved Will-Serve Letter

Exhibit 6- Existing Water & Wastewater infrastructure exhibit

Exhibit 7- Proposed Water & Wastewater infrastructure exhibit

Exhibit 8- Breakdown of the related projects and associated water consumption

Exhibit 9- Breakdown of the related projects and associated wastewater generation

Exhibit 10- Breakdown of the related projects and associated energy consumption

Exhibit 11- Breakdown of the related projects and associated gas consumption

1. INTRODUCTION

1.1. PROJECT LOCATION AND EXISTING ON-SITE USES:

The Project Site is located on an approximately 3.6-acre (five parcels totaling approximately 160,578 square feet [sf]) city block bounded by W. 1st Street, S. Spring Street, W. 2nd Street, and S. Broadway Street in the Center City/Historic Core District of Downtown Los Angeles. This district, which extends from W. 1st Street to W. 11th Street, between Los Angeles and Hill Streets, includes Los Angeles City Hall, Los Angeles County courts and law library, federal offices and courts, LAPD Headquarters, Caltrans Regional Offices, Grand Park, and other civic facilities. The Project Site is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building, resulting in a total of approximately 559,863 sf. See attached Project Location Map.

1.2. PROJECT DESCRIPTION

The Times Mirror Square Project (Proposed Project) would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 307,288 sf of commercial office uses, 18,817 sf of commercial restaurant uses and a 50,000 sf grocery store. Of the 307,288 sf of commercial office use, 93,432 sf will be new development. The remaining 213,856 sf of office space is existing and will remain after the rehabilitation of the Times, Plant, and Mirror Buildings. The three buildings, which have a combined total floor area of approximately 376,105 sf, are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the parking garage and Executive Building located on the western half of the Site and construct two mixed-use towers (North and South Towers).

The Project's North Tower and South Tower mixed use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. Total residential unit floor area would be 1,071,692 sf. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 sf. The towers would include approximately 34,572 sf of retail uses, which would be located at ground level and oriented to W. 1st Street, S. Broadway, and W. 2nd Street, while also fronting the Paseo. The Paseo would be constructed along the east edge of the North and South Towers, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. The resulting floor-area ratio (FAR) would be approximately 9.42:1. Approximately 73,128 sf of common open space, including the approximately 15,708 sf Paseo, would be provided as part of the North and South Towers component. With the addition of approximately

56,350 sf of private balconies, combined private and common open space would be approximately 129,252 sf.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four-year construction period ending with buildout and occupancy in 2023.

1.3. SCOPE OF WORK

As a part of the Environmental Impact Report for the Project, the purpose of this report is to analyze the potential impact of the Project to the existing water, wastewater, and energy infrastructure system.

2. REGULATORY FRAMEWORK

2.1. WATER

The City of Los Angeles Department of Water and Power (LADWP) is responsible for providing water supply to the City while complying with Local, State, and Federal regulations.

Below are the State and Regional water supply regulations:

- Metropolitan Water District (MWD) official reports and policies as outlined in its Regional Urban Water Management Plan, Water Surplus and Drought Management Plan, Water Supply Allocation Plan, and Integrated Resources Plan.
- California Code of Regulations, Title 20, Chapter 4, Article 4, Section 1605 establishes water efficiency standards for all new plumbing fixtures and Section 1608 prohibits the sale of fixtures that do not comply with the regulations.
- 2013 California Green Building Standards Code, CCR, Title 24, Part 11, adopted on January 1, 2014, updated in the 2016 California Green Building Standards Code, Title 24, Part 11, effective January 2017, requires a water use reduction of 20% above the baseline cited in the CALGreen code book. The code applies to family homes, state buildings, health facilities, and commercial buildings.
- California Urban Water Management Planning Act of 1984 requires water suppliers to adopt an Urban Water Management Plan (UWMP).
- LADWP's 2015 UWMP outlines the City's long-term water resources management strategy. The 2015 UWMP was approved by the LADWP Board of Water and Power Commissioners on June 7, 2016.
- Senate Bill 610 and Senate Bill 221, approved on October 9, 2001, require land use agencies to perform a detailed analysis of available water supply when approving large developments. Historically, public water suppliers (PWS) simply provided a "will serve" letter to developers. SB 610, Public Resources Code (PRC) and Section 10910-10915 of the State Water Code requires lead agencies

to request a Water Supply Assessment (WSA) from the local water purveyor prior to project approval. If the projected water demand associated with a proposed development is included in the most recent UWMP, the development is considered to have sufficient water supply per California Water Code Section 10910, and a WSA is not required. All projects that meet any of the following criteria require a WSA:

1) A proposed residential development of more than 500 dwelling units.

2) A proposed shopping center or business establishment of more than 500,000 square feet of floor space or employing more than 1,000 persons.

3) A proposed commercial office building of more than 250,000 square feet of floor space or employing more than 1,000 persons.

4) A proposed hotel or motel of more than 500 rooms.

5) A proposed industrial, manufacturing, or processing plant or industrial park of more than 40 acres of land, more than 650,000 square feet of floor area, or employing more than 1,000 persons.

6) A mixed use project that falls in one or more of the above-identified categories.

7) A project not falling in one of the above-identified categories but that would demand water equal or greater than the amount required by a 500-dwelling unit project.

As this Project is a mixed-use development that meets three of the above thresholds, numbers 1, 3, and 6, a WSA will be required for this Project.

2.2. WASTEWATER

The City of Los Angeles has one of the largest sewer systems in the world including more than 6,600 miles of sewers serving a population of more than four million. The Los Angeles sewer system is comprised of three systems: Hyperion Sanitary Sewer System, Terminal Island Water Reclamation Plant Sanitary Sewer System, and Regional Sanitary Sewer System. To comply with Waste Discharge Requirements (WDRs), a Sewer System Management Plan (SSMP) was prepared for each of these systems.

The Project Site lies within the Hyperion Service Area served by the Hyperion Sanitary Sewer System. In February 2017, a Sewer System Management Plan (SSMP) was prepared for the Hyperion Sanitary Sewer System pursuant to the State Water Resources Control Board's (SWRCB) May 2, 2006 Statewide General Waste Discharge

Requirements (WDRs)[1].

Sewer permit allocation for projects that discharge into the Hyperion Treatment Plant is regulated by Ordinance No. 166,060 adopted by the City in 1990. The Ordinance established an additional annual allotment of 5.0 million gallons per day, of which 34.5 percent (1.725 million gallons per day) is allocated for priority projects, 8 percent (0.4 million gallons per day) for public benefit projects, and 57.5 percent (2.875 million gallons per day) for non-priority projects (of which 65 percent is for residential project and 35 percent for non-residential projects).

The City of Los Angeles Municipal Code (LAMC) includes regulations that allow the City to assure available sewer capacity for new projects and fees for improvements to the infrastructure system. LAMC Section 64.15 requires that the City perform a Sewer Capacity Availability Request (SCAR) when any person seeks a sewer permit to connect a property to the City's sewer collection system, proposes additional discharge through their existing public sewer connection, or proposes a future sewer connection or future development that is anticipated to generate 10,000 gallons or more of sewage per day. A SCAR is an analysis of the existing sewer collection system to determine if there is adequate capacity existing in the sewer collection system to safely convey the newly generated sewage to the appropriate sewage treatment plant.

LAMC Section 64.11.2 requires the payment of fees for new connections to the sewer system to assure the sufficiency of sewer infrastructure. New connections to the sewer system are assessed a Sewerage Facilities Charge. The rate structure for the Sewerage Facilities Charge is based upon wastewater flow strength, as well as volume. The determination of wastewater strength for each applicable project is based on City guidelines for the average wastewater concentrations of two parameters (biological oxygen demand and suspended solids) for each type of land use. Fees paid to the Sewerage Facilities Charge fees are deposited in the City's Sewer Construction and Maintenance Fund for sewer and sewage-related purposes, including but not limited to industrial waste control and water reclamation purposes.

In addition, the City establishes design criteria for sewer systems to assure that new infrastructure provides sewer capacity and operating characteristics to meet City Standards (Bureau of Engineering Special Order No. SO06-0691). Per the Special Order, laterals sewers, which are sewers 18 inches or less in diameter, must be designated for a planning period of 100 years. The Special Order also requires that sewers be designated so that the peak dry weather flow depth during their planning period shall not exceed

[1] City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer System Management Plan Hyperion Sanitary Sewer System, February 2017.

one-half the pipe diameter.[2]

In 2006 the City approved the Integrated Resources Plan, which incorporates a Wastewater Facilities Plan.[3] The Integrated Resources Program was developed to meet future wastewater needs of more than 4.3 million residents expected to live within the City by 2020. In order to meet future demands posed by increased wastewater generation, the City has chosen to expand its current overall treatment capacity, while maximizing the potential to reuse recycled water through irrigation, and other approved uses.

2.3. ENERGY

2.3.1. ELECTRICITY

The *2015 Power Integrated Resource Plan* (IRP) [4]document serves as a comprehensive 20 year roadmap that guides the Los Angeles Department of Water and Power's (LADWP) Power System in its efforts to supply reliable electricity in an environmentally responsible and cost effective manner. This year's 2015 IRP re-examines and expands its analysis on the 2014 IRP recommended case with updates in line with latest regulatory framework, primarily the recently approved state legislation of a 50 percent renewable portfolio standard by 2030.

The 2015 IRP provides detailed analysis and results of several new IRP resource cases which investigated the economic and environmental impact of increased local solar and various levels of transportation electrification. In analyzing the IRP cases and recommending a strategy to best meet the future electric needs of Los Angeles, the IRP uses system modeling tools to analyze and determine the long-term economic, environmental, and operational impact of alternative resource portfolios by simulating the integration of new resource alternatives within our existing mix of assets and providing the analytic results to inform the selection of a recommended case. However, for the purpose of load-following as well as backstopping intermittent renewable resource generation, gas-fired generation will continue to be the primary technology to meet the ever-growing demand for electric power.

The IRP also includes a general assessment of the revenue requirements and rate impacts that support the recommended resource plan through 2035. While this assessment will not be as detailed and extensive as the financial analysis to be completed for the ongoing rate action for the 2015/16 fiscal year and beyond, it clearly outlines the general requirements. As a long-term planning process, the IRP examines a 20-year horizon in

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2 City of Los Angeles, L.A. CEQA Thresholds Guide, Your Resource for Planning CEQA Analysis in Los Angeles, M-Public Utilities, 2006. http://www.environmentla.org/programs/thresholds/M-Public%20Utilities.pdf

3 City of Los Angeles, Department of Public Works, LA Sewers Website, Integrated Resources Plan Facilities Plan, Summary Report, December 2006.

4 LADWP, 2015 Power Integrated Resource Plan, December 2015

order to secure adequate supplies of electricity. In that respect, it is LADWP's desire that the IRP contribute towards future rate actions, by presenting and discussing the programs and projects required to fulfill its City Charter mandate of delivering reliable electric power to the City of Los Angeles.

Regulatory interpretations of primary regulations and state laws affecting the Power System, including AB 32, SB 1368, SB 1, SB 2 (1X), SB 350, SB 32, US EPA Rule 316(b), and US Clean Power Plan continue to evolve particularly with certification requirements of existing renewable projects and their applicability towards meeting in-state or out-of-state qualifications. The 2015 IRP attempts to incorporate the latest interpretation of these major regulations and state laws as we understand them today.

2.3.2. NATURAL GAS

The *2016 California Gas Report*[5] presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2035. This report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission Decision D.95-01-039. The projections in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities.

California natural gas demand, including volumes not served by utility systems, is expected to decrease at a rate of 1.4 percent per year from 2016 to 2035. The forecast decline is a combination of moderate growth in the Natural Gas Vehicle (NGV) market and across-the-board declines in all other market segments: residential, commercial, electric generation, and industrial markets.

Residential gas demand is expected to decrease at an annual average rate of 0.5 percent over the same period mentioned above. Demand in the commercial and industrial markets are expected to decline at an annual rate of 0.24 percent. Aggressive energy efficiency programs make a significant impact in managing growth in the residential, commercial, and industrial markets. For the purpose of load-following as well as backstopping intermittent renewable resource generation, gas-fired generation will continue to be the primary technology to meet the ever-growing demand for electric power. However, overall gas demand for electric generation is expected to decline at 1.3 percent per year for the next 20 years due to more efficient electrical power plants, statewide efforts to minimize greenhouse gas (GHG) emissions through aggressive programs pursuing demand-side reductions, and the acquisition of preferred power generation resources that produce little or no carbon emissions.

2.3.3 NATURAL GAS AND ELECTRICITY LEGISLATION

In 2015, the state enacted legislation intended to improve air quality, provide aggressive

[5] California Gas and Electric Utilities, 2016 California Gas Report, 2016.

reductions in energy dependency and boost the employment of renewable power. The first legislation, the 2015 Clean Energy and Pollution Reduction Act, also known as Senate Bill (SB) 350, requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030. SB 350 establishes annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses by January 1, 2030. Second, the Energy Efficiency Act (AB 802) provides aggressive state directives to increase the energy efficiency of existing buildings, requires that access to building performance data for nonresidential buildings be provided by energy utilities and encourages pay-for performance incentive-based programs. This paradigm shift will allow California building owners a better and more effective way to access whole-building information and at the same time will help to address climate change, and deliver cost-effective savings for ratepayers. The Energy Efficiency Act (AB 793) is intended to promote and provide incentives to residential or small and medium-sized business utility customers that acquire energy management technology for use in their home or place of business. AB 793 requires energy utilities to develop a plan to educate residential customers and small and medium business customers about the incentive program.[6]

Last, California Global Warming Solutions Act of 2006 (SB 32) requires the state board to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the 1990 level by 2030.[7]

3. ENVIRONMENTAL SETTING

The Project Site is currently bounded by South Broadway, South Spring Street, West 1st Street and West 2nd Street. The site consists of two lots and two parcels along Broadway, one lot and 2 parcels along Spring and 2 lots along 1st street.

The Project Site is currently occupied by one city block in downtown Los Angeles. The eastern portion of the site is currently occupied by the historic Times Building, Mirror Building and Plant Building. The western portion of the site is occupied by a parking garage and Executive Building. Based on the historic drawings, the existing structures are underlain by up to three subterranean levels.

3.1. WATER

LADWP is responsible for providing water supply to the City while complying with County, State, and Federal regulations.

3.1.1. REGIONAL

[6] C.A. Legislative Assembly, SB 32, 2015-2016.
[7] C.A. Legislative Assembly, SB 32, 2015-2016.

Primary sources of water for the LADWP service area are the Los Angeles Aqueduct (LAA), State Water Project (supplied by MWD) and local groundwater. The LAA has been the primary source of the City's water supply. In recent years, however, the amount of water supplies from the LAA has been limited due to environmental concerns, and the City's water supply relied heavily (average of 57% in recent years) on the purchased water from MWD delivered from the Colorado River or from the Sacramento-San Joaquin Delta. Local ground water has been a reliable water source, providing an average of 12% of the total water supply, but there have been concerns in recent years due to declining groundwater level and contamination issues. Lastly, the City's recycled water supply is limited to specific projects within the City at this time.[8]

3.1.2. LOCAL

The Project Site is currently occupied by five structurally separate but internally connected buildings used by Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage and the 6-story Executive Building. The total approximate floor area of these buildings is 559,863 square feet. Approximately 223,945 square feet (40 percent) of the existing uses are vacant office spaces that have been vacant for 10 years.

LADWP maintains water infrastructure to the Project Site. Based on available record data provided by LADWP, there is an 18-inch water main in Broadway, a 12-inch water main in Spring Street, an 8-inch water main in 2nd Street and a 12-inch main in 1st Street. Based on existing record information the Project Site has multiple domestic water and fire water connections coming off of all four adjacent streets. The following is a detailed account of the existing water infrastructure serving the project site (Please see Exhibit 6 for their approximate location and details):

- Broadway:
    - In front of Executive Building:
        - 8 Water Meters
        - 1 Fire Hydrant (FH ID: 6913)
        - 1 Fire Department Connection
    - In front of corporate garage:
        - 2 Water Meters
        - 1 Fire Hydrant
- 1st Street:
    - In front of Executive Building:
        - 1 Fire Hydrant (FH ID: 6832)
    - In front of Times Building:

[8] LADWP, 2015 Urban Water Management Plan, October 2016.

        - 1 Water Meter
- Spring Street:
    - In front of Times Building:
        - 2 Water Meters
        - 1 Fire Hydrant (FH ID: 6904)
        - 1 Fire Department Connection
    - In front of Plant Building:
        - 1 Fire Hydrant (FH ID: 6902)
    - In front of Mirror Building:
        - 2 Water Meters
- 2nd Street;
    - In front of Mirror Building:
        - 1 Water Vault
    - In front of parking garage:
        - 1 Fire Hydrant (FH ID: 6911)
        - 1 Fire Department Connection

Existing water consumption estimates were based on billing records from the average available billing years from Fiscal Year 2010 to 2015 as indicated on footnote 3 of Table 1 of the WSA. The total existing water demand is approximately double of the existing water demand to be removed and is reflected in Table 1 below.

Table 1 – Existing Water Demand

Land Use	**Quantity**	**Water Demand**	
		(gpd)	**(afy)**
Office	103,312 sf	n/a	n/a
Bank	7,500 sf	n/a	n/a
Cafeteria	11,250 sf (750 seats)	n/a	n/a
6 Story Parking Structure	44,306 sf	n/a	n/a
Total Existing Water Demand to be Removed[a]		**20,137**	**22.56**
Total Existing Water Demand[b]		**40,000**	**45**

Notes:

[a] Total existing water demand to be removed provided by Table 1 of the Water Supply Assessment for the Times Mirror Square Project dated September 19, 2017. Of the 176,258 sf existing office space in

Table 1 – Existing Water Demand			
Land Use	Quantity	Water Demand	
		(gpd)	(afy)
the Executive Building that would be removed, approximately 103,312 sf or 60 percent of the space has been used/occupied in the last 10 years. Given this use of the space, approximately 103,312 sf of office uses are considered in the water demand estimate for the existing executive building that would be removed.			
[b] The total existing demand of the project site is approximately double of the existing water demand to be removed based on billing records from the average available billing years from Fiscal Year 2010 to 2015, not through generation factors.			

There are 3 existing Fire Department Connections to charge fire sprinklers on the building face along Broadway, Spring Street and 2nd Street that appears to be serving the existing Executive Building parking garage, Mirror Building, Plant Building and Times Building. In addition, as indicated in Exhibit 6, one or more fire hydrants exist along each of the Project's four street frontages, and additional fire hydrants exist in the greater vicinity of the Project Site.

The existing 18" water main in Broadway that appears to service the existing parking garage and Executive Buildings has an existing capacity of 2500 gpm at 50 psi, as per Exhibit 1.

The renovation and reuse of the existing Times Building, Mirror Building and Plant Building has the potential to increase the water and fire demand of these existing buildings. An IFFAR (Information of Fire Flow Availability-Exhibit 3) has been obtained and approved for the Project, indicating that the instantaneous impact that results from the required fire flow demand, will not adversely affect the existing water infrastructure servicing the existing Times, Mirror and Plant Building. An approved IFFAR signifies that the existing infrastructure has the capability and capacity to service the proposed renovated buildings. Furthermore, a WSA was also obtained and approved, therefore the existing facilities have the required capacity to serve the proposed renovated buildings.

An SAR for Spring Street has also been requested to determine if the existing infrastructure has the capacity to accept the proposed flows of the renovated Times, Plant and Mirror buildings. The existing infrastructure has the existing capacity of 2500 gpm at 50 psi per Exhibit 1.

3.2. WASTEWATER

3.2.1. REGIONAL

The Bureau of Sanitation (BOS) operates and maintains the wastewater treatment, reclamation and collection facilities serving most of the City of Los Angeles incorporated areas as well as several other cities and unincorporated areas in the Los Angeles basin

and San Fernando Valley. The collection infrastructure consists of over 6,700 miles of local, trunk, mainline and major interceptor sewers, five major outfall sewers, and 46 pumping plants. The wastewater generated by the Project ultimately flows to the Hyperion Treatment Plant (HTP) System. The existing design capacity of the Hyperion Service Area is approximately 550 million gallons per day (mgd) and the existing average daily flow for the system is approximately 300 mgd.[9] However, the LA Sanitation's Customer Care Center Facts & Figures for Wastewater Collection and Treatment dated 01/14/2017 indicates the existing average daily flow for the system is approximately 362 mgd. As such, the more conservative value of 362 mgd has been used in the analysis.

3.2.2. LOCAL

Sanitary sewer is provided by the City of Los Angeles Bureau of Sanitation (BOS). It appears that there are 4 existing sewer laterals serving the existing Times Building, Mirror Building and Plant Building. Also there are 4 existing sewer laterals serving the existing Executive Building and parking garage. Please see Exhibit 6 for existing sewer lines and their size, direction of flow and slope.

There are existing 8-inch Vitrified Clay Pipe (VCP) sewer lines in 1st Street & 2nd Street, a 12-inch main line along Broadway and 18-inch line along Spring Street. Based on LA Bureau of Engineering's online Navigate LA database, the above mentioned sewer lines along 1st Street, 2nd Street, Broadway and Spring street, have capacities of 1.17 cfs (756,043 gpd), 0.55 cfs (355,405 gpd), 3.31 cfs (2,138,891 gpd) and 8.78 cfs (5,673,552 gpd), respectively.[10]

The City sewer network ultimately conveys wastewater to the Hyperion Sewage Treatment Plant.

Wastewater generation estimates have been prepared for the existing on-site uses based on the City of LA Bureau of Sanitation sewerage generation factors for commercial categories, and are summarized in Table 2 below.

Table 2 – Existing Wastewater Generation

Land Use	Size	Generation Rate (gpd)[a]	Wastewater Generation	
			(gpd)	(mgd)
Office	317,168 sf[b]	120/1,000 sf	38,060	0.038
Bank	7,500 sf	50/1,000 sf	375	0.00038

[9] City of Los Angeles Department of Public Works, Bureau of Sanitation, Sewer System Management Plan Hyperion Sanitary Sewer System, February 2017.

Cafeteria	11,250 sf	50/1000 sf	563	0.00056
Total Existing Wastewater Generation			**38,998**	**0.0389**

Notes:

[a] City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation rates.

[b] There are 541,113 sf of existing office uses on the Project Site, of which approximately 40 percent has been vacant for 10 years. Given this vacancy and per correspondence between the City's Department of City Planning and LA Sanitation on December 6, 2018, the WWSI has been revised to take into account the 40 percent vacancy in the existing office uses. Correspondence with City Planning and LA Sanitation can be found in Exhibit 2.

3.3. ENERGY

3.3.1. ELECTRICITY

LADWP is responsible for providing power supply to the City while complying with County, State, and Federal regulations.

3.3.1.1. REGIONAL

LADWP's Power system is the nation's largest municipal electric utility, and serves a 465-square-mile area in Los Angeles. The system supplies more than 26 million megawatt-hours (MWh) of electricity a year for the City of Los Angeles' 1.4 million residential and business customers as well as over 5,000 customers in the Owens Valley. LADWP has over 7,460 megawatts (MW) of generation capacity from a diverse mix of energy sources including Renewable energy, Natural Gas, Nuclear, Large Hydro, coal and other sources. The distribution network includes 6,800 miles of overhead distribution lines and 3,597 miles of underground distribution cables.[11]

3.3.1.2. LOCAL

Based on available substructure maps from the City of LA Bureau of Engineering's online Navigate LA database, the Project Site receives electric power service from LADWP via existing underground conduits from Broadway, Spring Street and 1st Street.

Electricity demand estimates have been prepared based on the existing building program and are summarized in Table 3 below.

[11] LADWP, 2015 Power Integrated Resource Plan, December 2015.

Table 3- Estimated Existing Electricity Demand			
Existing Use Description	Average Daily Use (kWhr/unit)[(a)]	Quantity	Average Yearly Demand (kWhr/year)
Office[(b)]	13.32/gsf	317,168 gsf	4,224,678
Bank	11.31/gsf	7,500 gsf	84,825
Cafeteria	44.79/gsf	11,250 gsf	503,888
Total Existing Electricity Demand			**4,813,391**

(a) CalEEmod version 2016.3.1 was used to calculate the electricity demand based on land use.
(b) Electricity demand included in the table assumed 60% percent occupancy because approximately 223,945 SF (40 percent) of the office uses have been vacant for 10 years.

3.3.2. NATURAL GAS

SoCal Gas is responsible for providing natural gas supply to the City and is regulated by the California Public Utilities Commission and other state and federal agencies.

3.3.2.1. REGIONAL

Southern California Gas Company (SoCalGas) is the principal distributor of natural gas in Southern California, providing retail and wholesale customers with transportation, exchange and storage services and also procurement services to most retail core customers. SoCalGas is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas for enhanced oil recovery (EOR) and electric generation (EG) customers in Southern California. SoCalGas' natural gas system is the nation's largest natural gas distribution utility, and serves a 20,000 square-mile area in Central and Southern California. The system supplies natural gas to 21.6 million customers through 5.9 million meters in more than 500 communities.[12]

3.3.2.2. LOCAL

Based on substructure maps provided by the City, the Project Site receives natural gas service via existing underground conduits from Spring Street and 2nd Street from SoCalGas. Natural gas demand estimates have been prepared based on the existing

[12] LADWP, 2015 Power Integrated Resource Plan, December 2015.
Report.

equipment program and are summarized in Table 4 below.

Table 4- Estimated Existing Natural Gas Demand

Existing Use Description	Average Daily Use (KBTU/unit)[(a)]	Quantity	Average Yearly Demand (KBTU/year)
Office[(b)]	10.46/gsf	317,168 gsf	3,317,578
Bank	18.16/gsf	7,500 gsf	136,200
Cafeteria	230.97/gsf	11,250 gsf	2,598,413
Total Existing Gas Demand			**6,052,191**

(a) CalEEmod version 2016.3.1 was used to calculate the natural gas demand based on land use.
(b) Natural Gas demand included in the table assumed 60% percent occupancy because approximately 223,945 SF (40 percent) of the office uses have been vacant for 10 years.

4. SIGNIFICANCE THRESHOLDS

4.1. WATER

In accordance with State CEQA Guidelines Appendix G (Appendix G), the Project would have a significant impact related to water supply and infrastructure if it would:

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

- Have insufficient water supplies available to serve the project from existing entitlements and resources, thereby requiring new or expanded water entitlements.

For this analysis, the Appendix G Thresholds are relied upon. The analysis utilizes factors and considerations identified in the 2006 L.A. CEQA Thresholds Guide, as appropriate, to assist in answering the Appendix G Threshold questions.

The L.A. CEQA Thresholds Guide (Thresholds Guide) identifies the following criteria to evaluate water supply and infrastructure impacts:

- The total estimated water demand for the project;

- Whether sufficient capacity exists in the water infrastructure that would serve the project, taking into account the anticipated conditions at project buildout;
- The amount by which the project would cause the projected growth in population, housing, or employment for the Community Plan area to be exceeded in the year of project completion; and
- The degree to which scheduled water infrastructure or project design features would reduce or offset service impacts.

4.2. WASTEWATER

In accordance with Appendix G, the Project would have a significant impact related to wastewater if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which would cause significant environmental effects; or
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

For this analysis, the Appendix G Thresholds are relied upon. The analysis utilizes factors and considerations identified in the 2006 L.A. CEQA Thresholds Guide, as appropriate, to assist in answering the Appendix G Threshold questions.

The Thresholds Guide identifies the following criteria to evaluate wastewater:

- The project would cause a measurable increase in wastewater flows at a point where, and a time when, a sewer's capacity is already constrained or that would cause a sewer's capacity to become constrained; or
- The project's additional wastewater flows would substantially or incrementally exceed the future scheduled capacity of any one treatment plant by generating flows greater than those anticipated in the Wastewater Facilities Plan or General Plan and its elements.

4.3. ENERGY

Appendix F of the CEQA Guidelines states that the potentially significant energy implications of a project should be considered in an EIR. Environmental impacts, as noted in Appendix F, may include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project's life cycle including construction, operation, maintenance and/or removal. if appropriate, the energy intensiveness of materials may be discussed;
- The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- The effects of the project on peak and base period demands for electricity and other forms of energy;
- The degree to which the project complies with existing energy standards;
- The effects of the project on energy resources;
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

In the context of the above thresholds, the *L.A. CEQA Thresholds Guide* states that a determination of significance shall be made on a case-by case basis, considering the following factors:

- The extent to which the project would require new (off-site) energy supply facilities and distribution infrastructure; or capacity enhancing alterations to existing facilities;
- Whether and when the needed infrastructure was anticipated by adopted plans; and
- The degree to which the project design and/or operations incorporate energy conservation measures, particularly those that go beyond City requirements.

5. METHODOLOGY

5.1. WATER

The methodology for determining the significance of a project as it relates to a project's impact on water supply and distribution infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of major water infrastructure serving the Project site, including the type of facilities, location and sizes, and any planned improvements.

- Description of the water conditions for the Project area and known improvement plans.

Project Impacts

- Evaluate the Project's water demand, taking into account design or operational features that would reduce or offset water demand.

- Determine what improvements would be needed, if any, to adequately serve the Project.

- Describe the degree to which presently scheduled off-site improvements offset impacts.

This report analyzes the potential impacts of the Project on the existing public water infrastructure by comparing the estimated Project demand with the calculated available capacity of the existing facilities.

The existing and proposed water demand is based upon available site and occupancy information from the WSA.

LADWP performed a hydraulic analysis of their water system to determine if adequate fire flow is available to the fire hydrants surrounding the Project Site. LADWP's approach consists of analyzing their water system model near the Project Site. Based on the results, LADWP determines whether they can meet the project fire hydrant flow needs based on existing infrastructure. See Exhibit 3 for the results of the Information of Fire Flow Availability Request (IFFAR).In addition, LADWP performed a flow test to determine if available water conveyance exists for future development. LADWP's approach consists of data ranging from available static pressure (meaning how much pressure is available at the source before applying the project's demand), to the available pressure at the maximum demand needed for the project. Based on the results, LADWP determines whether they can meet the project needs based on existing infrastructure. See Exhibit 1 for the results of the Service Advisory Request (SAR).

Project water demand estimates incorporate proposed water conservation measures identified later in this report under Section 6: Project Characteristics.

5.2. WASTEWATER

The methodology for determining the significance of a project as it relates to a project's impact on wastewater collection and treatment infrastructure is based on the *L.A. CEQA*

Thresholds Guide. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures (if required). The following has been considered as part of the determination for this Project:

Environmental Setting

- Location of the Project and appropriate points of connection to the wastewater collection system on the pertinent Wye Map;

- Description of the existing wastewater system which would serve the Project, including its capacity and current flows.

- Summary of adopted wastewater-related plans and policies that are relevant to the Project area.

Project Impacts

- Evaluate the Project wastewater needs (anticipated daily average wastewater flow), taking into account design or operational features that would reduce or offset service impacts;

- Compare the Project's wastewater needs to the appropriate sewer's capacity and/or the wastewater flows anticipated in the Wastewater Facilities Plan or General Plan.

This report analyzes the potential impacts of the Project on the existing public sewer infrastructure by comparing the estimated Project wastewater generation with the calculated available capacity of the existing facilities.

Pursuant to LAMC Section 64.15, BOS Wastewater Engineering Division made a preliminary analysis of the local and regional sewer conditions to determine if available wastewater conveyance and treatment capacity exists for future development of the Project Site. BOS's approach consisted of the study of a worst-case scenario which envisions peak demands from the relevant facilities occurring simultaneously on the wastewater system. A combination of flow gauging data and computed results from the City's hydrodynamic model were used to project current and future impacts due to additional sewer discharge. The data used in this report are based on the findings of the BOS preliminary analysis. Refer to Exhibit 2 for the SCAR prepared for the Project, which contains the results of the BOS preliminary analysis.

5.3. ENERGY

The methodology for determining the significance of a project as it relates to a project's impact on wastewater collection and treatment infrastructure is based on the *L.A. CEQA Thresholds Guide*. This methodology involves a review of the project's environmental setting, project impacts, cumulative impacts, and mitigation measures as required. The following has been considered as part of the determination for this Project:

Environmental Setting

- Description of the electricity and natural gas supply and distribution infrastructure serving the project site. Include plans for new transmission facilities or expansion of existing facilities; and

- Summary of adopted energy conservation plans and policies relevant to the project

Project Impacts

- Evaluation of the new energy supply and distribution systems which the project would require.

- Describe the energy conservation features that would be incorporated into project design and/or operation that go beyond City requirements, or that would reduce the energy demand typically expected for the type of project proposed.

- Consult with the DWP or The Gas Company, if necessary to gauge the anticipated supply and demand conditions at project buildout.

This report analyzes the potential impacts of the Project on existing energy infrastructure by comparing the estimated Project energy demand with the available capacity. Will-serve letters from LADWP and SoCalGas (Exhibits 4 and 5) demonstrate the availability of sufficient energy resources to supply the Project's demand.

In addition, potential energy impacts were analyzed by evaluating the energy demand and energy conserving features of the Project to determine whether the Project would involve the wasteful, inefficient, and unnecessary use of energy resources.

6. PROJECT CHARACTERISTICS

6.1. WATER

The proposed renovated Times Building, Plant Building and Mirror Building are anticipated to be serviced by the existing water main in Spring Street. New domestic water laterals are expected to be required to service the North and South Tower Buildings. Water laterals are proposed to connect to the existing 18" main in Broadway. Furthermore, the project is expected to reduce outdoor potable water use by a minimum of 20 percent compared to baseline water consumption pursuant to the City of Los Angeles No 184248, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code. In addition to Title 24 requirements, such as water conserving water closets, urinals and showerheads, reductions in water consumption would be achieved through:

- High Efficiency Toilets with flush volume of 1.0 gallons per flush or less;
- ENERGY STAR Certified Residential Clothes Washers – Front-loading with an Integrated Water Factor of 3.6 or less and capacity of 4.3 cubic feet (cu ft);
- Showerheads with a flow rate of 1.5 gpm or less;
- Domestic Water Hearing System located close in proximity to point(s) of use;
- Individual Metering and billing for water use for commercial space;
- Drip/Subsurface Irrigation (Micro-Irrigation);
- Proper Hydro-zoning/Zoned Irrigation (group plants with similar water requirements together); and
- Drought Tolerant Plants – 70 percent of total landscaping.

The proposed renovated Times Building, Plant Building and Mirror Building are anticipated to be serviced by the existing 12" main in Spring Street. As stated prior, the existing main has adequate capacity to serve the aforementioned buildings. However, since the existing Executive Building and parking garage are to be demolished, it is expected that the Fire Department Connections serving these structures would be removed. New connections to meet all Fire Department and Department of Building and Safety regulations would be provided to serve the proposed North and South Towers.

6.1.1. WASTEWATER

The proposed renovation and reuse of the existing Times Building, Mirror Building and Plant Building are anticipated to utilize existing sewer infrastructure. The sanitary sewer connections to the proposed renovated buildings is expected to come from the existing 18-inch sewer main along Spring Street that flows south with a capacity of 8.78 cfs (5,673,552 gpd).[13]

The proposed North and South Tower is anticipated to require new laterals in 1st Street and 2nd Street, to serve the proposed buildings. The sanitary sewer connections for the proposed North Tower is expected to connect to the existing 8-inch sewer main along 1st Street that flows toward Spring Street with a capacity of 1.17 cfs (756,043 gpd). The proposed lateral for the South Tower is anticipated to connect to the existing 8-inch sewer main along 2nd Street that flows towards Spring Street with a capacity of 0.55 cfs (355,405 gpd). Additionally, both the North and South Tower are anticipated to utilize existing connections to the existing 12" main along Broadway that flows south towards 2nd Street with a capacity of 3.31 cfs (2,138,891 gpd). Refer to Exhibit 7 for a diagrammatical representation of proposed and existing sewer lateral locations.

[13] http://navigatela.lacity.org/navigatela/ Accessed September 26, 2018

7. PROJECT IMPACTS

7.1. CONSTRUCTION

7.1.1. WATER

Water demand for construction of the Project would be required for dust control, cleaning of equipment, excavation/export, removal and re-compaction, etc. Based on a review of construction projects of similar size and duration, a conservative estimate of construction water use ranges from 1,000 to 2,000 gallons per day (gpd). Considering temporary construction water use would be substantially less than the existing water consumption at the Project Site (estimated to be approximately 20,137 gpd), it is anticipated that the existing water infrastructure would meet the limited and temporary water demand associated with construction of the Project. Impacts on the water infrastructure due to construction activity would therefore be less than significant.

The Project will require construction of new, on-site water distribution lines to serve the new buildings and facilities of the proposed Project. Construction impacts associated with the installation of water distribution lines would primarily involve trenching in order to place the water distribution lines below surface and would be limited to on-site water distribution, and minor off-site work associated with connections to the public main. Prior to ground disturbance, Project contractors would coordinate with LADWP to identify the locations and depth of all lines. Further, LADWP would be notified in advance of proposed ground disturbance activities to avoid water lines and disruption of water service.

Additionally, a Construction Management Plan would be implemented to reduce any temporary pedestrian and traffic impacts. The contractor would implement the Construction Management Plan, which would ensure safe pedestrian access and vehicle travel and emergency vehicle access throughout the construction phase. Overall, when considering impacts resulting from the installation of any required water infrastructure, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete. Therefore, Project impacts on water infrastructure associated with construction activities would be less than significant.

7.1.2. WASTEWATER

Construction activities for the Project would not result in wastewater generation as construction workers would typically utilize portable restrooms, which would not contribute to wastewater flows to the City's wastewater system. Thus, wastewater generation from Project construction activities is not anticipated to cause a measurable increase in wastewater flows. Therefore, Project impacts associated with construction-period wastewater generation would be less than significant.

The Project will require construction of new on-site infrastructure to serve the new buildings. Construction impacts associated with wastewater infrastructure would primarily be confined to trenching for connections to public infrastructure. Installation of wastewater infrastructure will be limited to on-site wastewater distribution, and minor off-site work associated with connections to the public main. No upgrades to the public main are anticipated.

A Construction Management Plan would be implemented to reduce any temporary pedestrian and traffic impacts. The contractor would implement the Construction Management Plan, which would ensure safe pedestrian access and vehicle travel and emergency vehicle access throughout the construction phase. Overall, when considering impacts resulting from the installation of any required wastewater infrastructure, all impacts are of a relatively short-term duration (i.e., months) and would cease to occur once the installation is complete. Therefore, Project impacts on wastewater associated with construction activities would be less than significant.

7.1.3. ENERGY

Electrical power would be consumed to construct the new buildings and facilities of the proposed Project. Typical uses include temporary power for lighting, equipment, construction trailers, etc. Overall, demolition and construction activities would require minimal electricity consumption and would not be expected to have any adverse impact on available electricity supplies and infrastructure. Therefore, impacts on electricity supply associated with short-term construction activities would be less than significant.

No natural gas usage is expected to occur during construction. Therefore, impacts on natural gas supply associated with short-term construction activities would be less than significant.

Construction impacts associated with the Project's electrical and gas infrastructure upgrades would primarily be confined to trenching. Infrastructure improvements will comply with all applicable LADWP, SoCalGas, and City of LA requirements, which are expected to and would in fact mitigate impact to existing energy systems and adjacent properties. As stated above, to reduce any temporary pedestrian access and traffic impacts during any necessary off-site energy infrastructure improvements, a Construction Management Plan would be implemented to ensure safe pedestrian and vehicular travel.

Therefore, Project impacts on energy infrastructure associated with construction activities would be less than significant.

7.2. OPERATION

7.2.1. WATER

7.2.1.1. INFRASTRUCTURE CAPACITY

When analyzing the Project for infrastructure capacity, the projected demands for both fire suppression and domestic water are considered. Although domestic water demand is the Project's main contributor to water consumption, fire flow demands have a much greater instantaneous impact on infrastructure, and therefore are the primary means for analyzing infrastructure capacity. Nevertheless, conservative analysis for both fire suppression and domestic water flows has been completed by LADWP for the Project. See Exhibit 3 and Exhibit 1 for the results of the IFFAR and SAR, respectively, which together demonstrate that adequate water infrastructure capacity exists.

7.2.1.2. FIRE WATER DEMAND

Based on fire flow standards set forth in Section 57.507.3 of the LAMC, the Project falls within the industrial and commercial category, which has a required fire flow of 6,000 to 9,000 gallons per minute (gpm) from four to six adjacent hydrants flowing simultaneously with a residual pressure of 20 pounds per square inch (psi). This translates to a required flow of 1,500 gpm for each hydrant. An IFFAR was submitted to LADWP regarding available fire hydrant flow to demonstrate compliance. The completed IFFAR, attached as Exhibit 3, shows six nearby hydrants flowing simultaneously for a combined 9,000 gpm with a residual pressure of 20 psi. Thus, as shown by the IFFAR, the Project Site has adequate fire flow available to demonstrate compliance with Section 57.507.3 of the LAMC under the Project.

Furthermore, LAMC Section 57.513, Supplemental Fire Protection, states that:

> Where the Chief determines that any or all of the supplemental fire protection equipment or systems described in this section may be substituted in lieu of the requirements of this chapter with respect to any facility, structure, group of structures or premises, the person owning or having control thereof shall either conform to the requirements of this chapter or shall install such supplemental equipment or systems. Where the Chief determines that any or all of such equipment or systems is necessary in addition to the requirements of this chapter as to any facility, structure, group of structures or premises, the owner thereof shall install such required equipment or systems.

The Project will incorporate a fire sprinkler suppression system to reduce or eliminate the public hydrant demands, which will be subject to Fire Department review and approval

during the design and permitting of the Project. Based on Section 94.2020.0 of the LAMC that adopts by reference NFPA 14-2013 including Section 7.10.1.1.5, the maximum allowable fire sprinkler demand for a fully or partially sprinklered building would be 1,250 gpm. As noted, a SAR was submitted to LADWP to determine if the existing public water infrastructure could meet the demands of the Project. The approved SAR, attached as Exhibit 1, shows a static pressure of 52 pounds per square inch and that a flow of up to 2,500 gpm can be delivered to the Project Site with a residual pressure of 50 pounds per square inch, which exceeds the 20 pounds per square inch requirement for the surrounding public hydrants. As shown by the SAR, and through compliance with LAFD and LADWP requirements, the Project's fire flow impacts to water infrastructure would be less than significant.

7.2.1.3. DOMESTIC WATER DEMAND

Water consumption estimates have been prepared based on the WSA and summarized in Table 5 below. The approved SAR indicates that 2500 gpm (3,600,000 gpd) is available from existing 18" Water Main in Broadway. Also, the calculation summarized in Table 5 below shows the total water demand for the new development as 256,069 gpd (286.86 afy). Therefore, SAR result confirms that sufficient infrastructure capacity is available for the Project. The Project proposes to connect to the existing 18-inch main in Broadway with laterals that will be adequately sized to simultaneously accommodate fire demand and domestic demand. In addition, the services will include backflows and be metered separately per City requirements. Therefore, the Project's impacts on water supply would be less than significant.

As far as the existing Times Building, Mirror Building and Plant Building that are proposed rehabilitated, it is expected that, there will be an increase in water demand as compared to the previous uses. (A WSA has been submitted and approved for the proposed demand of the Project and the results are reflected in the table below.)

Table 5 – Project Water Demand

Existing Water Demand to be Removed

Existing Use[a]	**Quantity**	**Existing to be Removed**	
		(gpd)	**(afy)**
Offices[b]	103,312 sf		
Bank	7,500 sf		
Cafeteria	11,250 sf		
6 Story Parking Structure	44,306 sf		

Existing to be Removed Total[c]					**20,137**	**22.56**
Existing Water Demand to Remain						
					Existing Water Demand	
Existing Use	**Quantity**				**(gpd)**	**(afy)**
Office	213,856 sf[d]				32,079[e]	35.94
Proposed New Water Demand						
Proposed Use	**Quantity**	**Water Use Factor[f]**	**Base Demand**	**Required Ordinance Water Savings[g]**	**New Water Demand**	
		(gpd/unit)	**(gpd)**	**(gpd)**	**(gpd)**	**(afy)**
Residential: Studio	90 du	75/du	6,750			
Residential: 1 bd (+ Den)	706 du	110/du	77,660			
Residential: 2 bd	324 du	150/du	48,600			
Residential: 3 bd and Penthouse	7 du	190/du	1,330			
Base Demand Adjustment (Residential Units)[h]			14,206			
Residential Units Total	**1,127 du**		**148,546**	**32,100**	**116,446**	**130.45**
Gym/Fitness Center[i]	25,618 sf	650/1,000 sf	16,652			
Lobby	3,025 sf	50/1,000 sf	151			
Pool	2,250 sf		211			
Residential Amenities Total[j]			**17,014**	**3,727**	**13,287**	**14.88**
Office[k,n]	93,432 sf	150/1,000 sf	14,015			
Grocery Store	50,000 sf	50/1,000 sf	2,500			
Restaurant: Ground-floor Full Service[m]	53,389 sf (3,560 seats)	30/seat	106,800			

Commercial Total			**123,315**	**4,373**	**118,942**	**133.24**
Landscaping[l]	16,242 sf		1,517	781	736	0.82
Parking Structure[m]	988,000 sf		650	0	650	0.73
Cooling Tower Total	1,500 sf		17,820	17,820	0	0.00
Proposed Subtotal			**308,862**	**58,801**	**250,061**	**280.13**
Less Existing to be Removed Total					**-20,137**	**-22.56**
Less Additional Conservation[o]					**-5,935**	**-6.65**
Net Additional Water Demand					**223,990**	**250.92**
Existing Water Demand to Remain					32,079	35.94
Total Water Demand Upon Project Buildout (Net + Existing)					**256,069**	**286.86**

[a] Provided by City of Los Angeles Department of City Planning in the Request for Water Supply Assessment letter and Scope Confirmation e-mail.

[b] Of the 176,258 sf of existing office space in the Executive Building that will be removed, 103,313 sf has been used/occupied in the last 10 years. In other words, only 103,312 sf of office is considered having water demand in the existing Executive building that will be removed.

[c] The existing water demand is based on the LADWP billing data (average of varied available billing years from Fiscal Year 2010 to 2015).

[d] There are 541,131 sf of existing office uses on the Project Site. Of the existing office uses, 176,258 sf of those uses would be removed with the demolition of the Executive Building and 151,017 sf would be converted into grocery store, restaurant, and new office uses. The remaining 213,856 sf would remain as existing office uses.

[e] The water demand generated by the existing office uses to remain on the Project Site is calculated by multiplying the square footage by the conservative older Sewer Generation Rate for office uses of 150 gpd/1,000 sf.

[f] Proposed indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table available at: http://www.lacitysan.org/fmd/odf/sfcfeerates.pdf.

[g] The proposed development land uses will conform to City of Los Angeles ordinance No. 184248, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.

[h] Base Demand Adjustment is the estimated savings due to Ordinance No. 180822 already accounted for in the current version of Bureau of Sanitation Sewer Generation Rates.

i The Gym/Fitness Center space is currently unprogrammed amenity space. The "Gym" sewage generation factor is used to present a conservative analysis as it provides the highest generation factor for a similar uses.

[j] Garden Plaza not shown here does not have additional water demand.

[k] This office square footage includes the remaining 93,432 sf of new office spaces that would be retrofitted with new water-efficient fixtures. Therefore, LADWP takes a more conservative approach in estimating water demand for these office spaces by using an older Sewer Generation Rate available at: http://www.environmetia.org/programs/Thresholds/M-Public%20Utilities.pdf.

[l] Landscaping water use is estimated per California Code of Regulations title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance.

[m] Parking structure water uses are based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, and 12 times/year clearing assumptions.

[n] The office and restaurant square footages are based on the most current Project Description, where the upper floor restaurant square footage in the Times, Mirror, and Plant Buildings has been reallocated to office space (new total 93,342 sf) and the retail space in the North and South Towers has been reallocated to restaurant uses (new total 53,389 sf). The WSA, approved by the Board of Water and Power on September 19, 2017, reflected a prior version of the Project with a net new water demand of 196,773 gpd and 220.42 afy. As determined by LADWP in correspondence dated February 8, 2018, and as included as Exhibit 2, LADWP recalculated the Project's water demand based on

revisions to the scope of the Project, including the updated restaurant and office space, and determined that sufficient water supplies would be available from existing entitlements to meet the increased demand during average, single-dry, and multiple-dry years hydrologic conditions. Thus, no new WSA is required for the revisions because the changes in the Project do not result in a substantial increase in water demand for this Project relative to available supplies. This table has been updated from the WSA to show the amounts that would be generated by the updated uses in the Project Description. The Required Ordinance Water Savings for the uses that were updated were not proportionally increased as a smaller amount would provide for a more conservative new water demand for the listed use. Analysis based on the Project's water demand from the table would be considered to be conservative. The cumulative discussion below will rely on this number for the Project's net additional water demand.

[o] Water conservation due to additional conservation commitments agreed by the Applicant under PDF WS-1. From Table II of the WSA.

SOURCE: Los Angeles Department of Water and Power, Water Supply Assessment, pages 8 and 9.

7.2.2. WASTEWATER

7.2.2.1. SEWER GENERATION

The Project will generate approximately 328,328 gross gallons per day (gpd) of wastewater (a net increase of 289,330 gpd over existing wastewater generation at the Project Site). Wastewater generation estimates have been prepared based on the existing and proposed wastewater demand provided in the "Notice of Preparation of Environmental Impact Report and Public Scoping Meeting" letter prepared by Los Angeles Sanitation and LA Sanitation's email correspondence dated December 6, 2018, included as Exhibit 2 in the Appendix.

Table 6 – Project Waste Water Demand

Existing Uses	**Size**	**Generation Factor (gpd)[a]**	**Average Daily Flow (gpd)**
Existing Wastewater			
Offices[b]	317,168 sf	120/1,000 sf	38,060
Bank	7,500 sf	50/1,000 sf	375
Cafeteria	11,250 sf	50/1,000 sf	563
		Existing Subtotal	**38,998**

Type of Use[d]	Size	Generation Factor (gpd)[c]	Average Daily Flow (gpd)
Residential			
Studio	90 du	75/du	6,750
1 Bedroom	546 du	110/du	60,060
1 Bedroom + Den	160 du	190/du[e]	30,400
2 Bedroom	324 du	150/du	48,600
3 Bedroom	4 du	190/du	760
Penthouse	3 du	230/du	690
Amenities + Lounges + Loading[f]	29,539 sf	350/1,000 sf	10,339
Open Space	129,477 sf	350/1,000 sf	45,317
Restaurant	53,389 sf	300/1,000 sf	16,017
Grocery Store (Plant Building)	50,000 sf	50/1,000 sf	2,500
Office[g]	307,288 sf	120/1,000 sf	36,875
Swimming Pool[h]	9,000 cf	7.78/cf	70,020
Proposed Subtotal			**328,328**
Less Existing to be Removed Total			-38,998
Net Additional Wastewater Generation			**289,330**

[a] Proposed generation rates are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table available at http://www.lacotysan.org/fmd/pdf/sfcfeerates.pdf.

[b] There are 541,113 sf of existing office uses on the Project Site, of which approximately 40 percent has been vacant for 10 years. Given this vacancy, the analysis assumes that 317,168 sf of uses are currently in use.

[c] Per correspondence between the City's Department of City Planning and LA Sanitation on December 6, 2018, the WWSI has been revised to take into account the approximately 40 percent vacancy in the existing office uses. Refer to Exhibit 2 for aforementioned correspondence.

[d] Provided by LA Sanitation in the WWSI, provided as Exhibit 2 of the Utility Technical Report. The office and restaurant square footages in this table are based on the most current Project Description, where the upper floor restaurant square footage has been reallocated to office space. As stated in LA Sanitation's email correspondence, dated July 16, 2018, the Project Description was updated to reallocate upper-floor restaurant square footage to office space and to reallocate retail space into ground-floor restaurant space. As stated by LA Sanitation, the revised wastewater demand would still be accommodated and no revisions to the wastewater demand estimates in the WWSI are required.

[e] The wastewater generation rate applied here for the 1 Bedroom + Den use is higher than the standard wastewater generation rate for a 2 Bedroom use (150 gpd/du). Therefore, the overall wastewater generation from the Project is more conservative.

[f] The wastewater generation from amenities and lounges are typically subsumed within the respective uses (e.g., amenities within residential uses, lounges within open space). Wastewater generation from loading docks are not typically calculated as part of the Project. Therefore, by including these uses within the wastewater

generation under the Project, the total wastewater generated will be more conservative.

[g] This office square footage includes 213,856 sf that currently exist and are occupied and would continue to exist and be occupied after rehabilitation of the Times, Mirror and Plant Buildings as well as 213,856 square feet of existing office uses that would remain, but would not be retrofitted.

[h] This calculation is extremely conservative as it assumes the pool will be drained and refilled daily.

A Notice of Preparation of Environmental Impact Report and Public Scoping Meeting (NOP) letter was issued for the Times Mirror Square Project to evaluate the local sewer conditions and to determine if available wastewater capacity exists for future developments. This evaluation will determine cumulative sewer impacts and guide the planning process for any future sewer improvement projects needed to provide future capacity as the City of LA grows and develops. The sewer infrastructure in the vicinity of the project include an existing 8-inch Vitrified Clay Pipe (VCP) sewer lines in 1st Street & 2nd Street, a 12-inch main line along Broadway and an 18-inch pipe along Spring Street. Based on the estimated flows, shown in Table 6 above, it appears the sewer system might be able to accommodate the total flow for the proposed renovation of the Times, Plant and Mirror development. As mentioned within the footnote b of Table 6, the Project Description has been updated to include additional office space that was not in the original project description. However, based on the LA Sanitation's email correspondence, dated December 6, 2018, the revised wastewater demand of 289,330 gpd will still be accommodated and no revisions to the wastewater demand estimates shown above are necessary. See Exhibit 2 for the email correspondence and LA Sanitation's NOP.

With respect to wastewater treatment capacity, as indicated previously, the existing design capacity of the Hyperion Service Area is approximately 550 million gallons per day, while the existing average daily flow treated by the System is approximately 362 mgd.[14] The Project's estimated net increase in wastewater generation of approximately 0.289 mgd would be far less than one percent of the Hyperion Treatment Plant's remaining available capacity. Consequently, adequate wastewater treatment capacity exists to serve the Project, and Project impacts on wastewater treatment capacity would be less than significant.

Due to this fact, the NOP, and LA Sanitation's email correspondence, dated December 6, 2018, that states that the above estimates are adequate, impacts on wastewater infrastructure conveyance capacity would be less than significant.

[14] City of Los Angeles Department of Public Works, Bureau of Sanitation, Water Reclamation Plants, https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw/s-lsh-wwd-cw-p?_adf.ctrl-state=oep8lwkld_4&_afrLoop=28344654751341747#!, accessed September 26, 2018.

7.2.3. ENERGY

7.2.3.1. ELECTRICITY

The Project will increase the demand for electricity resources. Based on analysis by CalEEMod software, the estimated projected electrical loads from the Project are provided in Table 7 below.

Table 7 - Estimated Proposed Electrical Demand			
Existing Use Description	Average Daily Use (kWhr/unit)[(a)]	Quantity	Average Yearly Demand (kWhr/year)
Office[(c)]	13.32/gsf	317,168 gsf	4,224,678
Bank	11.31/gsf	7,500 gsf	84,825
Cafeteria	44.79/gsf	11,250 gsf	503,888
Total Existing Electricity Demand for Project Site			**4,813,391**
Proposed Use Description	Average Yearly Use (kWhr/unit)[(a)]	Quantity	Average Yearly Demand (kWhr/year)
STUDIO - BACHELOR	4,316.41/du	90	388,477
1 BDR APT+DEN	4,316.41/du	706	3,047,386
2 BDR APT	4,316.41/du	324	1,398,517
3 BDR APT/PH	4,316.41/du	7	30,215
AMENITIES/LOUNGES/ LOADING	13.05/gsf	29,539	385,484
RETAIL	13.86/gsf	34,572	479,168
GROCERY (E) - COMMERCIAL	37.73/gsf	50,000	1,886,500
OFFICE (E)	13.32/gsf	285,088	3,797,372
RESTAURANT (E) - FULL SERVICE	44.79/gsf	41,017	1,837,151
Total Proposed Electricity Demand for Project Site			13,250,270
Existing Total Electricity Demand for Project Site			4,813,391
Net Increase in Electricity Demand for Project Site Due to Project			8,436,879

[a] The average projected load based on estimates from CalEEMod.

[b] 1 MW (megawatt) = 1,000,000 Watts.

[c] Electricity demand included in the table assumed 60% percent occupancy because approximately 223,945 SF (40 percent) of the office uses have been vacant for 10 years**.**

7.2.3.2. A will serve letter was sent to LADWP to determine if there is sufficient capacity to serve the Project. Based on the response from LADWP (see Exhibit 4), impacts related to electrical services would be less than significant.

7.2.3.2. NATURAL GAS.

Project operations will increase the demand for natural gas resources. Based on analysis by CalEEMod software, the estimated projected natural gas loads are provided in Table 8 below.

A will serve letter was sent to SoCal Gas to determine if there is sufficient capacity to serve the Project. Based on the response from SoCalGas (see Exhibit 5), impacts related to natural gas would be less than significant.

Table 8- Estimated Proposed Natural Gas Demand			
Existing Use Description	Average Daily Use (KBTU/unit)[a]	Quantity	Average Yearly Demand (KBTU/year)
Office[b]	10.46/gsf	317,168 gsf	3,317,578
Bank	18.16/gsf	7,500 gsf	136,200
Cafeteria	230.97/gsf	11,250 gsf	2,598,413
Total Existing Natural Gas Demand			**6,052,191**
Proposed Use Description	Average Yearly Use (KBTU/unit)[a]	Quantity	Average Yearly Demand (KBTU/year)
STUDIO - BACHELOR	16,502.57/du	90	1,485,231
1 BDR APT+DEN	16,502.57/du	706	11,650,814
2 BDR APT	16,502.57/du	324	5,346,833
3 BDR APT/PH	16,502.57/du	7	115,518

AMENITIES/LOUNGES/ LOADING	8.841/gsf	29,539	261,154
RETAIL	1.65/gsf	34,572	57,044
GROCERY (E) - COMMERCIAL	22.12/gsf	50,000	1,106,000
OFFICE (E)	10.46/gsf	285,088	2,982,020
RESTAURANT (E) - FULL SERVICE	230.97/gsf	41,017	9,473,697
Total Proposed Natural Gas Demand			32,478,311
Total Existing Natural Gas Demand			6,052,191
Total Net Increase in Natural Gas Demand			26,426,120

(a) The average projected load based on estimates from CalEEMod.

(b) Electricity demand included in the table assumed 60% percent occupancy because approximately 223,945 SF (40 percent) of the office uses have been vacant for 10 years**.**

7.3. CUMULATIVE IMPACTS

7.3.1. WATER

The geographic context for the cumulative impact analysis on water supply is the LADWP service area (i.e., the City). LADWP, as a public water service provider, is required to prepare and periodically update an Urban Water Management Plan to plan and provide for water supplies to serve existing and projected demands. The 2015 UWMP prepared by LADWP accounts for existing development within the City, as well as projected growth through the year 2040.

Additionally, under the provisions of Senate Bill 610, LADWP is required to prepare a comprehensive water supply assessment for every new development "project" (as defined by Section 10912 of the Water Code) within its service area that reaches certain thresholds. The types of projects that are subject to the requirements of Senate Bill 610 tend to be larger projects that may or may not have been included within the growth projections of the 2015 UWMP. The water supply assessment for projects would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed.

Furthermore, through LADWP's 2015 UWMP process and the City's Securing L.A.'s Water Supply, the City will meet all new demand for water due to projected population growth to the year of 2040, through a combination of water conservation and water recycling. These plans outline the creation of sustainable sources of water for the City of Los Angeles to reduce dependence on imported supplies. LADWP is planning to achieve

these goals by expanding its water conservation program. To increase recycled water use, LADWP is expanding the recycled water distribution system to provide water for irrigation, industrial use, and groundwater recharge.

There are approximately 170 projects within a 1.5 mile radius of the Project Site. Of the 170 related projects, 134 consist of multifamily residential, schools, hotels, theaters, and commercial uses. The total increase in water demand for the related projects is approximately 10.94 millions gallons per day (mgd). Combined with the Proposed Project, the net increase in water demand is approximately 11.17 mgd. Refer to Exhibit 8 for a breakdown of the related projects and associated water consumption. The 2015 UWMP has estimated a water demand of 475 mgd by the year 2025, which means the proposed project combined with the related projects would account for approximately 2.3% percent of the total daily demand. Compliance of the Project and future development projects with regulatory requirements that promote water conservation such as the Los Angeles Municipal Code, including the City's Green Building Code, as well as AB 32, would also assist in assuring that adequate water supply is available on a cumulative basis.

Based on the above, it is anticipated that LADWP would be able to supply the water demands of the Project as well as future growth. Therefore, cumulative impacts on water supply would be less than significant.

7.3.2 WASTEWATER

The Proposed Project will result in the additional generation of sewer flow. However, as discussed above the Bureau of Sanitation will conduct an analysis of existing and planned capacity and will determine that adequate capacity exists to serve the Project. Related projects connecting to the same sewer system are required to obtain a sewer connection permit and submit a Sewer Capacity Availability Request to the Bureau of Sanitation as part of the related project's development review. Impact determination will be provided following the completion of the SCAR analysis. If system upgrades are required as a result of a given project's additional flow, arrangements would be made between the related project and the Bureau of Sanitation to construct the necessary improvements. At this time, the City's BOS has found that it has the capacity to serve the Project and related projects anticipated in growth forecast with the existing infrastructure. There are approximately 170 projects within a 1.5 mile radius of the Project Site. Of the 170 related projects, 134 consist of multifamily residential, schools, hotels, theaters, and commercial uses. Based on these forecasts and the Project-specific information reviewed by the City's BOS, the Project's increase in wastewater generation is not cumulatively considerable and would be adequately accommodated by the Hyperion Treatment Plant. Refer to Exhibit 9 for a complete breakdown of wastewater demand for related projects and associated wastewater consumption. In addition, the City's BOS analysis confirms that the Hyperion Treatment Plant has sufficient capacity and regulatory allotment for the

Project and anticipated growth of cumulative projects. Therefore, operation of the Project would have a less than significant impact on wastewater treatment facilities.

7.3.3 ENERGY

The geographic context for the cumulative analysis of electricity is LADWP's service area and the geographic context for the cumulative analysis of natural gas is SoCal Gas' service area. The geographic context for transportation energy use is the City of Los Angeles. Growth within these geographies is anticipated to increase the demand for electricity, natural gas, and transportation energy, as well as the need for energy infrastructure, such as new or expanded energy facilities.

Buildout of the Project, the related projects, and additional growth forecasted to occur in the City would increase electricity consumption during project construction and operation and, thus, cumulatively increase the need for energy supplies and infrastructure capacity, such as new or expanded energy facilities. LADWP forecasts that its net energy for load in the 2023 fiscal year (the project buildout year) will be 28,253 GWhr of electricity.[15] Based on the Project's estimated net new electrical consumption of 13.4 GWhr and LADWP's forecast of 28,253 GWhr, the Project would account for less than 1 percent of LADWP's projected net energy load for the Project's build-out year. Furthermore, there are approximately 170 related projects within a 1.5-mile radius. Of the related projects 134 consist of multifamily residential, schools, hotels, theaters, and commercial uses. The total increase in energy demand for the related projects is approximately 518 GWhr. Combined with the proposed project, the net increase in energy demand is approximately 531.5 GWhr. The estimated net increase in energy demand resulting from the build-out of related projects combined with the proposed project, would represent approximately 1.9 percent of the LADWPs forecast for the net energy load in the fiscal year 2023. Refer to Exhibit 10 for a breakdown of the related projects and associated energy consumption. Although future development would result in the irreversible use of renewable and non-renewable electricity resources during project construction and operation which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with growth expectations for LADWP's service area. Furthermore, like the Project, during construction and operation, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to electricity consumption would not be cumulatively considerable and, thus, would be less than significant.

Electricity infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by LADWP are ongoing. As described in LADWP's 2015 Power Integrated Resource Plan, LADWP would continue to expand delivery capacity as needed to meet demand increases within its service area at the lowest

[15] LADWP, 2015 Power Integrated Resource Plan, Appendix A, Table A-1.

cost and risk consistent with LADWP's environmental priorities and reliability standards. LADWP has indicated that the Power Integrated Resource Plan incorporates the estimated electricity requirement for the Project. The Power Integrated Resource Plan takes into account future energy demand, advances in renewable energy resources and technology, energy efficiency, conservation, and forecast changes in regulatory requirements. Development projects within the LADWP service area would also be anticipated to incorporate site- specific infrastructure improvements, as necessary. Each of the related projects would be reviewed by LADWP to identify necessary power facilities and service connections to meet the needs of their respective projects. Project applicants would be required to provide for the needs of their individual projects, thereby contributing to the electrical infrastructure in the Project area. As such, the Project's contribution to cumulative impacts with respect to electricity infrastructure would not be cumulatively considerable and, thus, would be less than significant.

Buildout of the Project and related projects in SoCalGas' service area is expected to increase natural gas consumption during project construction and operation and, thus, cumulatively increase the need for natural gas supplies and infrastructure capacity. Based on the 2016 California Gas Report, the California Energy Commission estimates natural gas availability within SoCalGas' planning area will be approximately 2,456 million cubic feet/day in 2025.[16] Based on the Project's estimated net new daily natural gas consumption of 0.09 million cubic feet per day, and SoCalGas' projected 2,456 million cubic feet capacity in 2025, the Project would account for less than 1 percent of SoCalGas projected additional capacity for the Project's build-out year. There are approximately 170 related projects within a 1.5 mile radius. Of the 170 related projects,134 consist of multifamily residential, schools, hotels, theaters, and commercial uses. The total increase in gas demand for the related projects is approximately 3.26 million cubic feet per day. Combined with the proposed project, the net increase in gas demand is approximately 3.35 million cubic feet per day. The estimated net increase in gas demand resulting from the build-out of related projects combined with the proposed project, would represent approximately less than 1 percent of the SoCalGas forecast for the peak demand in the fiscal year 2023. Refer to Exhibit 11 for a breakdown of the related projects and associated gas consumption. SoCal Gas' forecasts take into account projected population growth and development based on local and regional plans. Although future development projects would result in the irreversible use of natural gas resources which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCal Gas' service area. Furthermore, like the Project, during project construction and operation other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Accordingly, the Project's contribution to cumulative impacts related to natural gas consumption would not be cumulatively considerable and, thus,

[16] California Gas and Electric Utilities, 2016 California Gas Report, p. 97.

would be less than significant.

Natural gas infrastructure is typically expanded in response to increasing demand, and system expansion and improvements by SoCalGas occur as needed. It is expected that SoCalGas would continue to expand delivery capacity if necessary to meet demand increases within its service area. Development projects within its service area would also be anticipated to incorporate site-specific infrastructure improvements, as appropriate. As such, cumulative impacts with respect to natural gas infrastructure would not be cumulatively considerable and, thus, would be less than significant.

8. LEVEL OF SIGNIFICANCE

Based on the analysis contained in this report no significant impacts have been identified for water, wastewater, or energy for this Project.

EXHIBITS

Exhibit 1- LADWP "Service Advisory Report" (SAR) Results

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **59388**

Fire Service Pressure Flow Report

SERVICE NUMBER **623113**

For: **201 W 1ST ST** Approved Date: **4-17-2017**

Proposed Service **8 INCH** off of the

18 inch main in **BROADWAY** on the **EAST** side approximately

280 feet **NORTH** of **NORTH** of **2ND ST** The System maximum pressure is

75 psi based on street curb elevation of **289** feet above sea level at this location.

The distance from the DWP street main to the property line is **22** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	52				
1720	51				
2500	50				

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes: OK to sell combo (8-in FS W/ 8-in DS)

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 04-17-17. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

AIDA FITTON	**AIDA FITTON**	**130-213**
Prepared by	**Approved by**	**Water Service Map**

Exhibit 1- LADWP "Service Advisory Report" (SAR) Results

City of Los Angeles

Los Angeles Department of Water and Power - Water System

SAR NUMBER **64253**

Fire Service Pressure Flow Report

SERVICE NUMBER **1259666**

For: **202 W 1ST ST** Approved Date: **12-15-2017**

Existing Service **8 INCH** off of the **12** inch main in **SPRING ST** on the **WEST** side approximately **95** feet **SOUTH** of **SOUTH** of **1ST ST** The System maximum pressure is **73** psi based on street curb elevation of **286** feet above sea level at this location.

The distance from the DWP street main to the property line is **22** feet

System maximum pressure should be used only for determining class of piping and fittings.

Residual Flow/Pressure Table for water system street main at this location

Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)	Flow (gpm)	Press. (psi)
0	54				
1185	53				
1720	52				
2140	51				
2500	50				

Meter Assembly Capacities

Domestic Meters	
1 inch =	56 gpm
1-1/2 inch =	96 gpm
2 inch =	160 gpm
3 inch =	220 gpm
4 inch =	400 gpm
6 inch =	700 gpm
8 inch =	1500 gpm
10 inch =	2500 gpm

Fire Service	
2 inch =	250 gpm
4 inch =	600 gpm
6 inch =	1400 gpm
8 inch =	2500 gpm
10 inch =	5000 gpm

FM Services	
8 inch =	2500 gpm
10 inch =	5000 gpm

These values are subject to change due to changes in system facilities or demands.

Notes:

This information will be sent to the Department of Building and Safety for plan checking.

This SAR is valid for one year from 12-15-17. Once the SAR expires, the applicant needs to re-apply and pay applicable processing fee.

For additional information contact the Water Distribution Services Section **CENTRAL (213) 367-1216**

AIDA FITTON	**AIDA FITTON**	**130-213**
Prepared by	**Approved by**	**Water Service Map**

Exhibit 2- LA Sanitation's Email Correspondence dated 7/16/2018

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - LASAN Comment Letter

2 messages

William Lamborn <william.lamborn@lacity.org> Mon, Jul 16, 2018 at 11:13 AM
To: Christopher DeMonbrun <chris.demonbrun@lacity.org>

Hi Chris,
As discussed on the phone late last week, the subject project has undergone a couple of minor revisions relative to the project description that was accounted for in LASAN's 7/20/2017 comment letter (attached). The primary difference would be a shift in retail, restaurant and office space, as shown in the attached scope revision chart. There is no change in the overall square footage of the project or number of residential units.

Thank you and we look forward to your comments.

Please note that as of April 9, 2018, Major Projects has moved to Fig Plaza:

221 N. Figueroa, Suite 1350, Los Angeles, CA 90012

New Phone Number: (213) 847-3637.

William Lamborn
Major Projects
Department of City Planning
221 N. Figueroa, Suite 1350
Ph: 213.847.3637
Please note that I am out of the office every other Friday.

2 attachments

Times Mirror Square Sanitation2 (7-20-17).pdf
1179K

LASAN - scope revision.pdf
22K

Christopher DeMonbrun <chris.demonbrun@lacity.org> Mon, Jul 16, 2018 at 11:47 AM
To: William Lamborn <william.lamborn@lacity.org>

Hello William,

Thank you for the follow up. I have looked over the modifications shown in your attachments and re-evaluated the conveyance system with the change in projected flow. Based on the available gauging, it appears as though the wastewater conveyance system might be able to accommodate the total flow for this project. As with the previous response, further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point. If the public sewer has insufficient capacity then the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit will be made at that time. Ultimately, this wastewater will be conveyed to the Hyperion Water Reclamation Plant, which has sufficient capacity for the project.

If you have any questions or comments regarding this information, do not hesitate to contact me.

Best regards,

Chris

On Mon, Jul 16, 2018 at 11:13 AM, William Lamborn <william.lamborn@lacity.org> wrote:

> Hi Chris,
> As discussed on the phone late last week, the subject project has undergone a couple of minor revisions relative to the project description that was accounted for in LASAN's 7/20/2017 comment letter (attached). The primary difference would be a shift in retail, restaurant and office space, as shown in the attached scope revision chart. There is no change in the overall square footage of the project or number of residential units.
>
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New Phone Number: (213) 847-3637.

William Lamborn
Major Projects
Department of City Planning
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Ph: 213.847.3637
Please note that I am out of the office every other Friday.

--
Chris DeMonbrun, MSCE, P.E.
Environmental Engineer
Wastewater Engineering Services Division - LA Sanitation
City of Los Angeles - Department of Public Works
Phone: (323) 342-1567
Fax: (323) 342-6210

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Exhibit 2- Notice of Preparation of Environmental Impact Report and Public Scoping Meeting Letter

FORM GEN. 160 (Rev. 8-12)

CITY OF LOS ANGELES

INTER-DEPARTMENTAL CORRESPONDENCE

RECEIVED
CITY OF LOS ANGELES
JUL 25 2017
CITY PLANNING DEPT.
EXECUTIVE OFFICE

RECEIVED
CITY OF LOS ANGELES
JUL 26 2017
MAJOR PROJECTS
UNIT

DATE: July 20, 2017

TO: Vincent P. Bertoni, Director of Planning
Department of City Planning

Attn: William Lamborn, City Planner
Department of City Planning

FROM: Ali Poosti, Division Manager
Wastewater Engineering Services Division
LA Sanitation

SUBJECT: **TIMES MIRROR SQUARE – NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT AND PUBLIC SCOPING MEETING**

This is in response to your June 30, 2017 letter requesting a review of your proposed mixed-use project located at 121-147 S. Spring Street, 100-142 S. Broadway, 202-234 W. 1st Street, and 205-221 W. 2nd Street, Los Angeles, CA 90012. The project will consist of residential units, space amenities, lounges, loading areas, retail uses, grocery store, office, restaurant, and a swimming pool. LA Sanitation has conducted a preliminary evaluation of the potential impacts to the wastewater and stormwater systems for the proposed project.

WASTEWATER REQUIREMENT

LA Sanitation, Wastewater Engineering Services Division (WESD) is charged with the task of evaluating the local sewer conditions and to determine if available wastewater capacity exists for future developments. The evaluation will determine cumulative sewer impacts and guide the planning process for any future sewer improvement projects needed to provide future capacity as the City grows and develops.

Projected Wastewater Discharges for the Proposed Project:

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Proposed No. of Units	Average Daily Flow (GPD)
Existing			
Office	120 GPD/1000 SQ.FT	541,113 SQ. FT	64,934
Bank	50 GPD/1000 SQ.FT	7,500 SQ. FT	375
Cafeteria	50 GPD/1000 SQ.FT	11,250 SQ. FT	563
Proposed			
Residential: APT- Bachelor	75 GPD/DU	90 UNITS	6,750
Residential: APT- 1 BDRM	110 GPD/DU	546 UNITS	60,060
Residential: APT- 1 BDRM +Den	190 GPD/DU	160 UNITS	30,400

Residential: APT- 2 BDRM	150 GPD/DU	324 UNITS	48,600
Residential: APT- 3 BDRM	190 GPD/DU	4 UNITS	760
Residential: Penthouse	230 GPD/DU	3 UNITS	690
Amenities+Lounges+Loading	350 GPD/1000 SQ.FT	29,539 SQ.FT	10,339
Retail	25 GPD/1000 SQ.FT	34,527 SQ.FT	863
Open Space	350 GPD/1000 SQ.FT	129,477 SQ.FT	45,317
Restaurant	300 GPD/1000 SQ.FT	41,017 SQ.FT	12,305
Grocery Store	50 GPD/1000 SQ.FT	50,000 SQ.FT	2,500
Office	120 GPD/1000 SQ.FT	285,088 SQ.FT	34,211
Swimming Pool	7.78 GPD/CU.FT	9,000 CU.FT	70,020
Total			**256,943**

SEWER AVAILABILITY

The sewer infrastructure in the vicinity of the proposed project includes an existing 12-inch line on Broadway. The sewage from the existing 12-inch line feeds into 27-inch line on Hill Street before discharging into a 50-inch sewer line on Grand Ave. Figure 1 shows the details of the sewer system within the vicinity of the project. The current flow level (d/D) in the 12-inch line cannot be determined at this time without additional gauging.

The current approximate flow level (d/D) and the design capacities at d/D of 50% in the sewer system are as follows:

Pipe Diameter (in)	Pipe Location	Current Gauging d/D (%)	50% Design Capacity
12	Broadway	*	991,386 GPD
12	Broadway	36	968,056 GPD
24	Hill St	23	5.21 MGD
24	Hill St	16	4.80 MGD
27	Hill St	29	6.50 MGD
50	Grand Ave	43	19.81 MGD

* No gauging available

Based on the estimated flows, it appears the sewer system might be able to accommodate the total flow for your proposed project. Further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point. If the public sewer has insufficient capacity then the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit will be made at that time. Ultimately, this sewage flow will be conveyed to the Hyperion Water Reclamation Plant, which has sufficient capacity for the project.

If you have any questions, please call Christopher DeMonbrun at (323) 342-1567 or email at chris.demonbrun@lacity.org.

STORMWATER REQUIREMENTS

LA Sanitation, Watershed Protection Program (WPP) is charged with the task of ensuring the implementation of the Municipal Stormwater Permit requirements within the City of Los Angeles. We anticipate the following requirements would apply for this project.

POST-CONSTRUCTION MITIGATION REQUIREMENTS

In accordance with the Municipal Separate Storm Sewer (MS4) National Pollutant Discharge Elimination System (NPDES) Permit (Order No. R4-2012-0175, NPDES No. CAS004001) and the City of Los Angeles Stormwater and Urban Runoff Pollution Control requirements (Chapter VI, Article 4.4, of the Los Angeles Municipal Code), the Project shall comply with all mandatory provisions to the Stormwater Pollution Control Measures for Development Planning (LID Ordinance) and as it may be subsequently amended or modified. Prior to issuance of grading or building permits, the Applicant shall submit a LID Plan to the City of Los Angeles, Bureau of Sanitation, Watershed Protection Division (WPD), for review and approval. The LID Plan shall be prepared consistent with the requirements of the Development Best Management Practices Handbook.

Current regulations prioritize infiltration, capture/use, and then biofiltration as the preferred stormwater control measures. The relevant documents can be found at: www.lacitysan.org. It is advised that input regarding LID requirements be received in the early phases of the project from WPD's plan-checking staff.

GREEN STREETS

The City is developing a Green Street Initiative that will require projects to implement Green Street elements in the parkway areas between the roadway and sidewalk of the public right-of-away to capture and retain stormwater and urban runoff to mitigate the impact of stormwater runoff and other environmental concerns. The goals of the Green Street elements are to improve the water quality of stormwater runoff, recharge local ground water basins, improve air quality, reduce the heat island effect of street pavement, enhance pedestrian use of sidewalks, and encourage alternate means of transportation. The Green Street elements may include infiltration systems, biofiltration swales, and permeable pavements where stormwater can be easily directed from the streets into the parkways and can be implemented in conjunction with the LID requirements. Green Street standard plans can be found at: www.eng2.lacity.org/techdocs/stdplans/

CONSTRUCTION REQUIREMENTS

All construction sites are required to implement a minimum set of BMPs for erosion control, sediment control, non-stormwater management, and waste management. In addition, construction sites with active grading permits are required to prepare and implement a Wet Weather Erosion Control Plan during the rainy season between October 1 and April 15. Additionally, construction sites that disturb more than one-acre of land are subject to the NPDES

Construction General Permit issued by the State of California, and are required to prepare, submit, and implement the Storm Water Pollution Prevention Plan (SWPPP).

If there are questions regarding the stormwater requirements, please call WPP's plan-checking counter at (213) 482-7066. WPD's plan-checking counter can also be visited at 201 N. Figueroa, 3rd Fl, Station 18.

GROUNDWATER DEWATERING REUSE OPTIONS

The Los Angeles Department of Water and Power (LADWP) is charged with the task of supplying water and power to the residents and businesses in the City of Los Angeles. One of the sources of water includes groundwater. The majority of groundwater in the City of Los Angeles is adjudicated, and the rights of which are owned and managed by various parties. Extraction of groundwater within the City from any depth by law requires metering and regular reporting to the appropriate Court-appointed Watermaster. LADWP facilitates this reporting process, and may assess and collect associated fees for the usage of the City's water rights. The party performing the dewatering should inform the property owners about the reporting requirement and associated usage fees.

On April 22, 2016 the City of Los Angeles Council passed Ordinance 184248 amending the City of Los Angeles Building Code, requiring developers to consider beneficial reuse of groundwater as a conservation measure and alternative to the common practice of discharging groundwater to the storm drain (SEC. 99.04.305.4). It reads as follows: "Where groundwater is being extracted and discharged, a system for onsite reuse of the groundwater, shall be developed and constructed. Alternatively, the groundwater may be discharged to the sewer."

Groundwater may be beneficially used as landscape irrigation, cooling tower make-up, and construction (dust control, concrete mixing, soil compaction, etc.). Different applications may require various levels of treatment ranging from chemical additives to filtration systems. When onsite reuse is not available the groundwater may be discharged to the sewer system. This allows the water to be potentially reused as recycled water once it has been treated at a water reclamation plant. If groundwater is discharged into the storm drain it offers no potential for reuse. The onsite beneficial reuse of groundwater can reduce or eliminate costs associated with sewer and storm drain permitting and monitoring. Opting for onsite reuse or discharge to the sewer system are the preferred methods for disposing of groundwater.

To help offset costs of water conservation and reuse systems, LADWP offers the Technical Assistance Program (TAP), which provides engineering and technical assistance for qualified projects. Financial incentives are also available. Currently, LADWP provides an incentive of $1.75 for every 1,000 gallons of water saved during the first two years of a five-year conservation project. Conservation projects that last 10 years are eligible to receive the incentive during the first four years. Other water conservation assistance programs may be available from Metropolitan Water District of Southern California. To learn more about available water conservation assistance programs, please contact LADWP Rebate Programs 1-888-376-3314 and LADWP TAP 1-800-544-4498, selection "3".

For more information related to beneficial reuse of groundwater, please contact Greg Reed, Manager of Water Rights and Groundwater Management, at (213)367-2117 or greg.reed@ladwp.com.

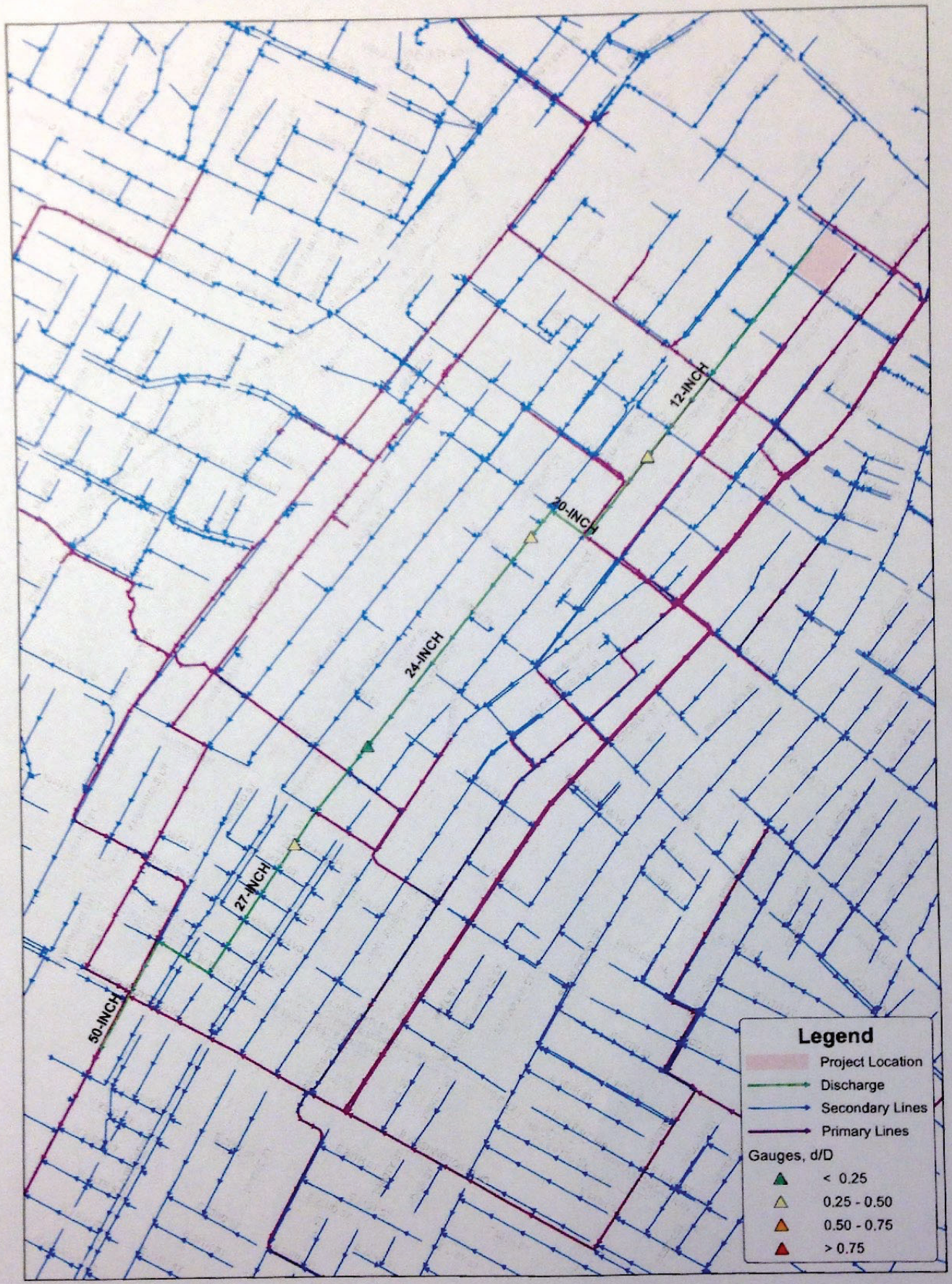
SOLID RESOURCE REQUIREMENTS

The City has a standard requirement that applies to all proposed residential developments of four or more units or where the addition of floor areas is 25 percent or more, and all other development projects where the addition of floor area is 30 percent or more. Such developments must set aside a recycling area or room for onsite recycling activities. For more details of this requirement, please contact Daniel Hackney of the Special Project Division at (213)485-3684.

CD/AP: yv

Attachment: Figure 1 – Sewer Map

c: Kosta Kaporis, LASAN
Daniel Hackney, LASAN
Christopher DeMonbrun, LASAN



Wastewater Engineering Services Division
LA Sanitation
City of Los Angeles

Figure 1
Times Mirror Square
Sewer Map

N
W E
S

0 280 560 1,120 1,680 2,240
Feet

Thomas Brother Data reproduced with permission granted by THOMAS BROS MAP

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Proposed No. of Units	Average Daily Flow (GPD)
Existing			
Office	120 GPD/1000 SQ. FT	541,113 SQ. FT	64,934
Bank	50 GPD/1000 SQ. FT	7,500 SQ. FT	375
Cafeteria	50 GPD/1000 SQ. FT	11,250 SQ. FT	563
Proposed			
Residential: APT-Bachelor	75 GPD/DU	90 UNITS	6,750
Residential: APT-1 BDRM	110 GPD/DU	546 UNITS	60,060
Residential: APT-1 BDRM + Den	190 GPD/DU	160 UNITS	30,400
Residential: APT-2 BDRM	150 GPD/DU	324 UNITS	48,600
Residential: APT-3 BDRM	190 GPD/DU	4 UNITS	760
Residential: Penthouse	230 GPD/DU	3 UNITS	690
Amenities + Lounges + Loading	350 GPD/1000 SQ. FT	29,539 SQ. FT	10,339
~~Retail~~ Restaurant	~~25~~ 300 GPD/1000 SQ. FT	34,572 SQ. FT	10,372 ~~863~~
Open Space	350 GPD/1000 SQ. FT	129,477 SQ. FT	45,317
Restaurant	300 GPD/1000 SQ. FT	~~41,017~~ 18,817 SQ. FT	5,645 ~~12,305~~
Grocery Store	50 GPD/1000 SQ. FT	50,000 SQ. FT	2,500
Office	120 GPD/1000 SQ. FT	~~285,088~~ 307,288 SQ. FT	36,875 ~~34,211~~
Swimming Pool	7.78 GPD/CU. FT	9,000 CU. FT	70,020
Total			**262,456** ~~**256,943**~~

Below is an itemized list for each highlighted change and associated change in GPD above:

1. The previous retail use in the North and South Towers Development of 34,572 square feet is now going to be ground-floor restaurant. The LA Sanitation letter received on July 20, 2017 had this square footage marked as 34,527 square feet, so we are also requesting for it to be corrected to 34,572 square feet.

2. The restaurant square footage previously accounted for both a ground-floor and upper-floor restaurant in the Times, Plant, and Mirror Buildings rehabilitation. The upper-floor restaurant will be replaced with office (see following item), so the restaurant square footage will be 18,817 square feet, in addition to the new restaurant from Item 1.

3. The Times, Plant, and Mirror Buildings Rehabilitation will now contain an additional 22,200 square feet of office space, in addition to the previously accounted for 285,088 square feet. The total office space is now 307,288 square feet.

Exhibit 2- LA Sanitation Email Correspondence dated 12/6/2018

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - LASAN Comment Letter

William Lamborn <william.lamborn@lacity.org> Wed, Dec 5, 2018 at 4:52 PM
To: Christopher DeMonbrun <chris.demonbrun@lacity.org>
Cc: Albert Lew <albert.lew@lacity.org>

Hello Chris and Albert,
As discussed over the phone, for the subject project, 40% of the existing uses are office spaces that have been vacant for 10 years. The proposed project's new wastewater generation is exactly the same as your 7/16/2018 review. However, when accounting for this existing office vacancy, and resulting reduction in existing office square footage, the project's net wastewater generation would change. We are therefore requesting that you review the revised net wastewater generation consistent with this existing 40% vacancy (please see attached revised net wastewater generation chart).

Thanks so much for your assistance, and we look forward to your comments.
-

William Lamborn
Major Projects
Department of City Planning
221 N. Figueroa, Suite 1350
Ph: 213.847.3637
Please note that I am out of the office every other Friday.

On Mon, Jul 16, 2018 at 11:47 AM Christopher DeMonbrun <chris.demonbrun@lacity.org> wrote:

> Hello William,
>
> Thank you for the follow up. I have looked over the modifications shown in your attachments and re-evaluated the conveyance system with the change in projected flow. Based on the available gauging, it appears as though the wastewater conveyance system might be able to accommodate the total flow for this project. As with the previous response, further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point. If the public sewer has insufficient capacity then the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. A final approval for sewer capacity and connection permit will be made at that time. Ultimately, this wastewater will be conveyed to the Hyperion Water Reclamation Plant, which has sufficient capacity for the project.
>
> If you have any questions or comments regarding this information, do not hesitate to contact me.
>
> Best regards,
>
> Chris
>
> On Mon, Jul 16, 2018 at 11:13 AM, William Lamborn <william.lamborn@lacity.org> wrote:
>
> > Hi Chris,
> > As discussed on the phone late last week, the subject project has undergone a couple of minor revisions relative to the project description that was accounted for in LASAN's 7/20/2017 comment letter (attached). The primary difference would be a shift in retail, restaurant and office space, as shown in the attached scope revision chart. There is no change in the overall square footage of the project or number of residential units.
> >
> > Thank you and we look forward to your comments.
> >
> > **Please note that as of April 9, 2018, Major Projects has moved to Fig Plaza:**
> >
> > **221 N. Figueroa, Suite 1350, Los Angeles, CA 90012**
> >
> > **New Phone Number: (213) 847-3637.**
> >
> > Inline image 1
> > William Lamborn
> > Major Projects
> > Department of City Planning
> > 221 N. Figueroa, Suite 1350
> > Ph: 213.847.3637
> > Please note that I am out of the office every other Friday.

--
Chris DeMonbrun, MSCE, P.E.
Environmental Engineer
Wastewater Engineering Services Division - LA Sanitation
City of Los Angeles - Department of Public Works
Phone: (323) 342-1567
Fax: (323) 342-6210



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LASAN - 12.5.2018.pdf
21K

Type Description	Average Daily Flow per Type Description (GPD/UNIT)	Proposed No. of Units	Average Daily Flow (GPD)
Existing[1]			
Office	120 GPD/1000 SQ. FT	**317,168** ~~541,113~~ SQ. FT	**38,060** ~~64,934~~
Bank	50 GPD/1000 SQ. FT	7,500 SQ. FT	375
Cafeteria	50 GPD/1000 SQ. FT	11,250 SQ. FT	563
Proposed			
Residential: APT-Bachelor	75 GPD/DU	90 UNITS	6,750
Residential: APT-1 BDRM	110 GPD/DU	546 UNITS	60,060
Residential: APT-1 BDRM + Den	190 GPD/DU	160 UNITS	30,400
Residential: APT-2 BDRM	150 GPD/DU	324 UNITS	48,600
Residential: APT-3 BDRM	190 GPD/DU	4 UNITS	760
Residential: Penthouse	230 GPD/DU	3 UNITS	690
Amenities + Lounges + Loading	350 GPD/1000 SQ. FT	29,539 SQ. FT	10,339
Restaurant	300 GPD/1000 SQ. FT	34,572 SQ. FT	10,372
Open Space	350 GPD/1000 SQ. FT	129,477 SQ. FT	45,317
Restaurant	300 GPD/1000 SQ. FT	18,817 SQ. FT	5,645
Grocery Store	50 GPD/1000 SQ. FT	50,000 SQ. FT	2,500
Office	120 GPD/1000 SQ. FT	307,288 SQ. FT	36,875
Swimming Pool	7.78 GPD/CU. FT	9,000 CU. FT	70,020
Total			**289,330** ~~**262,456**~~

[1] Combined, the existing buildings have a total floor area of approximately 559,863 square feet. Approximately 223,945 square feet, or 40 percent of the existing uses, are office spaces that have been vacant for 10 years. 317,168 square feet of existing office spaces are occupied and therefore accounted for as existing uses in this analysis.

Connect Create Collaborate

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - LASAN Comment Letter

Christopher DeMonbrun <chris.demonbrun@lacity.org> Thu, Dec 6, 2018 at 12:10 PM
To: William Lamborn <william.lamborn@lacity.org>
Cc: Albert Lew <albert.lew@lacity.org>

William - We've received your modification and will have it looked at shortly.

Albert - Please assign this analysis to a member of the group.

Thank you,

Chris
[Quoted text hidden]

LASAN - 12.5.2018.pdf
21K

Connect Create Collaborate

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - LASAN Comment Letter

Albert Lew <albert.lew@lacity.org> Thu, Dec 6, 2018 at 1:39 PM
To: Christopher DeMonbrun <chris.demonbrun@lacity.org>
Cc: William Lamborn <william.lamborn@lacity.org>

Sounds good. Thanks Chris and William.

Albert C. Lew, P.E.
Wastewater Engineering Services Division (WESD)
Bureau of Sanitation
Department of Public Works
City of Los Angeles
Phone: 323.342.6207
Fax: 323.342.6210

environment LA SANITATION CITY OF LOS ANGELES recycLA Make waste history One Water LA

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[Quoted text hidden]

LASAN - 12.5.2018.pdf
21K

Connect Create Collaborate

William Lamborn <william.lamborn@lacity.org>

Times Mirror Square - LASAN Comment Letter

Albert Lew <albert.lew@lacity.org> Thu, Dec 6, 2018 at 5:01 PM
To: Christopher DeMonbrun <chris.demonbrun@lacity.org>
Cc: William Lamborn <william.lamborn@lacity.org>

Hello William,

We've reviewed the revised discharge at 289,330 GPD and based on the available gauging, there may be capacity in the wastewater conveyance system to accommodate that flow. As with Chris's earlier email, further detailed gauging and evaluation will be needed as part of the permit process to identify a specific sewer connection point, especially when a final approval for sewer capacity (SCAR) and connection permit will be required. If the public sewer has insufficient capacity, the developer will be required to build sewer lines to a point in the sewer system with sufficient capacity. Ultimately, this wastewater will be conveyed to the Hyperion Water Reclamation Plant, which has sufficient capacity for the project.

Please let me know if you have any questions.

Thanks,
Albert

Albert C. Lew, P.E.
Wastewater Engineering Services Division (WESD)
Bureau of Sanitation
Department of Public Works
City of Los Angeles
Phone: 323.342.6207
Fax: 323.342.6210

environment LA SANITATION CITY OF LOS ANGELES recycLA Make waste history One Water LA

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On Thu, Dec 6, 2018 at 12:10 PM Christopher DeMonbrun <chris.demonbrun@lacity.org> wrote:
[Quoted text hidden]

LASAN - 12.5.2018.pdf
21K

Exhibit 3- LADWP "Information of Fire Flow Availability Request" (IFFAR)

D.R. GARDINER MAY 09 2017

City of Los Angeles

Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

LAFD Fire Flow Requirement: 6,000 to 9,000 GPM from 4-6 hydrants flowing simultaneously

Water Service Map No.: 130-213

LAFD Signature:

Date Signed:

Applicant: Carlo Banzil

Company Name: KPFF Consulting Engineers

Address: 700 S Flower Street

Telephone: 213-418-0201

Email Address: carlo.banzil@kpff.com

	F- 6904	F- 6902	F- 6900
Location:	Southwest corner of Spring street and 1st street	West side of Spring street and cross street 121'NN 2nd street	Southwest corner of Spring street and 2nd street
Distance from Neareast Pipe Location (feet):	Aprox. ~~40~~ 22 ft	Aprox. ~~55~~ 25 ft	Aprox. ~~40~~ 25 ft
Hydrant Size:	4D	4D	4D
Water Main Size (in):	12	12	12
Static Pressure (psi):	82	83	84
Residual Pressure (psi):	64	65	66
Flow at 20 psi (gpm):	1500	1500	1500

RECEIVED/RP MAY -8 2017

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks: ECMR No. w20170509003

6 FIRE HYDRANTS TO BE RUN SIMULTANEOUSLY IN CONJUCTION WITH SEPARATE FORM

HYDRANTS: 6904,6902,6900,6832,6913,6911

Water Purveyor: **Los Angeles Department of Water & Power** *Date:* 5/11/2017

Signtature: [signature] *Title:* Civil Engineering Associate

Requests must be made by submitting this completed application, along with a $215.00 check payable to:

"Los Angeles Department of Water and Power", and mailed to:

Los Angeles Department of Water and Power

Distribution Engineering Section - Water

Attn: Business Arrangements

P.O. Box 51111 - Room 1425

Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

Exhibit 3- LADWP "Information of Fire Flow Availability Request" (IFFAR)

City of Los Angeles

D.R. GARDINER MAY 09 2017

Los Angeles Department of Water and Power - Water System

INFORMATION OF FIRE FLOW AVAILABILITY

Water Service Map No.: 130-213

LAFD Fire Flow Requirement: 6,000 to 9,000 GPM from 4-6 hydrants flowing simultaneously

LAFD Signature: _____

Date Signed: _____

Applicant: Carlo Banzil

Company Name: KPFF Consulting Engineers

Address: 700 S Flower Street

Telephone: 213-418-0201

Email Address: carlo.banzil@kpff.com

	F- 6832	F- 6913	F-6911
Location:	Southeast corner of Broadway and 1st Street	East side of Broadway Cross Street 226'SS 1ST Street	Northeast corner of Broadway and 2nd Street
Distance from Neareast Pipe Location (feet):	Aprox. ~~48~~ 19 ft	Aprox. ~~15~~ 58 ft	Aprox. ~~20~~ 42 ft
Hydrant Size:	4D	4D	4D
Water Main Size (in):	12	~~16~~ 18	8
Static Pressure (psi):	80	81	82
Residual Pressure (psi):	62	63	64
Flow at 20 psi (gpm):	1500	1500	1500

RECEIVED/RP
MAY -8 2017

NOTE: Data obtained from hydraulic analysis using peak hour.

Remarks: ECMR No. W2017050903

6 FIRE HYDRANTS TO BE RUN SIMULTANEOUSLY IN CONJUCTION WITH SEPARATE FORM HYDRANTS: 6904,6902,6900,6832,6913,6911

Water Purveyor: **Los Angeles Department of Water & Power** *Date:* 5/11/2017

Signtature: _____ *Title:* Civil Engineering Associate

Requests must be made by submitting this completed application, along with a $215.00 check payable to:

"Los Angeles Department of Water and Power", and mailed to:

Los Angeles Department of Water and Power
Distribution Engineering Section - Water
Attn: Business Arrangements
P.O. Box 51111 - Room 1425
Los Angeles, CA 90051-5700

*** If you have any questions, please contact us at (213) 367-2130 or visit our web site at http://www.ladwp.com.**

Exhibit 4- LADWP Approved Will-Serve Letter

Los Angeles Department of Water & Power

ERIC GARCETTI
Mayor

Commission
MEL LEVINE, *President*
WILLIAM W. FUNDERBURK JR., *Vice President*
JILL BANKS BARAD
MICHAEL F. FLEMING
CHRISTINA E. NOONAN
BARBARA E. MOSCHOS, *Secretary*

MARCIE L. EDWARDS
General Manager

RECEIVED DPW - L.A.
CC:
APR 21 2017
JOB #
FILE #

April 18, 2017

Mr. Carlo Banzil, P.E.
Project Manager
700 S. Flower Street, Suite 2100
Los Angeles, CA 90018

Subject: Times Mirror Square Project
202 W. 1st Street

Dear Mr. Banzil:

This is in response to your submittal regarding electric service for the proposed project located at the above address.

Electric Service is available and will be provided in accordance with the Los Angeles Department of Water and Power's (Department) Rules Governing Water and Electric Service. The availability of electricity is dependent upon adequate generating capacity and adequate fuel supplies. The estimated power requirement for this proposed project is part of the total load growth forecast for the City of Los Angeles and has been taken into account in the planned growth of the City's power system.

If you have any questions regarding this matter, please contact me at telephone number (213) 367-2725.

Sincerely,

VINCENT G. ZABUKOVEC
Engineer of Customer Station Design

VGZ:sl

C/enc:
ENGR: Mr. Vincent G. Zabukovec
FileNet

111 N. Hope Street, Los Angeles, California 90012-2607 *Mailing address:* Box 51111, Los Angeles, CA 90051-5700
Telephone: (213) 367-4211 www.LADWP.com

Exhibit 5- SoCal Gas Approved Will-Serve Letter

Southern California Gas Company

A Sempra Energy utility®

May 5, 2017

KPFF Consulting Engineers
700 S Flower St., Suite 2100
Los Angeles, CA 90017

Attn: Sam Sanatnama

RE: Will Serve Letter Request for – Job I.D. #43-2017-04-00032
202 W. 1st St., Los Angeles, CA 90017

Dear Sir/Madam:

Thank you for inquiring about the availability of natural gas service for your project. We are pleased to inform you that Southern California Gas Company (SoCalGas) has facilities in the area where the above named project is being proposed. The service would be in accordance with SoCalGas' policies and extension rules on file with the California Public Utilities Commission (Commission) at the time contractual arrangements are made.

This letter should not be considered a contractual commitment to serve the proposed project, and is only provided for informational purposes only. The availability of natural gas service is based upon natural gas supply conditions and is subject to changes in law or regulation. As a public utility, SoCalGas is under the jurisdiction of the Commission and certain federal regulatory agencies, and gas service will be provided in accordance with the rules and regulations in effect at the time service is provided. Natural gas service is also subject to environmental regulations, which could affect the construction of a main or service line extension (for example, if hazardous wastes were encountered in the process of installing the line). Applicable regulations will be determined once a contract with SoCalGas is executed.

If you need assistance choosing the appropriate gas equipment for your project, or would like to discuss the most effective applications of energy efficiency techniques, please contact our area Service Center at 800-427-2200.

Thank you again for choosing clean, reliable, and safe natural gas, your best energy value.

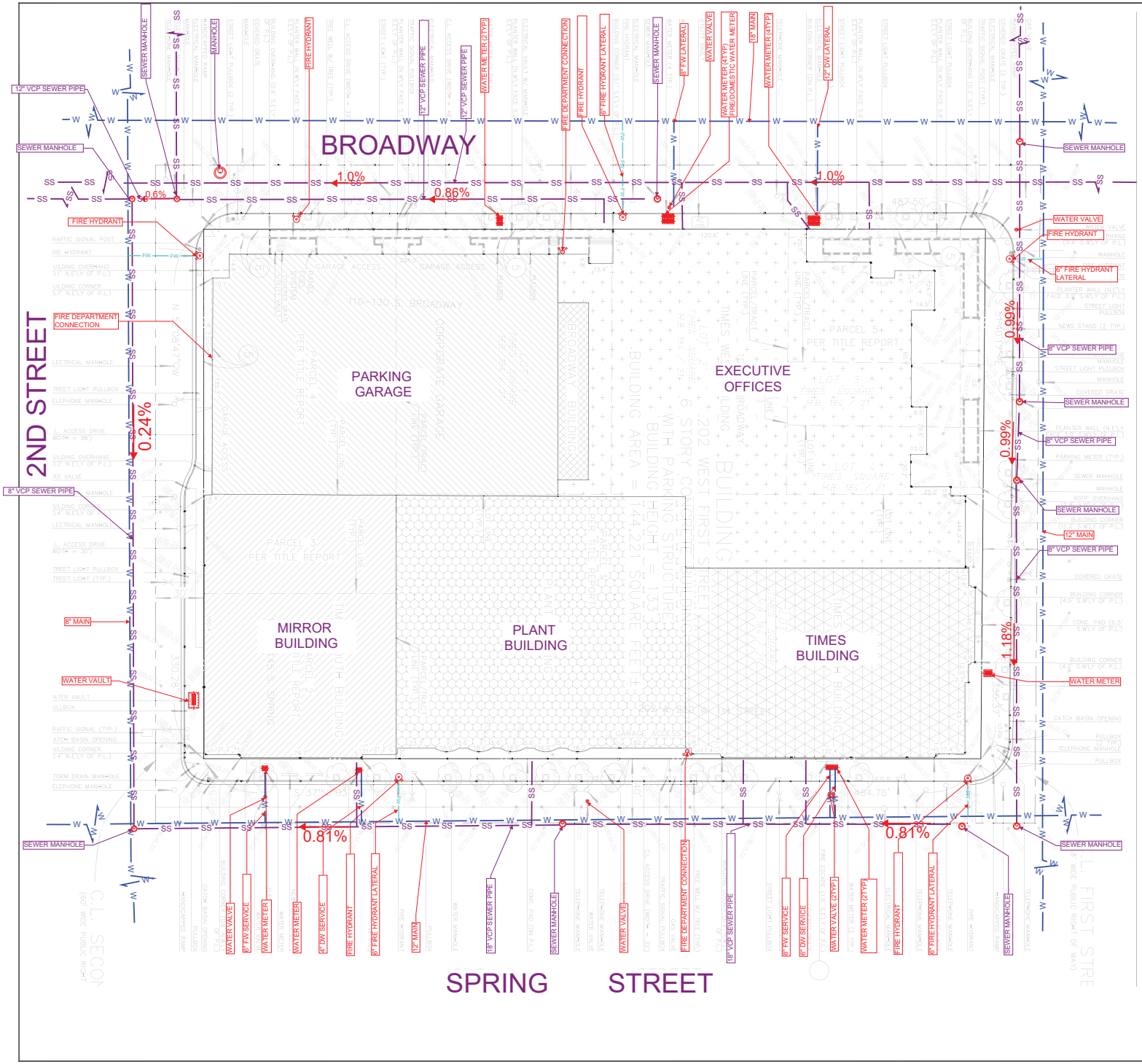
Sincerely,

Zakee Singleton

Planning Associate

Compton Headquarters

Exhibit 6- Existing Water & Wastewater Infrastructure Exhibit



LEGEND

- FIRE HYDRANT
- WATER VALVE
- FIRE DEPARTMENT CONNECTION
- WATER METER
- WATER VAULT
- WATER MANHOLE
- SEWER MANHOLE
- W — WATER MAIN
- FW — FIRE WATER LATERAL
- SS — SEWER PIPE
- 0.81% — SLOPE OF SEWER PIPE AND DIRECTION OF FLOW

NOTE:

DOMESTIC WATER/FIRE WATER:
* THERE ARE EXISTING DOMESTIC WATER SERVICES SERVING THE TIMES BUILDING, MIRROR BUILDING/ PLANT BUILDING. THERE IS AN EXISTING FIRE PUMP / FIRE WATER STORAGE TANK IN THE GARAGE FIRST FLOOR.

SANITARY / STORM DRAIN:
* THERE ARE EXISTING SANITARY / STORM DRAIN FOR TIMES BUILDING, MIRROR BUILDING/ PLANT BUILDING.

kpff
700 South Flower Street
Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
F: 213.418.0234
www.kpff.com

EXISTING WATER & WASTEWATER INFRASTRUCTURE EXHIBIT

STAMP

REVISIONS

DATE	ISSUED FOR
xx	xx

DATE	06/30/2017
PROJECT NUMBER	1700084
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	BP
SCALE	AS SPECIFIED

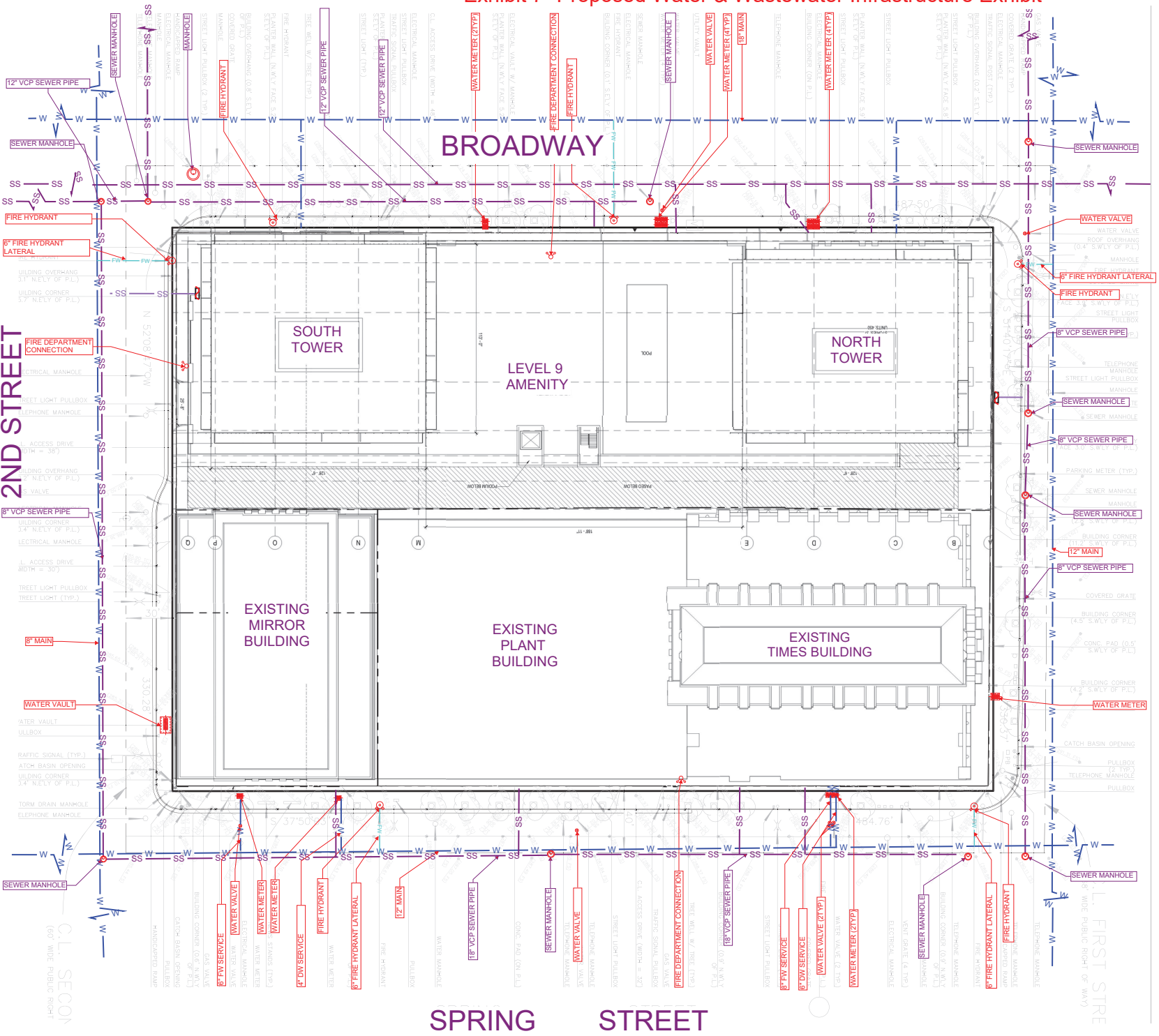
KEY MAP

PROJECT DESCRIPTION
LA TIMES

DRAWING TITLE

SHEET NUMBER (EXHIBIT NUMBER)

Exhibit 7- Proposed Water & Wastewater Infrastructure Exhibit



LEGEND

- FIRE HYDRANT
- WATER VALVE
- FIRE DEPARTMENT CONNECTION
- WATER METER
- WATER VAULT
- WATER MANHOLE
- SEWER MANHOLE
- W — WATER MAIN
- FW — FIRE WATER LATERAL
- SS — SEWER PIPE

NOTE:

DOMESTIC WATER/FIRE WATER:
* THE EXISTING DOMESTIC WATER WILL CONTINUE TO SERVE THE TIMES BUILDING, MIRROR BUILDING / PLANT BUILDING.
** A NEW DOMESTIC WATER SERVICES IS NEED FOR THE NEW HIGH RISE BUILDINGS.

SANITARY / STORM DRAIN:
* THE EXISTING SANITARY / STORM DRAIN WILL CONTINUE TO SERVE THE TIMES BUILDING, MIRROR BUILDING / PLANT BUILDING.

kpff
700 South Flower Street
Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
F: 213.266.5294
www.kpff.com

CONSULTANTS

PROPOSED WATER & WASTEWATER INFRASTRUCTURE EXHIBIT

STAMP

REVISIONS

DATE	ISSUED FO
xx	xx

DATE	06/30/2017
PROJECT NUMBER	1700084
DESIGNED BY	SS
DRAWN BY	SS
CHECKED BY	BP
SCALE	AS SPEC

KEY MAP

PROJECT DESCRIPTION

LA TIMES

DRAWING TITLE

SHEET NUMBER (EXHIBIT NUMBER)

Exhibit 8- Breakdown of Related Projects and Associated Water Consumption

WATER DEMAND FOR RELATED PROJECTS

Land Uses	Quantity	Unit	Generation Factor[a]		Water Demand (gpd)	Water Demand (afy)
Residential[b]	45,785	du	150	gpd/du	6,867,750	7,692.87
Retail (Less than 100,000)	1,537.054	ksf	25	gpd/ksf	38,426	43.04
Retail (Greater than 100,000)	2,764.924	ksf	50	gpd/ksf	138,246	154.86
Restaurant	30,150[c]	seat	30	gpd/seat	904,500	1,013.17
Bar	10.29	ksf	720	gpd/ksf	7,409	8.30
Supermarket/ Grocery Store[d]	188,362	sf	50	gpd/ksf	9,418	10.55
Pharmacy[e]	40	ksf	25	gpd/ksf	1,000	1.12
Hotel	8,237	rooms	120	gpd/room	988,440	1,107.20
Office	15,084.08	ksf	120	gpd/ksf	1,810,090	2,027.56
Medical Office[f]	33	ksf	250	gpd/ksf	8,250	9.24
Other (mixed-use, TV studio)	123.653	ksf	50	gpd/ksf	6,183	6.93
Elementary/ Middle School	532	students	9	gpd/student	4,788	5.36
Elementary/ Middle School[g]	977	students	9	gpd/student	8,793	9.85
Child Care	84	children	9	gpd/child	756	0.85
Hospital	56	beds	70	gpd/bed	3,920	4.39
Museum	70	ksf	30	gpd/ksf	2,100	2.35
Convention Center/ Event Space	343.617	ksf	50	gpd/ksf	17,181	19.25
Health Club/Gym	132.148	ksf	650	gpd/ksf	85,896	96.22
Live/Work[h]	11	du	75	gpd/du	825	0.92
Live/Work	129	du	75	gpd/du	9,675	10.84
Assisted Living	55	beds	70	gpd/bed	3,850	4.32
Theater/ Cinema	794	seat	3	gpd/seat	2,382	2.67
Event Facility	250	seats	3	gpd/seat	750	0.84
Sports Complex[i]	43.453	ksf	200	gpd/ksf	8,691	9.73
Bus Facility[j]	87.120	ksf	50	gpd/ksf	4,356	4.88
2nd and Broadway Metro Station[j]	87	ksf	50	gpd/ksf	4,356	4.88
Gallery Space[k]	61,436	sf	50	gpd/ksf	3,072	3.44

Total (without Project)	**10,941,102**	**12,255.61**
Project (net increase)	**223,990**	**250.92**
Total (with Project)	**11,165,092**	**12,506.53**

Abbreviations: du = dwelling unit, sf = square feet; ksf = 1,000 square feet; gpd – gallons per day; afy = acre feet per year.

a Water generation rates are based on City of Los Angeles Department of Public Works, Sewage Facilities Charge, Sewage Generation Factor for Residential and Commercial Categories, 2012.

b Rates for residential water generation vary depending on unit type and size. It was assumed that all residential projects would be multi-family with an average size of two bedrooms.

c Assumes 25 sf per seat.

d Uses Store: Retail Generation Factor.

e Uses Retail (Less Than 100,000 sf) Generation Factor.

f Assumes 550 sf per employee.

g Assumes 30 sf per student.

h Uses Residential Artist Generation Factor.

i Uses Gymnasium Generation Factor.

j Uses Manufacturing or Industrial Generation Factor.

k Uses Museum Sales Area Generation Factor.

SOURCE: ESA, 2017.

Exhibit 9 - Breakdown of Related Projects and Associated Wastewater Consumption

WASTEWATER DEMAND FOR RELATED PROJECTS

Land Uses	Quantity	Generation Factor[a]	Wastewater Generation (gpd)
Residential[b]	45,785 du	150 gpd/du	6,867,750
Retail (Less than 100,000)	1,537.054 ksf	25 gpd/ksf	38,426
Retail (Greater than 100,000)	2,764.924 ksf	50 gpd/ksf	138,246
Restaurant	30,150[c]	30 gpd/seat	904,500
Bar	10.29 ksf	720 gpd/ksf	7,409
Supermarket/Grocery Store	188,362 sf	50 gpd/ksf	9,418
Pharmacy	40,000 sf	25 gpd/ksf	1,000
Hotel	8,237rooms	120 gpd/room	988,440
Office	15,084,08 ksf	170 gpd/ksf	1,810,090
Medical Office	66 employees (33,000 sf)[d]	250 gpd/ksf	8,250
Other (mixed-use, TV studio)	123,653 sf	170 gpd/ksf	6,183
Elementary/Middle School	532 students	9 gpd/student	4,788
Elementary/Middle School	29,316 sf (977 students)[e]	9 gpd/student	8,793
Child Care	2,500 sf (84 children)[e]	9 gpd/child	756
Hospital	56 beds	70 gpd/bed	3,920
Museum	70,000 sf	30 gpd/ksf	2,100
Convention Center/Event Space	343,617 sf	50 gpd/ksf	17,181
Health Club/Gym	132.148 ksf	650 gpd/ksf	85,896
Live/Work	11,000 sf (11 du)[f]	75 gpd/du	825
Live/Work	129 du	75 gpd/du	9,675
Assisted Living	55 beds	70 gpd/bed	3,850
Theater/Cinema	794 seats	3 gpd/seat	2,382
Event Facility	250 seats	3 gpd/seat	750
Sports Complex	43,453 sf	200 gpd/ksf	8,691
Bus Facility	2 acres (87,120 sf)	50 gpd/ksf	4,356
2nd and Broadway Metro Station	87 ksf	50 gpd/ksf	4,356
Gallery Space	61,436 sf	50 gpd/ksf	3,072
Total (without Project)			**10,941,102**
Project (net increase)			**289,330**
Total (with Project)			**11,230,432[g]**

Abbreviations: du = dwelling units; sf = square feet; rms = rooms; ksf = thousand square feet

a Wastewater generation factors are from LADPW's 2012 Sewage Facilities Charge - Sewage Generation Factors for Residential and Commercial Categories.
b Because the related projects list does not differentiate between single-family and multi-family residential units, this table assumes that the residential units would have two bedrooms.

Land Uses	Quantity	Generation Factor[a]	Wastewater Generation (gpd)

c Assumes 25 sf per seat.
d Assumes 500 sf per employee.
e Assumes 30 sf per student.
f Assumes 1,000 sf per du.
g The total wastewater generation from the related projects and the Project conservatively includes wastewater generation from landscaping in the related projects, which would normally not be directed into the wastewater conveyance system.

SOURCE: ESA, 2017.

Exhibit 10 - Breakdown of Related Projects and Associated Energy Consumption

Related Projects Electricity Demand			
Land Use	**Quantity[b]**	**Unit**	**Electricity (kWh/yr)[a]**
Residential	45,785.00	du	181,212,000
Retail (Less than 100,000)	1,537.05	ksf	20,750,000
Retail (Greater than 100,000)	2,764.92	ksf	37,326,400
Restaurant	30,150.00	seat	33,270,300
Bar	10.29	ksf	454,201
Supermarket/Grocery Store	188.36	ksf	7,274,540
Pharmacy	40.00	ksf	457,600
Hotel	8,237.00	rooms	10,812,000
Office	15,084.08	ksf	211,026,000
Medical Office	33.00	ksf	461,670
Other (mixed-use, TV studio)	123.65	ksf	1,372,520
Elementary/Middle School	1,509.00	students	181,476
Child Care	84.00	children	15,200
Hospital	56.00	beds	634,906
Museum	70.00	ksf	3,089,800
Convention Center/Event Space	343.62	ksf	4,463,620
Health Club/Gym	132.15	ksf	1,466,870
Live/Work	140.00	du	554,411
Assisted Living	55.00	beds	218,641
Theater/Cinema	794.00	seat	198,302
Event Facility	250.00	seat	62,438
Sports Complex	43.45	ksf	482,295
Bus Facility	87.12	ksf	735,150
2nd and Broadway Metro Station	87.12	ksf	735,150
Gallery Space	61.44	ksf	829,440
Total Electricity Demand for related Projects			518,084,930
Project Electricity Demand			13,384,404
Total Electricity Demand			531,469,334

Abbreviations: du = dwelling unit, sf = square feet; ksf = 1,000 square feet; gpd – gallons per day; afy = acre feet per ye

[a]CalEEmod version 2016.3.1 was used to calculate the electricity demand based on land use.

[b]Land Use and quantity based on related projects list from LADOT

Exhibit 11 - Breakdown of Related Projects and Associated Gas Consumption

Related Projects Natural Gas Demand					
Land Use	**Quantity[b]**	**Unit**	**Natural Gas Demand (kBTU/yr)[a]**		
Residential	45,785.00	du	421,998,000		
Retail (Less than 100,000)	1,537.05	ksf	2,520,750		
Retail (Greater than 100,000)	2,764.92	ksf	4,534,470		
Restaurant	30,150.00	seat	173,934,000		
Bar	10.29	ksf	2,374,520		
Supermarket/Grocery Store	188.36	ksf	3,870,840		
Pharmacy	40.00	ksf	80,000		
Hotel	8,237.00	rooms	409,634,000		
Office	15,084.08	ksf	137,868,000		
Medical Office	33.00	ksf	301,620		
Other (mixed-use, TV studio)	123.65	ksf	2,238,070		
Elementary/Middle School	1,509.00	students	353,400		
Child Care	84.00	children	29,600		
Hospital	56.00	beds	2,411,760		
Museum	70.00	ksf	16,153,200		
Convention Center/Event Space	343.62	ksf	3,577,080		
Health Club/Gym	132.15	ksf	2,391,920		
Live/Work	140.00	du	1,290,370		
Assisted Living	55.00	beds	628,510		
Theater/Cinema	794.00	seat	323,357		
Event Facility	250.00	seat	101,813		
Sports Complex	43.45	ksf	786,445		
Bus Facility	87.12	ksf	1,818,300		
2nd and Broadway Metro Station	87.12	ksf	1,818,300		
Gallery Space	61.44	ksf	100,762		
Total Related projects Natural Gas Demand			1,191,139,087	3,263,395	CF/DAY[c]
Project Natural Gas Demand			33,170,554	90,878	CF/DAY[c]
Total Natural Gas Demand			1,224,309,641	3,354,273	CF/DAY[c]

Abbreviations: du = dwelling unit, sf = square feet; ksf = 1,000 square feet; gpd – gallons per day; afy = acre feet per year.

[a]CalEEmod version 2016.3.1 was used to calculate the gas demand based on land use.

[b]Land Use and quantity based on related projects list from LADOT

[c] Conversion between kBTU/year and cf/day is a division by 365.

M-2 Water Supply Assessment

Los Angeles Department of Water & Power

BOARD LETTER APPROVAL

RESOLUTION NO. _____

RICHARD F. HARASICK
Senior Assistant General Manager
Water System

MARTIN L. ADAMS
Chief Operating Officer

DAVID H. WRIGHT
General Manager

DATE: August 24, 2017

SUBJECT: Water Supply Assessment – Times Mirror Square Project

SUMMARY

The Water Supply Assessment (WSA) is for the Times Mirror Project (Times Project) located within the Central City Community Plan area of the City of Los Angeles (City). LADWP staff determined the total net additional water demand for the Times Project is 220 acre-feet per year (AFY) and has concluded this additional water demand can be accommodated. The Times Project's base water demand was further reduced by 66 AFY through implementation of the conservation ordinance and code requirements and an additional 7 AFY through the project implementing additional voluntary conservation measures. WSA will meet the requirements of California Water Code Sections 10910-10915. The governing body of each public water system is required to make a determination on WSAs for major projects.

City Council approval is not required.

RECOMMENDATION

It is recommended that the Board of Water and Power Commissioners (Board) adopt the attached Resolution authorizing the WSA for the Times Project.

ALTERNATIVES CONSIDERED

LADWP is required by state law, as set forth in California Water Code Sections 10910-10915, to prepare this WSA for the Times Project. There are no other alternatives.

FINANCIAL INFORMATION

The Onni Times Square LP (Applicant) paid $17,000 to cover LADWP's expenses for preparation of this WSA.

BACKGROUND

WSAs are prepared in conformance with California law and the City ordinances to ensure proposed projects that utilize water resources are consistent with the City's conservation goals and long-term water supply availability, as detailed in LADWP's 2015 Urban Water Management Plan (UWMP). LADWP's 2015 UWMP is the water supply planning document for the City and is prepared by LADWP.

Each WSA performed by LADWP is carefully evaluated within the context of LADWP's most recent UWMP and current conditions, such as restrictions on State Water Project (SWP) pumping from the Sacramento-San Joaquin River Delta (Delta) imposed by a Federal Court. The Metropolitan Water District of Southern California (MWD), from whom the City purchases its SWP and Colorado River water supplies, has also been actively developing plans and making efforts to provide additional water supply reliability for the entire Southern California region. LADWP coordinates closely with MWD to ensure implementation of MWD's water resource development plans.

Part of MWD's planning effort is the update and implementation of its Integrated Water Resources Plan (IRP) and its UWMP, which are designed to address potential reductions in water supply due to the effects of variable hydrologic conditions and regulatory restrictions on exports from the Delta. The 2015 IRP update resulted in the development of the following six main findings and conclusions: action is needed to minimize unacceptable level of shortage allocation frequency in the future, maintain Colorado River supplies, stabilize SWP supplies, develop/protect local supplies and water conservation, maximize effectiveness of storage and transfers, and continue with adaptive management approach.

LADWP's 2015 UWMP contains a water shortage contingency plan for multi-year dry hydrological periods. This water shortage contingency plan was implemented on June 1, 2009, when the Board adopted Shortage Year Rates and the City Council implemented the landscape irrigation and prohibited use restrictions contained in the City's Water Conservation Ordinance. The City's Water Rate Ordinance, adopted June 1995 was last amended by the Board, effective April 15, 2016. The new water rate structure increases the number of tiers from two to four for single-family residential

customers. The goal is to incentivize conservation while recovering the higher costs of providing water to high volume users. In keeping with cost of service principles, the incremental pricing for the tiers is based on the cost of water supply and, for the third and fourth tiers, added pumping and storage costs.

Various conservation measures are also required through the following regulations: the City's Green Building Codes Revision/Use of Greywater Systems/Water Conservation Measures Ordinance No. 184248, the City's Water Efficiency Requirements Ordinance No. 180822, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code. All codes became effective January 1, 2014, except Ordinance No. 184248, effective June 2016, and Ordinance No. 180822, effective December 2009.

Projected Water Use and Conservation

On May 15, 2017, the Los Angeles Department of City Planning (Planning Department), lead agency for the Times Project, requested LADWP perform a WSA. Based on information obtained from Planning Department, the Times Project will redevelop an approximately 3.68-acre site of commercial land uses within the Central City Community Plan area of the City for residential and commercial land uses. The Times Project is generally bounded by South Broadway Street to the west, West 1st Street to the north, South Spring Street to the east, and West 2nd Street to the south.

The Times Project's site currently contains five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building. The buildings, excluding the parking structure, contain a total 559,863 square feet (sq ft) of floor area, and approximately 223,945 sq ft (40 percent) of the existing uses are office spaces that have been vacant for 10 years. As part of the project, the existing 44,306 sq ft Parking Garage and Executive Building, which contains 176,258 sq ft of office space, and the 7,500 sq ft bank, will be demolished to support the development of the Times Project. Additionally, an 11,250 sq ft cafeteria in the Mirror Building will be renovated to become part of a grocery store. The existing water demand to be removed is approximately 23 AFY.

The Times Project proposes retention and renovation of the Times, Plant, and Mirror Buildings on the eastern half of the project site comprised of 376,104 sq ft of existing floor area, approximately 285,088 sq ft will be office space that would remain of which 71,232 sq ft will be new renovated offices. The western half of the project site will be developed with two new mixed-use towers called the North Tower (37-stories) and South Tower (53-stories), containing residential units and ground-floor retail uses. The Times Project will develop approximately 1,127 apartment units, 34,572 sq ft of commercial retail uses, 41,017 sq ft of restaurant (ground floor and upper floor), and a

50,000 sq ft grocery store. Residential amenities will include 3,025 sq ft of lobby/lounge areas, 25,618 sq ft of fitness centers, a 2,250 sq ft pool, a Paseo/Plaza area at grade, and open space and amenities at the Level 6 Garden Plaza. The Times Project will also include 988,000 sq ft of covered parking, 16,242 sq ft of landscaping, and cooling towers.

LADWP staff recommended implementation of additional voluntary water conservation measures to maximize the potential water-use efficiency for the Times Project. Recommended voluntary conservation measures are in addition to those required by the City's current codes and ordinances. Based on LADWP staff recommendations, Applicant has voluntarily committed to implement the following additional measures that are beyond those required by law:

- High Efficiency Toilets with flush volume of 1.0 gallons of water per flush, or less
- ENERGY STAR Certified Residential Clothes Washers – Front-loading with Integrated Water Factor of 3.6 or less and capacity of 4.3 cubic feet (cu ft)
- Showerheads with flow rate of 1.5 gallons per minute, or less
- Domestic Water Heating System located close proximity to point(s) of use
- Individual Metering and billing for water use for commercial space will be used
- Drip/Subsurface Irrigation (Micro-Irrigation)
- Proper Hydro-zoning/Zoned Irrigation (groups plants with similar water requirements together)
- Drought Tolerant Plants – 70 percent of total landscaping

A written commitment of the Times Project's planned voluntary water conservation measures was submitted by Applicant and is attached with WSA in Appendix B.

With the addition of these voluntary water conservation measures, which yield additional savings of approximately 7 AFY, the total net additional water demand is approximately 220 AFY.

The Applicant has also committed to comply with the City of Los Angeles Low Impact Development Ordinances (City Ordinance No. 181899 and No.183833) and to implement Best Management Practices that have stormwater recharge or reuse benefits for the entire Project where feasible:

- Infiltration Basin (drainage area of 5-50 acres) – captures first-flush stormwater, removes particulate pollutants and some soluble pollutants, and contributes toward recharging groundwater
- Infiltration Trench (drainage area of less than 5 acres) – similar to infiltration basin but used for smaller drainage areas to capture and infiltrate rainwater
- Catch Basin Insert – a device that can be inserted into an existing catch basin design to provide some level of runoff contaminant removal
- Catch Basin Screens

- Pervious Pavements – captures runoff by allowing stormwater to pass through the pavement surface and then infiltrate into the groundwater basin
- Cistern – captures stormwater runoff as it comes down through the roof gutter system

The Times Project is determined by Planning Department to be consistent with the demographic projections for the City from both the 2012 and 2016 Regional Transportation Plans (RTP) by the Southern California Association of Governments (SCAG). The City's water demand projection in 2015 UWMP was developed based on the 2012 RTP demographic projection using the 2010 U.S. Census for the City. LADWP used a modified-unit-use approach to develop its service area-wide water demand projections. This methodology does not rely on individual development demands to determine area-wide growth. 2015 UWMP concluded there are adequate water supplies to meet projected water demand through 2040. Therefore, projected water supply available during normal, single-dry, and multiple-dry water years as included in the 25-year projection of 2015 UWMP is sufficient to meet the projected water demand associated with the Times Project, in addition to the existing and planned future demand on LADWP.

ENVIRONMENTAL DETERMINATION

Determine item is exempt pursuant to the California Environmental Quality Act (CEQA) Guidelines 15268 (b) (4). In accordance with Section 15268 (b)(4) of the CEQA Guidelines, Ministerial projects such as Approval of individual utility service connections and disconnections are exempt from the requirements of CEQA.

CITY ATTORNEY

The Office of the City Attorney reviewed and approved the Resolution as to form and legality.

ATTACHMENTS

- Resolution
- Water Supply Assessment

RESOLUTION NO. _____

WHEREAS, Los Angeles Department of Water and Power (LADWP) constitutes a "public water system" pursuant to California Water Code Section 10912, subdivision (c); and

WHEREAS, the Times Mirror Square Project (Times Project) qualifies as a "project" under California Water Code Section 10912, subdivision (a) (7); and

WHEREAS, the Times Project is located in the service area of LADWP's water supply system, and LADWP would serve the area of the Times Project development; and

WHEREAS, on May 15, 2017, the City of Los Angeles (City) Department of City Planning (Planning Department) requested the LADWP conduct a Water Supply Assessment (WSA) for the Times Project pursuant to California Water Code Sections 10910-10915; and

WHEREAS, the Times Project would redevelop an approximately 3.68-acre site of commercial land uses within the Central City Community Plan area of the City for residential and commercial land uses; and

WHEREAS, LADWP's Water Resources Division has prepared a WSA for the Times Project in compliance with California Water Code Sections 10910-10915; and

WHEREAS, the Times Project is determined by Planning Department to be consistent with the demographic projections for the City from both the 2012 and 2016 Regional Transportation Plans by the Southern California Association of Governments; and

WHEREAS, LADWP staff performed the water demand analysis and determined the net increase in total water demand for the Times Project is 220 acre-feet per year; and

WHEREAS, Onni Times Square LP (Applicant) has agreed to implement additional conservation measures, as described in WSA, that are in addition to those required by law; and

WHEREAS, LADWP anticipates that its projected water supply available during normal, single-dry, and multiple-dry water years as included in the 25-year projection contained in its adopted 2015 Urban Water Management Plan can accommodate the projected water demand associated with the Times Project, in addition to the existing and planned future demands on LADWP; and

WHEREAS, the Board of Water and Power Commissioners (Board) adopted a Water Rate Ordinance for water service effective April 15, 2016. The Board believes that the price signals contained in the Water Rate Ordinance encourages conservation and will help to contribute to reductions in City-wide demands to meet demand projections; and

WHEREAS, in accordance with Water Code Section 10910 (g) (1) the Board has the responsibility for approval and certification of WSA's prepared by LADWP; and

WHEREAS, the Board has independently reviewed and considered the WSA and documentation making up the administrative record; and

WHEREAS, a publicly noticed Board hearing was held with respect to this item on September 19, 2017, and the Board considered evidence presented by LADWP's Water Resources Section staff, the staff recommendation to approve the WSA, and other comments from interested parties at the public hearing.

NOW, THEREFORE, BE IT RESOLVED that the Board finds that LADWP can provide sufficient domestic water supplies to the Times Project area and approves the WSA prepared for the Times Project, now on file with the Secretary of the Board, and directs that WSA and a certified copy of Resolution be transmitted to Planning Department.

BE IT FURTHER RESOLVED that the Board finds that LADWP's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demands associated with the Times Project in addition to existing and planned future uses including agricultural and industrial uses.

BE IT FURTHER RESOLVED that the Board has considered the WSA prior to making a decision to approve the WSA, and finds that the WSA is adequate and was prepared in accordance with Water Code Section 10910 (c) (2), and meets the requirements of Water Code Section 10910 (d), (e), (f), and (g).

I HEREBY CERTIFY that the foregoing is a full, true, and correct copy of a Resolution adopted by the Board of Water and Power Commissioners of the City of Los Angeles at its meeting held

_____

Secretary

APPROVED AS TO FORM AND LEGALITY
MICHAEL N. FEUER, CITY ATTORNEY

AUG 18 2017

BY _____
TINA SHIM
DEPUTY CITY ATTORNEY

WATER SUPPLY ASSESSMENT

FOR THE TIMES MIRROR SQUARE PROJECT

Prepared by:
Water Resources Division

September 19, 2017

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California Department of Water Resources California's Groundwater Bulletin 118 Update 2003

Upper Los Angeles River Area Watermaster Report for 2013/2014, Dated December 2015

LADWP 2015 UWMP

MWD Integrated Water Resources Plan 2015 Update

MWD 2015 UWMP

California Code of Regulations Title 23. Waters, Division 2. Department of Water Resources, Chapter 2.7. Model Water Efficient Landscape Ordinance

City of Los Angeles Department of Public Works Bureau of Sanitation (LASAN) Sewer Generation Rates Table

Appendices

A. The City of Los Angeles Department of City Planning letter, Request for Water Supply Assessment, received on May 15, 2017, and Scope Confirmation e-mail received on August 8, 2017

B. Water Conservation Commitment Letter

C. Project Location Maps

D. Adjudicated Groundwater Basin Judgments

E. Water Supply Assessment Provisions – California Water Code Section 10910-10915

F. MWD of Southern California (Appendix A)

G. Water Supply Assessment Checklist

Introduction

Proposed major projects subject to certain requirements in the California Water Code Sections 10910-10915 require that a city or county identify any public water system that may supply water to the Times Mirror Square Project (Times Project) and request the public water system provide a Water Supply Assessment (WSA). The WSA is a determination by the water supplier that the demands associated with the Times Project were included in its most recently adopted 2015 UWMP showing that there is an adequate 20-year water supply.

The City of Los Angeles (City) Department of City Planning (Planning Department), serving as the lead agency as prescribed by the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), for the Times Project, has identified LADWP as the public water system that will supply water. In response to Planning Department's request for a WSA, LADWP has performed the assessment contained herein.

LADWP has supplied the City with a safe and reliable water supply for over a century. Over time, the City's water supplies have evolved from primarily local groundwater to predominantly imported supplies. Today, the City relies on over 85 percent of its water from imported sources. As such, LADWP has taken an active role in regional and statewide water management. The sustainability of Los Angeles' local water supplies are dependent on the City's ability to maximize water conservation, increase recycled water use, expand stormwater capture, and accomplish other local water resource goals.

WSA is prepared to meet the applicable requirements of state law as set forth in California State Water Code Sections 10910-10915. Significant references and data for WSA are from the City's 25-year water resource plan, entitled *Los Angeles Department of Water and Power Urban Water Management Plan 2015*, adopted by the Board of Water and Power Commissioners (Board) on June 7, 2016. LADWP's 2015 UWMP is incorporated by reference and is available for review through LADWP's Web site, www.ladwp.com/uwmp.

Findings

The Times Project is estimated to increase the total net water demand within the site by 220 acre-feet (AF) annually based on review of information submitted by Planning Department. Onni Times Square LP (Applicant) has committed to implement additional water use efficiency measures that are beyond those required by current law.

LADWP's WSA finds adequate water supplies will be available to meet the total additional water demand of 220 AF annually for the Times Project. LADWP anticipates the projected water demand from the Times Project can be met during normal, single-

dry, and multiple-dry water years, in addition to the existing and planned future demands on LADWP.

WSA approval addresses the City's long-term water supply and demand forecasts to accommodate the Times Project, and is not an approval for water service connection. A separate request shall be made to LADWP requesting an evaluation of water service connection for the Times Project.

The basis for approving WSAs for developments is LADWP's most recently adopted UWMP. LADWP's water demand forecast, as contained in LADWP's 2015 UWMP, uses long-term demographic projections for population, housing, and employment. The California Urban Water Management Planning Act requires water suppliers to develop a UWMP every five years to identify short-term and long-term water resources management measures to meet growing water demands during normal, single-dry, and multiple-dry years. If the projected water demand associated with the Times Project was not accounted for in the most recently adopted LADWP 2015 UWMP, WSA must include a discussion with regard to whether LADWP's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the projected water demand associated with the Times Project, in addition to LADWP's existing and planned future uses.

The City's water demand projection in LADWP's 2015 UWMP was developed based on the 2012 Regional Transportation Plan (RTP) demographic projection by the Southern California Association of Governments (SCAG) using the 2010 United States (U.S.) Census for the City. LADWP's 2015 UWMP concluded there are adequate water supplies to meet projected water demands through 2040. Therefore, the City's water supply projections in LADWP's 2015 UWMP are sufficient to meet the City's water demand projections based on the 2012 RTP.

Planning Department has determined that the Times Project conforms with the use and intensity of development permitted by the City's General Plan, and that it is consistent with the demographic projection for the City from both the 2012 and 2016 RTPs. Therefore, anticipated water demand for the Times Project falls within LADWP's 2015 UWMP's projected water supplies for normal, single-dry, and multiple-dry years through the year 2040 and is within the LADWP 2015 UWMP's 25-year water demand growth projection. This WSA can be approved based on the fact that the Times Project's water demand falls within the LADWP 2015 UWMP's projected increase in citywide water demands, while anticipating multi-dry year water supply conditions occurring at the same time.

Additionally, LADWP's 2015 UWMP contains a water shortage contingency plan for multi-year dry hydrological periods. This water shortage contingency plan was implemented on June 1, 2009, when the Board adopted Shortage Year Rates, and the City Council implemented the landscape irrigation and prohibited use restrictions contained in the City's Water Conservation Ordinance (Ordinance).

The City's Water Rate Ordinance, adopted in June 1995, was last amended by the Board, effective April 15, 2016. The revised rate ordinance restructured the rates to help further promote conservation. For example, single family rates switched to a four-tier system that sends a strong price signal to deter against wasteful water use. The Board finds that the price signals contained in the Water Rate Ordinance encourage conservation and support further reduction in City-wide demand. Past and current implementation of water rate price signals and higher ordinance phases have resulted in reducing the total customer water usage, on average, by approximately 19.7 percent over the time period from June 2009 to May 2017.

The Times Project Description

The following project information was obtained from Planning Department's WSA Request Letter and the scope confirmation e-mail (Appendix A):

Project Name:	Times Mirror Square Project
Lead Agency:	Planning Department
Planning Community:	Central City Community Plan

The Times Project will redevelop an approximately 3.68-acre site of commercial land uses within the Central City Community Plan area of the City for residential and commercial land uses. The Times Project is generally bounded by South Broadway Street to the west, West 1st Street to the north, South Spring Street to the east, and West 2nd Street to the south.

The Times Project's site currently contains five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, 4-story Plant Building, 10-story Mirror Building, 6-story parking garage, and 6-story Executive Building. The buildings, excluding the parking structure, contain a total 559,863 square feet (sq ft) of floor area, and approximately 223,945 sq ft (40 percent) of the existing uses are office spaces that have been vacant for 10 years. As part of the project, the existing 44,306 sq ft Parking Garage and Executive Building, which contains 176,258 sq ft of office space, and the 7,500 sq ft bank, will be demolished to support the development of the Times Project. Additionally, an 11,250 sq ft cafeteria in the Mirror Building will be renovated to become part of a grocery store. The existing water demand to be removed is approximately 23 AFY.

The Times Project proposes retention and renovation of the Times, Plant, and Mirror Buildings on the eastern half of the project site comprised of 376,104 sq ft of existing floor area, approximately 285,088 sq ft will be office space that would remain of which 71,232 sq ft will be new renovated offices. The western half of the project site will be developed with two new mixed-use towers called the North Tower (37-stories) and South Tower (53-stories), containing residential units and ground-floor retail uses. The Times Project will develop approximately 1,127 apartment units, 34,572 sq ft of commercial retail uses, 41,017 sq ft of restaurant (ground floor and upper floor), and a

50,000 sq ft grocery store. Residential amenities will include 3,025 sq ft of lobby/lounge areas, 25,618 sq ft of fitness centers, 2,250 sq ft pool, Paseo/Plaza area at grade, and open space and amenities at the Level 6 Garden Plaza. The Times Project will also include 988,000 sq ft of covered parking, 16,242 sq ft of landscaping, and cooling towers.

LADWP staff performed the water demand analysis and determined the net increase in water demand for the Times Project is 220 AFY.

A subsequent revised WSA may be required if one or more of the following occurs: (1) changes in the Times Project result in a substantial increase in water demand for the Times Project; (2) changes in the circumstances or conditions substantially affecting the ability of LADWP to provide a sufficient supply of water for the Times Project; or (3) significant new information becomes available which was not known and could not have been known at the time when WSA was prepared. If deemed necessary, Applicant may request a revised WSA through lead agency.

The Times Project Water Demand Estimate

Projected total net water demand increase for the Times Project is estimated to be 220 AF annually which includes annual water conservation. Savings due to water conservation ordinances are approximately 66 AFY, and savings due to additional voluntary conservation measures are approximately 7 AFY.

In evaluating the Times Project's water demand, the Sewer Generation Factors (SGF), published by City of Los Angeles Department of Public Works Bureau of Sanitation (LASAN) in 2012, are applied to the Times Project scope for calculating indoor water use. SGFs are factors of how much wastewater is generated (gallons per day) per unit (per sq ft, per dwelling unit, per seat, etc.). LASAN publishes a list of SGFs for approximately 175 different building use types in the City, and updates factors to make adjustments necessary due to water conservation efforts and increased efficiencies in new appliances and plumbing fixtures. Outdoor landscape water demand is estimated per California Code of Regulations Title 23 Division 2 Chapter 2.7 Model Water Efficient Landscape Ordinance. Historical billing records are used to establish existing baseline water demand on the property. LADWP also encouraged the Times Project to implement additional water conservation measures above and beyond the current water conservation ordinance requirements.

The net increase in water demand, which is the projected additional water demand of the Times Project, is calculated by subtracting the existing baseline water demand and water saving amount from the total proposed water demand.

Table I shows a breakdown of the existing and proposed new types of uses for the Times Project, and the corresponding estimated volume of water usage with the implementation of the conservation measures for the Times Project.

Types of use were derived from WSA request letter and the scope confirmation e-mail in Appendix A.

Table II estimates the total volume of water conservation based on conservation measures the Applicant has committed to for the Times Project (Appendix B).

TABLE I
Times Mirror Square Project
Calculated Total Additional Water Demand

Existing Use[1]	Quantity	Unit				Existing Water Use to be Removed (gpd)	(af/y)
Executive Building Offices[2]	103,312	sf					
Executive Building Bank	7,500	sf					
Mirror Building Cafeteria	11,250	sf					
6-story Parking Structure	44,306	sf					
Existing to be Removed Total[3]						**20,137**	**22.56**
Proposed Use[1]	**Quantity**	**Unit**	**Water Use Factor[4] (gpd/unit)**	**Base Demand (gpd)**	**Required Ordinances Water Savings[5] (gpd)**	**Proposed Water Demand (gpd)**	**(af/y)**
Residential: Studio	90	du	75.00	6,750			
Residential: 1 bd	706	du	110.00	77,660			
Residential: 2 bd	324	du	150.00	48,600			
Residential: 3 bd	7	du	190.00	1,330			
Base Demand Adjustment (Residential Units)[6]				14,206			
Residential Units Total	**1,127**	**du**		**148,546**	32,100	**116,446**	**130.45**
Gym/Fitness Center	25,618	sf	0.65	16,652			
Lobby	3,025	sf	0.05	151			
Pool	2,250	sf		211			
Residential Amenities Total[7]				**17,014**	3,727	**13,287**	**14.88**
Office[8]	71,232	sf	0.15	10,685			
Grocery Store	50,000	sf	0.05	2,500			
Restaurant: Ground-floor Full Service	1,255	seat	30.00	37,650			
Restaurant: Upper-floor Full Service	1,480	seat	30.00	44,400			
Retail	34,572	sf	0.025	864			
Commercial Total	125,589	sf		**96,099**	4,373	**91,726**	**102.75**
Landscaping[9]	**16,242**	**sf**		**1,517**	781	**736**	**0.82**
Parking Structure[10]	**988,000**	**sf**	0.02	**650**	0	**650**	**0.73**
Cooling Tower Total	1,500	ton	12	17,820	17,820	0	0.00
			Proposed Subtotal	**281,646**	**58,801**	**222,845**	**249.63**
					Less Existing to be Removed Total	-20,137	-22.56
					Less Additional Conservation[11]	-5,935	-6.65
					Net Additional Water Demand	**196,773 gpd**	**220.42 af/y**

[1] Provided by City of Los Angeles Department of City Planning In the Request for Water Supply Assessment letter and Scope Confirmation e-mail. See Appendix A.

[2] Of the 176,258 sf existing office space In the Executive Building that will be removed, 103,312 sf has been used/occupied in the last 10 year. In other words, only 103,312 sf of of office is considered having water demand in the existing executive building that will be removed

[3] The existing water demand is based on the LADWP billing data (average of varied available billing years from Fiscal Year 2010 to 2015).

[4] Proposed indoor water uses are based on 2012 City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table available at http://www.lacitysan.org/fmd/pdf/sfcfeerates.pdf.

[5] The proposed development land uses will conform to City of Los Angeles Ordinance No. 184248, 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing Code, and 2014 Los Angeles Green Building Code.

[6] Base Demand Adjustment is the estimated savings due to Ordinance No. 180822 accounted for in the current version of Bureau of Sanitation Sewer Generation Rates.

[7] Garden Plaza not shown here does not have additional water demand.

[8] 71,232 sf of additional office spaces are expected to be occupied and have a water demand after the rehabilitation of the Times, Plant and Mirror Buildings. In addition, the project will assume that the water fixtures in these office spaces will not be upgraded, and therefore take a more conservative approach in estimating water demand by using an older Sewer Generation Rate available at http://www.environmentla.org/programs/Thresholds/M-Public%20Utilities.pdf

[9] Landscaping water use is estimated per California Code of Regulations Title 23. Division 2. Chapter 2.7. Model Water Efficient Landscape Ordinance.

[10] Auto parking water uses are based on City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation Rates table, and 12 times/year cleaning assumption.

[11] Water conservation due to additional conservation commitments agreed by the Applicant. See Table II.

Abbreviations: bd - bedroom du - dwelling unit sf- square feet gpd - gallons per day af/y - acre feet per year

TABLE II
Times Mirror Square Project
Estimated Additional Water Conservation

Conservation Measures[1]	Quantity	Units	Water Saving Factor[2] (gpd/unit)	Water Saved (gpd)	Water Saved (af/y)
Toilet - Residential: Studio	90	du	1.54	139	0.16
Toilet - Residential: 1 Bd	706	du	1.54	1,087	1.22
Toilet - Residential: 2 Bd	324	du	3.85	1,247	1.40
Toilet - Residential: 3 Bd	7	du	6.16	43	0.05
Showerhead - Residential: Studio	90	du	1.59	143	0.16
Showerhead - Residential: 1 Bd	706	du	1.59	1,123	1.26
Showerhead - Residential: 2 Bd	324	du	3.98	1,288	1.44
Showerhead - Residential: 3 Bd	7	du	6.36	45	0.05
Clothes Washer	1127	du	0.43	485	0.54
Residential Unit Conservation Total				**5,600**	**6.27**
Toilet	15	ea	6.09	91	0.10
Showerhead	5	ea	7.50	38	0.04
Clothes Washer (Residential type)	2	ea	0.43	1	0.00
Residential Amenities Conservation Total				**130**	**0.15**
Toilet	30	ea	6.09	183	0.21
Retail/Commercial Conservation Total				**183**	**0.21**
Landscaping Total Conservation[3]				**22**	**0.02**
Total Additional Water Conserved =				**5,935**	**6.65**

[1] Water conservation measures agreed to by the Applicant. See Appendix B.

[2] Based on LADWP estimates.

[3] Landscaping water conservation is estimated per California Code of Regulations Title 23. Division 2. Chapter 2.7. Model Water Efficient Landscape Ordinance.

Abbreviations: du - dwelling unit gpd - gallons per day af/y - acre feet per year ea -- each

Water Demand Forecast

LADWP's 2015 UWMP projects yearly water demand to reach 675,700 AF by fiscal-year-ending (FYE) 2040 with passive water conservation, or an increase of 31.6 percent from FYE 2015 actual water demand. Water demand projections in five-year increments through FYE 2040 are available in LADWP's 2015 UWMP for each of the major customer classes: single-family, multifamily, commercial/governmental, and industrial. Demographic data from the Southern California Association of Government's 2012 RTP, as well as billing data for each major customer class, weather, conservation, price of water, personal income, family size, economy, and drought conservation effect were factors used in forecasting future water demand growth.

LADWP's 2015 UWMP used a modified-unit-use approach to develop its service area-wide water demand projections. This methodology does not rely on individual development demands to determine area-wide growth, because such an inventory in LADWP service area in the next 25 years is only a subset of the total development potential. Therefore, the growth or decline in population, housing units, and employment for the entire service area was considered in developing long-term water projections for the City through FYE 2040. The historical water demand for a unit of customer class, such as gallons-per-day per single family, is modified to account for future changes, including water conservation, and applied to the 2012 RTP demographic projections by SCAG. This modified-unit-use-approach has proven to be a reliable forecast historically, when compared with actual consumption, excluding the effects of conservation.

LADWP's 2015 UWMP is updated every five years as required by California law. This process entails, among other requirements, an update of water supply and water demand projections for water agencies.

Collaboration between LADWP and MWD is critical in ensuring that the City's anticipated water demands are incorporated into the development of MWD's long-term Integrated Water Resources Plan (IRP). MWD's IRP directs a continuous regional effort to develop regional water resources involving all of MWD's member agencies including the City. Successful implementation of MWD's IRP has resulted in reliable supplemental water supplies for the City from MWD.

State law further regulates distribution of water in extreme dry weather conditions. Section 350-354 of the California Water Code states that when a governing body of a distributor of a public water supply declares a water shortage emergency within its service area, water will be allocated to meet needs for domestic use, sanitation, fire protection, and other priorities. This will be done equitably and without discrimination between customers using water for the same purpose(s).

LADWP – 2015 UWMP

The California Urban Water Management Planning Act (first effective on January 1, 1984) requires every urban water supplier prepare and adopt a UWMP every five years. The main goals of UWMPs are to forecast future water demands and water supplies under average and dry year conditions, identify future water supply projects such as recycled water, provide a summary of water conservation Best Management Practices (BMP), and provide a single and multi-dry year management strategy.[1]

LADWP's 2015 UWMP, available for reference through www.ladwp.com/uwmp, serves two purposes: (1) achieve full compliance with requirements of California's Urban Water Management Planning Act; and (2) serve as a master plan for water supply and resources management consistent with the City's goals and policy objectives.[2]

A number of important changes have occurred since LADWP prepared its 2010 UWMP. The year 2012 marked the start of the current multi-year drought in California. In January 2014, Governor Jerry Brown proclaimed a drought state of emergency. In July 2014, the State Water Resources Control Board (SWRCB) implemented its Emergency Water Conservation Regulation (Emergency Regulation), as directed by Governor Brown, to take actions to reduce water use by 20 percent Statewide, which was later increased to 25 percent statewide, with adjustments to account for different climates, expected growth, investment made to create drought-resilient water supplies by different cities through October 2016. In October 2014, Mayor Eric Garcetti issued Executive Directive No. 5 (ED5) Emergency Drought Response which set goals to reduce per capita water use, reduce purchases of imported potable water by 50 percent, and create an integrated water strategy to increase local supplies and improve water security considering climate change and seismic vulnerability. Lastly, in April 2015, the Mayor's Sustainable City pLAn (pLAn) was released establishing targets for the City over the next 20 years to strengthen and promote sustainability. The pLAn included a number of water resources goals, including reduce average per capita potable water use by 20 percent from Fiscal Year (FY) 2013/14 by 2017, reduce average per capita potable water use by 22.5 percent from FY 2013/14 by 2025, reduce imported water purchases from MWD by 50 percent from 2013/14 by 2025, reduce per capita potable water use by 25 percent from 2013/14 by 2035, and expand all local sources of water so that they account for at least 50 percent of the total supply by 2035. The pLAn included a multi-faceted approach to developing a locally sustainable water supply to reduce reliance on imported water, reducing per capita water use through conservation, and increasing local water supply availability.

A number of new requirements have been added to the Urban Water Management Planning Act since completion of LADWP's 2010 UWMP, including: an extension of the submittal deadline from December 31, 2015 to July 1, 2016, a narrative description of water demand measures implemented over the past five years and future measures

[1] *City of Los Angeles Department of Water and Power 2015 Urban Water Management Plan*, at ES-2.
[2] *Id.* at ES-2.

planned to meet 20 percent demand reduction targets by 2020, implementation of a standard methodology for calculating system water loss, a mandatory electronic filing of UWMPs, a voluntary reporting of passive conservation savings, energy intensity, and climate change, and a requirement to analyze and define water features that are artificially supplied with water.

LADWP's 2015 UWMP projects a seven percent lower water demand trend than what was projected in the previous LADWP 2010 UWMP. It outlines plans, as described below, to provide a highly reliable water supply by FYE 2040, by implementing cost-effective conservation, recycled water, and stormwater capture programs, ultimately meeting the targets established in ED5 and pLAn, including reducing imported water purchases from MWD.

Near-Term Conservation Strategies

Enforcing prohibited uses of water. Prohibited uses of water are intended to eliminate waste and increase awareness of the need to conserve water. In effect at all times, prohibited uses have been in place since the early 1990s. Under enforcement, failure to comply would be subject to penalties, which can range from a written warning for a first violation to monetary fines and water service shutoff for continued non-compliance.

Expanding the prohibited uses of water. In August 2009, and again in August 2010, the City updated the Emergency Water Conservation Plan Ordinance (No. 181288) by clarifying prohibited uses of water, modifying certain water conservation requirements, and developing new phases of conservation depending on the severity of water shortages. In June 2015, the City amended Ordinance No. 181288 with the new Ordinance No. 183608. Ordinance No. 183608 clarified prohibited uses and added an additional phase to allow for outdoor watering two days a week. In April 2016, the City once again amended Ordinance No. 183608 with the Ordinance No. 184250, which defined and added fines for unreasonable uses of water. The Ordinance is expected to improve the City's ability to comply with current regulations and respond to the ongoing drought conditions. Prohibited uses in effect at all times (Phase I) include[3]:

- Water leaks allowed to go unattended
- Outdoor irrigation between the hours of 9 a.m. to 4 p.m.
- Outdoor irrigation that results in excess water flow leaving the property
- Outdoor irrigation during and 48 hours after rain events
- Outdoor irrigation with spray head sprinklers and bubblers for more than ten minutes per watering day per station
- Outdoor irrigation with standard rotors and multi-stream rotary heads for more than 15 minutes per cycle and up to two cycles per watering day per station
- Large landscape irrigation systems without automatic shutoff rain sensors

[3] *Id.* at 3-11.

- Washing paved surfaces (sidewalks, walkways, driveways, or parking areas) unless using a LADWP-approved water conserving spray cleaning device
- Water for decorative fountains, ponds, or lakes unless the water is part of a recirculating system
- Installation of single-pass cooling systems in buildings requesting new water service
- Installation of non-recirculating systems in new commercial laundry facilities
- Installation of non-recirculating systems in new conveyor car washes
- Car washing with a hose, unless an automatic shut-off device is attached
- Water served to customers in eating establishments, unless requested
- Daily towel and linen service option must be offered to hotel and motel guests

Phase II of the Water Conservation Ordinance was enacted in August 2010 and is currently in effect. In addition to the restrictions in Phase I, Phase II also limits landscape irrigation to three days per week, Monday, Wednesday, and Friday for odd-numbered street addresses and Tuesday, Thursday, and Sunday for even-numbered street addresses. Watering times for non-conserving nozzles (spray head sprinklers and bubblers) are limited to eight minutes per watering day per station.

On January 17, 2014, with California facing water shortfalls in the driest year in recorded state history, Governor Brown proclaimed a Drought State of Emergency. Local urban water suppliers and municipalities were called upon to implement their local water shortage contingency plans. Responding to the executive order, in 2015, SWRCB imposed mandatory cutbacks ranging from four percent to 36 percent. LADWP was required to reduce its water use by 16 percent compared to the 2013 levels. LADWP met the state mandated reduction goal and saved 16.1 percent between June 2015 and May 2016. In 2016, following a relatively wet winter in Northern California, SWRCB replaced the regulations by a localized "stress test" approach, which LADWP successfully met.

On April 7, 2017, Governor Jerry Brown issued Executive Order B-40-17 formally ending the drought emergency. The Governor lifted the drought emergency in all California counties except Fresno, Kings, Tulare and Tuolumne where emergency drinking water projects will continue to help address diminished groundwater supplies. The order also rescinds two drought-related emergency proclamations and four drought-related executive orders. Cities and water districts throughout the state are required to continue reporting their water use each month, according to the order, which also bans wasteful practices, such as hosing off sidewalks and running sprinklers when it rains.

As the Governor ended the drought emergency, five state agencies unveiled a long-range plan to rein in water use, called "Making Water Conservation a California Way of Life." This plan builds on the successes and lessons learned from California's five-year drought and establishes a framework for long-term efficient water use that reflects the state's diverse climate, landscape, and demographic conditions.

Achieving the plan's goals will help all of California better prepare for longer and more severe droughts caused by climate change. Among other things, the plan will require all urban agencies to meet new targets, based on their local climates, land-use characteristics and other factors. The urban agencies would set the targets themselves, based on parameters set by the state.

On October 14, 2014, Mayor Garcetti issued his Executive Directive No. 5 (ED5) to set accelerated short-term conservation targets to address the drought and set long-term water reliability goals. Shortly after, the Mayor published the City's Sustainability pLAn (pLAn) on April 8, 2015. The pLAn builds upon the goals in ED5 to establish the following water resources related goals to achieve long-term water reliability for the City: per capita water use reduction goals of 20 percent by 2017, 22.5 percent by 2025, and 25 percent by 2035; a reduction in LADWP purchases of imported potable water by 50 percent by 2025; and expanding local water supplies to account for 50 percent of total supplies by 2035. LADWP's 2015 UWMP incorporates the pLAn goals in its local water supply plans to reduce reliance on purchased water in the future. These plans include increased stormwater capture, groundwater clean-up, recycled water, and conservation.

Most significant among them is an increased goal for conservation. On January 1, 2017, the City was able to meet the short-term target of 20 percent reduction through drought response measures that dropped per capita water use to 104 gallons per day. While this extraordinary achievement will have lasting effects on the City's water use efficiency, LADWP will need to work together with residents and businesses to achieve additional permanent conservation savings needed to maintain these drought savings and further reduce per capita water use by 25 percent by 2035. Achieving the pLAn and LADWP 2015 UWMP per capita water use reduction goals will help reduce the City's reliance on imported water while providing drought-resilient supplies that are not subject to increasingly frequent hotter weather conditions.

Among the actions required by ED5 that have been implemented are the following:

- Increase rebates for rain barrels, including interconnection piping and control systems, to $100 per barrel.
- Increase LADWP's California Friendly Landscape Incentive rebate funding to $1.75 per sq ft.

In addition to mandatory action items including those listed above, ED5 also calls for residents to:

- Voluntarily reduce their outdoor watering from three to two days.
- Replace turf lawns with native and climate-appropriate landscaping during the optimal Fall/Winter planting season, utilizing LADWP rebates for turf removal.
- Replace any remaining high water use plumbing fixtures and appliances with low-flow fixtures and appliances using consumer rebates provided by LADWP.
- Ensure swimming pools have covers to reduce water evaporation.

ED5 goals were later enhanced/modified by the Mayor's pLAn in April 2015. Strategies under pLAn sought to execute key conservation steps outlined in ED5 as well as expand the scope and financing for conservation programs and incentives.

Extending outreach efforts. Over the last several years, LADWP has expanded conservation outreach and education. Some activities to promote conservation include: increased communication with ratepayers through Twitter, Facebook, newspapers, radio, television, bus benches/shelters, and movie theaters, among other types of media; outreach to Homeowner Associations and Neighborhood Councils; distribution of hotel towel door hangers and restaurant table tent cards; and ramping up marketing of expanded water conservation incentive and rebate programs.

On April 9, 2015, the new "Save the Drop" Water Conservation Outreach Campaign was launched. This campaign is a partnership between LADWP and the Mayor's Office. Outreach materials include new public service announcements, radio spots, event handouts, and signage on the sides of LASAN trucks. The campaign has partnered with celebrities such as Steve Carrell, Jaime Camil, and Moby for public service announcements airing on TV, cinema, and radio.

Encouraging regional conservation measures. LADWP has worked with MWD to encourage all water agencies in the region to promote water conservation and adopt water conservation ordinances which include prohibited uses and enforcement.

Long-Term Local Supply Strategies

In April 2015, the Mayor released the City's first ever Sustainable City pLAn that focuses on sustainability, with special focus on the environment, the economy, and equity. The pLAn enhances ED5 goals, and incorporates water savings goals of reduction in per capita potable water by 20 percent by 2017, by 22.5 percent by 2025, and by 25 percent by 2035. The pLAn goals also include a reduction in imported water purchases from MWD by 50 percent from 2013/14 levels by 2025 and expansion of all local sources of water so that they account for at least 50 percent of the total supply by 2035. The pLAn includes specific strategies and desired outcomes for conservation, recycled water, and stormwater capture. Some of the strategies to meet these goals include investments in state-of-the art technology, rebates and incentives promoting water-efficient appliances, tiered water pricing, Technical Assistance Program (TAP) for business and industry, and large landscape irrigation and efficiency programs.

1.0 Increase Water Conservation Through Reduction of Outdoor Water Use and New Technology

Goal

Increase water conservation savings to achieve ED5 and pLAn water conservation goals by cutting back on outdoor water use, expanding rebates and incentives, improving water efficiency at public facilities, and enhancing savings through review of

new developments. LADWP plans to achieve additional water conservation savings of 108,100 AFY during average years and 143,500 AFY during single/multi-dry years by year 2040[4].

Action Plan

Conservation Rebates and Incentives. LADWP is continuing to expand rebates and incentives for homeowners and business owners to encourage them to purchase water-saving technology. Rebate and incentive programs include the following: Commercial Rebate Program, Residential Rebate Program, Direct Install Partnership Program, and Technical Assistance Program. In addition, as part of the City's ongoing effort to encourage customers to adopt active water conservation measures (i.e., measures that can help customers conserve water on a daily basis without thinking about it) in their homes and businesses, LADWP continues to distribute water-saving bathroom and kitchen faucet aerators and shower heads free-of-charge. In an effort to reduce outdoor water use, LADWP launched the California Friendly Landscape Incentive Program in 2009. Between November 1, 2014, and July 9, 2015, this Program provided rebates for turf removal to residential customers of $3.75 per sq ft for the first 1,500 sq ft and $2.00 per sq ft with no cap thereafter, and to commercial customers of up to $3.75 per sq ft. MWD is no longer offering turf removal incentives to new applicants, effective July 9, 2015, because available funding has been fully allocated.

LADWP has relaunched the California Friendly Landscape Incentive Program to continue a utility-sponsored rebate program for its customers. Effective July 15, 2015, residential customers are eligible to receive a rebate of $1.75 per sq ft for 1,500 sq ft maximum, while commercial customers are eligible for a rebate of $1.00 per sq ft for the first 10,000 sq ft and $0.50 per sq ft thereafter up to 43,560 sq ft maximum.

Some highlights from the list of LADWP's numerous water conservation accomplishments are:

- LADWP's Water Conservation Program has achieved a total cumulative hardware water savings of over 125,000 AFY, mainly through installation of conservation devices subsidized by rebates and incentives, since the inception of the program in FYE 1991 to FYE 2016.
- Water conservation achievements have resulted in Los Angeles using just as much as it did 45 years ago despite a population increase of over one million people.
- California Friendly Landscape Incentive Program – In total (Residential and Commercial Turf removal), LADWP has removed over 48 million sq ft of turf, saving over 1.9 billion gallons of water per year.
- LADWP's 100-percent volumetric tiered rate structure has been providing financial incentives to all customers for efficient water use since 1993.

[4] *Id.* at 11-11 to 11-13.

- Water Meter Replacement Program started in 2006 and is ongoing. The current program goal is to replace 25,000 meters per year out of approximately 700,000 existing small meters, which equates to a 28-year replacement. Over the next five years, LADWP plans to ramp up to a replacement cycle of 20 years. This program provides customers with greater accuracy in metering water use and a higher degree of accountability for water that is delivered by the City's distribution system.
- TAP for business and industry have been created to provide incentives for retrofitting water-intensive industrial equipment with high efficiency devices. A large effort is currently being expended using TAP to increase water-efficiency of commercial cooling towers and expand the program for small business participation.

Action by Public Agencies. LADWP assists City Departments and other public agencies in leveraging incentive funds to retrofit their facilities with water-efficient hardware. Significant accomplishments include the following highlights:

- In an effort to reduce water waste and identify areas of potential water conservation, LADWP provided on-site water audit training for the City's Department of General Services (GSD) plumbers, Department of Recreation and Parks (RAP) landscapers and Port of Los Angeles (POLA) staff, and conducted nearly 500 facility audits.
- In January 2009, a Memorandum of Understanding (MOU) was signed between LADWP and GSD to install 875 water-efficient urinals and 325 high-efficiency toilets in City facilities.
- Ten high-use City facilities have been retrofitted with water-efficient toilets, urinals, and faucets saving approximately 23 AFY. Locations include City Hall, City Hall East, Pershing Square, and LADWP headquarters.
- Utilizing a $3 million per year grant from LADWP, RAP has retrofitted 23 parks with California Friendly landscape and water-efficient irrigation. Through this MOU, RAP completed the Los Feliz Golf Course project in July 2014. Golf course improvements include a fully automated recycled water system, and six acres of grass have been replaced with California Friendly landscaping. Annually 5.5 million gallons of water will be saved due to the changes.

Enhancing Conservation through New Developments. LADWP continues to work with the City's Green Building Team to pursue desired changes in local codes and standards to promote water efficiency in new construction projects and major building renovations. One of the significant accomplishments was the approval of the Water-Efficiency Requirements Ordinance No. 180822 by the City Council, which modifies City Municipal Code to establish new requirements for water conservation in construction of new buildings, and the installation of new plumbing fixtures in existing buildings to minimize the effects of any water shortages on the customers of the City, effective December 1, 2009. Additional conservation measures are also required through the following regulations which were effective January 1, 2014: 2013 California Plumbing Code, 2013 California Green Building Code (CALGreen), 2014 Los Angeles Plumbing

Code, and 2014 Los Angeles Green Building Code. On April 8, 2015, the California Energy Commission adopted new efficiency standards for toilets, faucets and other appliances effective January 1, 2016. Also, on July 15, 2015, in response to Governor Brown's Executive Order B-29-15, the California Water Commission approved the revised Model Water Efficient Landscape Ordinance, which reduces the maximum amount of water allowed from the 2009 version of the ordinance. The California Department of Water Resources (DWR) estimates that a new home will use 20 percent less landscape water than allowed by the 2009 ordinance, and commercial landscape will cut water use by 35 percent. Also, Ordinance No. 184248, *Green Building Codes Revision, Use of Greywater Systems, Water Conservation Measures*, became effective June 6, 2016, and mandates a number of new fixture requirements and methods of construction for plumbing and irrigation systems. California Plumbing Code, Los Angeles City Plumbing Code and amending ordinances apply to all newly constructed buildings, additions and alterations whenever new fixtures are installed in existing buildings. CALGreen, the LA Green Building Code and the amending ordinances also apply to new construction projects, but are limited to additions and alterations to existing buildings that either increase the building's conditioned volume or have a valuation of $200,000 or more. For this development, all requirements above resulted in savings of approximately 66 AFY.

In addition, the City adopted Ordinance No. 181899, also known as the "Low Impact Development" Ordinance, and Ordinance No. 183833, entitled "Stormwater and Urban Runoff Pollution Control." The purpose of these Ordinances includes rainwater harvesting and stormwater runoff management, water conservation, and recycled water reuse and gray water use. Ordinance No. 181899 was effective as of November 14, 2011, and Ordinance No. 183833 was effective October 3, 2015.

***Future Programs*[5].** In December 2014, LADWP started its Home Water Use Report Pilot Study, which provides 72,000 single family customers bi-monthly home water use reports on their water usage, statistics on how they compare to similar households with average and efficient water use, and customized water saving tips and rebate recommendations. The pilot study group also has access to online on historical water use, estimated breakdown of how the customer is using their water, and additional information on how to save water in their homes. Upon completion of the pilot study by the end of 2017, LADWP will analyze results to determine the savings potential and cost-effectiveness of the program, which will assist LADWP in planning a long-term program that targets the entire single family customer sector.

Also, LADWP is currently working on pilot projects to test installation of Advanced Metering Infrastructure, which is the use of radio-based technology that would provide for two-way communication between water meters and LADWP's system. The Advanced Metering Infrastructure would provide real-time water meter data to both the end user and LADWP, which would allow LADWP to find leaks at an earlier stage and reduce non-revenue water losses. It would also allow customers to determine their water use more often than a traditional bi-monthly or monthly bill, and motivate them to

[5] *Id.* at 3-33.

proactively increase conservation sooner rather than after they receive their bill. Customers can also receive instant alerts if their usage is abnormally high.

***LADWP Water Conservation Potential Study*[6].** In fall of 2014, LADWP initiated the Water Conservation Potential Study, the largest and most comprehensive conservation study in the U.S. The study will provide a better understanding of how historical water conservation investment efforts have impacted existing water use efficiency and device saturation levels and help LADWP prioritize future water conservation investments in the City by identifying remaining water conservation opportunities to increase City's water use efficiency into the future. Phase 1 of the study estimated conservation potential, and data from extensive and comprehensive residential surveys were used to determine the current saturation of conserving devices and practices. For example, preliminary study results show that 80 percent of single family homes in LADWP have high efficiency toilets, indicating that toilet rebate programs are reaching a saturation threshold. For non-residential sectors, a combination of previous studies conducted by both LADWP and MWD were used, as well as expert judgement from water conservation professionals with substantial experience in commercial and industrial water use and efficiency. Phase 2, currently ongoing, will incorporate results from a comprehensive water survey of 100 City-owned facilities. City-owned facility water surveys are still being fully analyzed and will be incorporated into a revised conservation potential that will be presented in the final report.

Initial results of LADWP Water Conservation Potential Study show that the additional, naturally occurring water conservation potential, post FYE 2015, will reach approximately 71,000 AFY by FYE 2040. Naturally occurring savings represent conservation from natural replacement, new development adhering to building/plumbing codes, and ordinances for landscape water use. With increased LADWP funding for conservation programs, possibly requiring a level double of current program levels, conservation potential may increase to a cost-effective maximum potential of approximately 120,000 AFY by FYE 2040, inclusive of the 71,000 AFY of naturally occurring conservation. The maximum achievable conservation level for FYE 2040, inclusive of and beyond cost-effective maximum potential, is projected to be 218,000 AFY.

2.0 Water Recycling

LADWP's 2015 UWMP identifies the goal of delivering 75,400 AFY by 2040 to off-set imported water.[7] This will increase recycled water use in the City more than six-fold as a percentage of supply, from the current two percent to 13 percent by 2040. Some of the examples of the steps the City is taking in order to achieve this goal are listed below. Other projects not listed below will also contribute to recycled water use in City's service area.

[6] *Id.* at 3-34.
[7] *Id.* at 4-27.

Recycled Water Master Planning (RWMP). In 2012, LADWP completed a three-year RWMP. RWMP documents guide near-term recycled water planning through 2035, as well as long-term recycled water planning for up to 50 years beyond the 2035 horizon. RWMP documents include an evaluation of recycling alternatives that integrate two strategies to increase recycling: Groundwater Replenishment (GWR), and non-potable reuse (NPR). The GWR Project will replenish San Fernando Basin (SFB) with up to 30,000 AFY of recycled water. NPR projects will increase NPR recycled water use to 45,400 AFY by 2040 by increasing deliveries to irrigation and industrial customers throughout the City.

pLAn. The Mayor's Sustainable City pLAn established goals to increase recycled water use by expanding recycled water by an additional 6 million gallons per day by 2017 at Terminal Island Water Reclamation Plant, converting 85 percent of public golf courses to recycled water, developing a strategy to convert the City's lakes to recycled water and implement a pilot project, and expanding recycled water production, treatment, and distribution to incorporate indirect potable reuse and direct potable reuse.[8]

GWR Project. The Final Environmental Impact Report for the GWR Project was certified by the Los Angeles Board of Water and Power Commissioners on December 6, 2016. A pilot study to optimize the recycled water purification process by evaluating various technologies and their combinations is underway. This project would replenish SFB with up to 30,000 AFY of purified recycled water from the Donald C. Tillman Water Reclamation Plant (DCTWRP). Achieving this replenishment goal would entail operating DCTWRP at the plant's full existing capacity to treat up to 80 million gallons per day of wastewater.

The Machado Lake Pipeline Project (MLPP). MLPP is a part of a joint agency project between Los Angeles Sanitation, Los Angeles Bureau of Engineering, and LADWP to serve the Los Angeles Harbor area customers up to an additional 6 million gallons per day of advanced treated recycled water from an expanded Terminal Island Treatment Plant. The MLPP will construct 8,800 linear feet (LF) of 24-inch ductile iron pipeline that connects two segments of existing pipeline infrastructure within the Los Angeles Harbor Area and creates a loop between the charged southern system and the uncharged northern system. The project is split into two construction phases. Construction on Phase I will begin early 2017 and construction on Phase II will begin late 2017. Phase I includes installation of 3,300 LF of 24-inch pipeline along Figueroa Street between Harry Bridges Boulevard and Anaheim Street. Phase II includes installation of 5,500 LF of 24-inch pipeline along Quay Avenue from East Street to Anaheim Street and on Anaheim Street to Alameda Street.

Elysian Park Water Recycling Project. The Elysian Park Water Recycling Project will not only irrigate the Elysian Fields Park and parts of the Elysian Park neighborhood, but also provide reliability to the recycled water system overall. Project proposes the installation of a nearly two miles of pipeline, two pump stations, and a one or two million gallon storage tank. Its construction will ensure dependable service to meet

[8] *Id.* at 4-26.

Los Angeles' growing demand for recycled water in the Metro area. Project will include demolition of the existing 500,000 gallon tank at Elysian Park and install separate new potable water pipelines for restrooms and drinking fountains in the park. Recycled water will be supplied from the Los Angeles-Glendale Water Reclamation Plant. Anticipated project completion is 2021.

Downtown Water Recycling Project. The Los Angeles-Glendale Water Reclamation Plant will supply recycled water for the Downtown Water Recycling Project. Project proposes installation of up to 82,500 LF of 16-inch purple pipe into and through Downtown Los Angeles. The project will supply up to 2,170 AFY of recycled water for non-potable demands – irrigation and industrial uses. Potential anchor customers include University of Southern California and Matchmaster. Anticipated project completion is 2022.

Recycled Water Outreach. The City developed RWMP documents with input from stakeholders through ongoing outreach activities beginning in 2009, including interaction with the Recycled Water Advisory Group (RWAG) and key stakeholders. Presentations were given to elected official, Kindergarten-12 grade students, and Neighborhood Councils and community groups. RWAG, made up of approximately 70 stakeholders representing neighborhood councils, environmental groups, business organizations, civic groups, and other interests has recently been integrated into the One Water L.A. Stakeholder Group. They provide the City with input and feedback on many water related issues including the water recycling program. The One Water L.A. Stakeholder Group continues to participate in workshops, facility tours, and update sessions, and provide insightful feedback to the City as projects are implemented.

3.0 Enhancing Stormwater Capture

Stormwater runoff from urban areas is an underutilized resource. Within the City, the majority of stormwater runoff is directed to storm drains and ultimately channeled into the ocean. Unused stormwater reaching the ocean carries with it many pollutants that are harmful to marine life. In addition, local groundwater aquifers that should be replenished by stormwater are receiving less recharge than in the past due to increased urbanization. Urbanization has increased the City's hardscape, which has resulted in less infiltration of stormwater and a decline in groundwater elevations. The estimated current stormwater capture in the City is approximately 64,000 AFY. LADWP's 2015 UWMP projects to double the amount of stormwater capture under a conservative scenario. Centralized stormwater capture projects will increase stormwater capture by approximately 35,000 AFY by year 2035.[9] Centralized stormwater capture projects are large-scale operated projects that are designed specifically to infiltrate large amounts of runoff into underlying groundwater aquifers. Distributed stormwater capture projects, such as dry-wells and cisterns, will also provide 33,000 AFY of additional stormwater capture and infiltration/reuse in the SFB, for a total of 68,000 AFY including centralized

[9] *Id.* at 7-10.

capture by year 2035.[10] Distributed stormwater/runoff capture refers to capturing localized dry and wet weather runoff.

The Stormwater Capture Master Plan defines stormwater capture targets over the next 20 years in five-year increments to year 2035, and identifies future centralized stormwater capture projects and program types for distribution stormwater capture such as on-site infiltration, on-site direct use, green streets, sub-regional infiltration, and sub-regional direct use. LADWP began its initial research for the Stormwater Capture Master Plan in the fall of 2013 and completed a final plan in late 2015. Stormwater Capture Master Plan goals were integrated into LADWP's 2015 UWMP.

Specific strategies under the Mayor's pLAn to increase stormwater capture include identifying funding mechanisms to implement the Enhanced Watershed Management Plans necessary for MS4 permit compliance, expanding use of permeable pavement sites and green streets (e.g., bioswales, infiltration cut-outs, permeable pavement, and street trees), and expanding the Rain Barrel Program.

LADWP's 2015 UWMP projects that there will be a minimum of 15,000 AFY of increased groundwater pumping in SFB due to water supply augmentation through centralized stormwater infiltration by year 2040. Anticipating that stored groundwater will rebound in response to enhanced groundwater replenishment, LADWP will work with the Upper Los Angeles River Area Watermaster to continue observing actual water levels and re-evaluate basin safe yield to allow additional increases in groundwater production over time as SFB elevations rebound.[11]

In addition, development has encroached onto waterway floodplains requiring the channelization of these waterways that once recharged the groundwater aquifers with large volumes of stormwater runoff. When the floodplains were undergoing rapid development, LADWP and the Los Angeles County Flood Control District reserved several parcels of land for use as spreading facilities. These facilities are adjacent to some of the largest tributaries of the Los Angeles River, and the Pacoima and Tujunga Washes.

During average and below average years, these spreading facilities are very effective at capturing a large portion of the stormwater flowing down the tributaries. However, they are incapable of capturing a significant portion of the flows during wet and extremely wet years. Weather patterns in Los Angeles are highly variable, with many periods of dry years and wet years. Some climate studies predict that these patterns may become more extreme in the future.

LADWP is currently partnering with other government and non-governmental agencies in various stormwater enhancement studies and projects that include the following:

[10] *Id.* at 7-10.
[11] *Id.* at 7-29.

Completed Centralized Projects

Implemented centralized projects have increased the amount of stormwater captured by an average of 10,600 AFY since 2013. Below is a sample of recently implemented centralized projects:

- **Sheldon-Arleta Gas Management System**
  Completed in 2009. Scope included the installation of a methane gas abatement system mitigating methane migration during groundwater recharge operations at Tujunga Spreading Grounds. Project increases regional annual average stormwater recharge by 4,000 AFY.

- **Big Tujunga Seismic Retrofit Project**
  Completed in 2012. Scope included the retrofit of the Big Tujunga Dam to meet state seismic and spillway requirements and increase the reservoir's storage capacity. Project increases regional annual average stormwater capture by 4,500 AFY.

- **Hansen Spreading Grounds Upgrade**
  Completed in 2013. Scope included combining and deepening the spreading basins as well as upgrading the intake structure to increase recharge capacity. Project increases regional annual average stormwater recharge by 2,100 AFY.

Completed Distributed Projects

LADWP's already implemented distributed projects that have increased the amount of stormwater captured by an average of 333 AFY. Following is a sample of recently implemented distributed projects:

- **Sun Valley Park Stormwater Infiltration Project**
  Completed in 2010. Scope included installing a stormwater pretreatment system, infiltration gallery, and retention system for infiltration. Project increases regional annual average stormwater capture by 30 AFY.

- **Elmer Avenue Neighborhood Green Street/Elmer Paseo Green Alley Stormwater Infiltration Projects**
  Completed in 2011 - Scope for Elmer Avenue Green Street included installing stormwater underground retention infiltration system under the street, and vegetated swales and rain gardens in the parkway and private property. Completed in 2013 - Scope for Elmer Paseo Green Alley included installing underground retention infiltration system and vegetated swales to increase stormwater capture. Combined projects increase regional annual average stormwater capture by 41 AFY.

- **Garvanza Park Stormwater Capture Use and Infiltration Project**
  Completed in 2012. Scope included installing a stormwater pretreatment system, infiltration gallery, and retention system for use at the Garvanza Park. Project increases regional annual average stormwater capture by 51 AFY.

- **North Hollywood Alley Retrofit BMP Demonstration Project**
  Completed in 2013. Scope included retrofitting four alleys with pervious surfaces to facilitate stormwater infiltration. Project increases regional annual average stormwater capture by 29 AFY.

- **Glenoaks-Sunland Stormwater Infiltration Project**
  Completed in 2013. This project included construction of dry wells and parkway infiltration swales along a portion of the sidewalks of Glenoaks Boulevard which currently have no storm drains. Project increases regional annual average stormwater capture by 28 AFY.

- **Woodman Avenue Median Stormwater Infiltration Project**
  Completed in 2014. Scope included replacing an existing concrete median with vegetated swales and an underground retention system for infiltration. Project increases regional annual average stormwater capture by 55 AFY.

- **Avalon Alley South**
  Completed in September 2015. This project implements low impact development (LID) stormwater capture and infiltration BMP's in the alley to capture, infiltrate, and retain stormwater runoff from a 4.3 acre area and provides stormwater capture of 1 million gallons per year (3.1 AFY). The BMPs include permeable pavers, dry wells, cisterns, and rain gardens. The Project improves water quality, attenuates peak storm flows, and increases stormwater capture and water supply and is a joint partnership between the City of Los Angeles Sanitation, the Trust for Public Land, and the Council for Watershed Health in South Los Angeles.

- **Sun Valley Economic Development Administration Public Improvement Project**
  Completed in 2016. Scope included the installation of 46 dry wells within the public right of way in an area with limited storm drainage. Project increases regional annual average stormwater capture by 93 AFY.

- **Broadway Greenway**
  Completed in 2016. The Project is a pilot phase of a larger project being explored by the Water Replenishment District (WRD) involving strategic implementation of neighborhood BMP retrofits through the region. Four levels of BMPs are being developed. This includes stormwater capture infrastructure on: residential parcel-based scale, neighborhood-scale, green street commercial, and a sub-regional scale infiltration gallery. The sub-regional BMP will capture up to a 2 inch rain event from at 58 acre tributary area. The Project is expected to recharge

groundwater aquifers by 40 AFY. The project was implemented by the City's Bureau of Engineering.

- **Hollywood/Los Angeles Beautification Stormwater Capture Project**
  This is a demonstration project to encourage stormwater capture. The City of Los Angeles Department of Public Works, Bureau of Street Services and LASAN will provide in-kind design services, while the Sun Valley Beautiful Committee, Council District 6, and the Los Angeles Unified School District (LAUSD) are project sponsors and partners. Project increases regional annual average stormwater capture by 6 AFY.

Current/Future Centralized Projects

Within the next five years, the following centralized projects are expected to be implemented that will provide an estimated 25,279 AF of increased stormwater capture annually. Following is a short description of these future projects:

- Big Tujunga Dam Sediment Removal Project
- Branford Spreading Basin Upgrade
- Bull Creek Stormwater Capture Project
- Canterbury Power Line Easement Stormwater Capture Project
- East Valley Baseball Stromwater Capture Project
- Fernangeles Park Stormwater Capture Project
- Lopez Spreading Grounds Upgrade
- Pacoima Dam Sediment Removal Project
- Pacoima Spreading Grounds Upgrade
- Penmar Water Quality Improvement Project
- Riviera County Club Stormwater Capture Project
- Rory M. Shaw Wetlands Park Project (Strathern Pit)
- Tujunga Spreading Grounds Upgrade (in construction)
- Valley Generating Station Stormwater Capture Project
- Whitnall Highway Power Line Easement Stormwater Capture Project

Current/Future Distributed Projects

Within the next five years, the following distributed projects are expected to be implemented that will provide an estimated 1,659 AFY of increased stormwater capture. Below is a short description of these future projects:

- Agnes Avenue – Vanowen to Kittridge Stormwater Capture Project
- Arundo Donax Removal Project (in construction)
- Branford Street – Laurel Canyon to Pacoima Wash Stormwater Capture Project
- Burbank Boulevard Stormwater Capture Project
- Glenoaks and Filmore Stormwater Capture Project
- Glenoaks-Nettleton Stormwater Infiltration Project

- Great Street – Hollywood Avenue – La Brea to Gower Project
- Great Street – Lankershim Boulevard (Chandler to Victory) Project
- Great Street – Reseda Boulevard – Plummer to Parthenia Project
- Great Street – Van Nuys Boulevard (Laurel Canyon to San Fernando) Project
- Great Street – Western Avenue – Melrose to 3rd Project
- Laurel Canyon Boulevard Green Street Stormwater Infiltration Project (in construction)
- LAUSD Conserving for Our Kids Program (in construction)
- Maclay Middle School – LAUSD Project
- Northridge Middle School Project
- Tyrone Yard – New LADWP Valley Center Project
- Valley Center Stormwater Capture Project
- Van Nuys Boulevard Median Stormwater Capture Project
- Van Nuys Boulevard Median Stormwater Capture Project
- Victory-Encino Stormwater Infiltration Project
- Victory-Goodland Median Stormwater Capture Project
- Water LA Phase 2
- Whitnall Gardens Project

4.0 Accelerating Clean-Up of SFB

LADWP groundwater production wells in SFB have been impacted by contamination caused by improper storage, handling and disposal of hazardous chemicals used in the aircraft manufacturing industry, as well as commercial activities associated with automobile and equipment repair, dry cleaners, paint shops, chrome plating, textile manufacturing and fuel storage and dispensing dating back to the 1940s.

Since the 1980 discovery of volatile organic compound (VOC) contamination of groundwater in SFB, LADWP has been working with state and federal agencies to contain and remediate man-made contaminants in SFB. Chlorinated solvents such as trichloroethylene (TCE), perchloroethylene (PCE) and carbon tetrachloride account for the majority of this groundwater contamination.

In 2009, LADWP began an $11.5 million, six-year study and development of a comprehensive remediation and cleanup strategy for all groundwater basin contamination in SFB. This study was completed in February 2015.[12]

Development of State-of-the-Art Groundwater Basin Remediation Facilities

- Based on the available groundwater quality information, a groundwater basin remediation program consisting of centralized as well as localized/well head remediation facilities will be needed for public and environmental benefits as well as to prevent further loss of groundwater.

[12] *Id.* at 6-9.

- Design and construction of the groundwater basin remediation facilities is estimated to cost approximately $600 million, and operation and maintenance is estimated to cost an additional $50 million per year.

Groundwater and Treatment System Monitoring

- In order to fully characterize SFB groundwater quality as required by SWRCB Board's Division of Drinking Water guidelines and policies, LADWP has drilled 25 new monitoring wells in SFB to fill in data gaps and utilized a network of over 70 existing monitoring and production wells.

- Cost to install the monitoring wells is approximately $22 million.

With completion of SFB groundwater characterization, LADWP is proceeding with the necessary environmental reviews, design, permitting, construction, and start-up of the groundwater basin remediation program to effectively clean and remove contaminants from SFB. The groundwater basin remediation program is anticipated to be operational by FYE 2022.

LADWP's groundwater remediation facilities now operating within SFB include:

- ***NHOU.*** Under the direction of USEPA, LADWP operates and maintains NHOU pursuant to a Cooperative Agreement between the two agencies. Since the 1980 discovery of VOC contamination in SFB, LADWP worked closely with the state and federal regulators to implement facilities that will contain and remediate the contaminant plume. NHOU began operations in the late-1980s utilizing an aeration tower for VOC removal followed by vapor-phase Granular Activated Carbon (GAC) to control air emissions. However, changing conditions in the aquifer and discovery of new contaminants including Hexavalent Chromium and 1,4 dioxane, found in concentrations greater than state health standards, have impacted a number of NHOU production wells and continues to threaten other wells. In response to the continued movement of the contaminated groundwater and the presence of new contaminants in the NHOU, EPA conducted a Focus Feasibility Study (FFS) to evaluate alternatives for improving the groundwater cleanup plan. Following completion of the FFS in 2009, EPA signed the 2009 Record of Decision (ROD) selecting the Second Interim Remedy for the NHOU. The availability of new information regarding the nature and the extent of the contamination plume within the NHOU has allowed EPA to refine its understanding of the extent of the groundwater contamination. As a result, EPA has recently proposed to expand the second remedy to increase extraction rate from 2000 gpm to 6500 gpm, add more extraction wells, and design a more efficient treatment system that will treat for emerging contaminants and ensure more reliable and effective remedy.

- ***Liquid-Phase GAC Pilot Treatment Plant at Tujunga Wellfield.*** The Liquid-Phase GAC Pilot Treatment Plant removes VOC from two of the twelve production wells in the Tujunga Wellfield, and treats the extracted groundwater for potable use. The pilot facility treats approximately 8,000 gallons-per-minute of groundwater, removes contaminants, and discharges the treated effluent into LADWP's water distribution system for beneficial use pursuant to California Water Code. This pilot facility is a joint project with MWD to demonstrate the effectiveness of utilizing certain liquid phase GAC media for removal of VOC from the groundwater.

- ***Pollock Wells Treatment Plant.*** The plant provides four liquid-phase GAC vessels to remove VOC contamination from two groundwater wellheads. LADWP has identified hexavalent chromium as an emerging contaminant that may impair the operation of the Pollock Wells Treatment Plant. In response, LADWP has initiated studies and the development of additional remediation systems to remove the hexavalent chromium and other emerging contaminants that are not addressed by the GAC treatment system.

The overall purpose of the San Fernando Groundwater Basin Remediation Project is to restore and protect the full use of the San Fernando Groundwater Basin as a source of water consistent with LADWP's long-term water rights and historic groundwater use.

Water Supplies

The Los Angeles Aqueducts (LAA), local groundwater, purchased water from MWD, and recycled water are the primary sources of water supplies for the City. Table III shows LADWP water supplies from 2007 to 2016 from these sources. The total required water supply to meet water demand shows an overall declining trend over this time period due to reductions in total demand. However, sufficient water supplies were available in each of the years to meet the total demand. In 2009, the total water demand decreased due to conservation efforts by mandatory conservation imposed in the City following drier hydrologic conditions coinciding with an economic recession. In 2013, drought conditions returned and have triggered State and City mandatory conservation measures.

TABLE III
LADWP Water Supply

Calendar Year	Los Angeles Aqueducts	Local Groundwater	MWD	Recycled Water	Transfer, Spread, Spills, and Storage	Total
2007	127,392	88,041	439,353	3,595	-57	658,438
2008	148,407	64,604	427,422	7,048	1,664	645,817
2009	137,261	66,998	351,959	7,570	554	563,234
2010	251,126	68,346	205,240	6,900	-938	532,550
2011	357,752	49,915	119,481	7,708	-153	535,009
2012	166,858	59,109	326,122	5,965	1,182	556,872
2013	64,690	66,272	438,534	9,253	-2,404	581,153
2014	62,088	94,280	391,320	11,307	2,080	556,915
2015	26,828	81,618	378,439	9,844	432	496,297
2016	87,892	73,304	317,767	8,730	-984	488,677

Note: Units are in AF

Los Angeles Aqueducts

Snowmelt runoff from the Eastern Sierra Nevada Mountains is collected and conveyed to the City via LAA. LAA supplies come primarily from snowmelt and secondarily from groundwater pumping, and can fluctuate yearly due to the varying hydrologic conditions. In recent years, LAA supplies have been less than the historical average because of environmental restoration obligations in Mono and Inyo Counties.

The City holds water rights in the Eastern Sierra Nevada where LAA supplies originate. These supplies originate from both streams and from groundwater. In 1905, the City approved a bond measure for purchase of land and water rights in the Owens River Valley. By 1913, the first LAA began its deliveries of water to the City primarily from surface water diversions from the Owens River and its tributaries. Historically, these supplies were augmented from time to time by groundwater extractions from beneath the lands that the City had purchased in the Owens Valley.

In 1940, the first LAA was extended north to deliver Mono Basin water to the City pursuant to water rights permits and licenses granted by the SWRCB. In 1970, the second LAA was completed increasing total delivery capacity of the LAA system to approximately 561,000 AF per year. The second LAA was to be filled by completing the Mono Basin diversions originally authorized in 1940, by a more effective use of water for agricultural purposes on City-owned lands in the Owens Valley and Mono Basin and by increased groundwater pumping from the City's lands in the Owens Valley.

In 1972, Inyo County filed a CEQA lawsuit challenging the City's groundwater pumping program for the Owens Valley. The lawsuit was finally ended in 1997, with the County of Inyo and the City entering into a long-term water agreement for the management of groundwater in the Owens Valley. That water agreement, entered as a judgment of the Superior Court in the County of Inyo (County of Inyo vs. City of Los Angeles, Superior

Court No. 12908) outlines the management of the City's Owens Valley groundwater resources. As a result of this water agreement and subsequent MOU, LADWP has dedicated 37,000 AF of water annually for enhancement and mitigation projects throughout Owens Valley which includes the re-watering of 62 miles of the Lower Owens River. LADWP also provides approximately 80,000 AF of water annually for other uses in the Owens Valley such as irrigation, town water supplies, stockwater, wildlife and recreational purposes.

Further, in December 1989, the Superior Court entered an injunction, ordering LADWP to allow sufficient flow to pass through the Mono Basin diversion facilities to maintain water level in Mono Lake at 6,377 feet from sea level and also to restore streams and protection of fishery in these streams. As a result, the City did not export any water from Mono Basin until 1994, when SWRCB issued Decision 1631. In September 1994, by virtue of the public trust doctrine, the SWRCB issued Decision 1631, an amendment to the license for LADWP exports from Mono Basin which placed conditions on LADWP's water gathering activities from Mono Basin. Under Decision 1631, LADWP's allowable amount of export for a given runoff year (RY), April - March is dependent on the Mono Lake elevation. For RY 2016-2017, LADWP plans to export approximately 4,500 AF of water from Mono Basin, the same amount as for RY 2015-2016, as Mono Lake's elevation measured on April 1, 2017 was below 6,380 feet but above 6,377 feet. LADWP has implemented an extensive restoration and monitoring programs in Mono Basin to increase the level of Mono Lake and to improve stream conditions, fisheries and waterfowl habitats in Walker, Parker, Rush and Lee Vining Creeks. With reduced diversions from the Mono Basin and favorable hydrologic conditions, Mono Lake's elevation has risen overtime. Once the elevation of Mono Basin reaches 6,391-feet above mean sea level, a moderate increase in water exports from the Mono Basin will be permitted pursuant to the Decision 1631.

In July 1998, LADWP and the Great Basin Unified Air Pollution Control District (GBUAPCD) entered into a Memorandum of Agreement to mitigate dust emissions from Owens Lake. Diversion of water from Owens River, first by farmers in the Owens Valley and then by the City beginning in 1913, resulted in the exposed lakebed becoming a major source of windblown dust. LADWP has spent $1.6 billion and used substantial quantities of water since it started diverting water from LAA to mitigate dust emissions at Owens Lake. As of December 31, 2008, LADWP mitigated dust emissions from 29.8 square-miles of Owens Lake in accordance with GBUAPCD's 2003 revised State Implementation Plan. As of April 1, 2010, LADWP mitigated an additional 9.2 square - miles in accordance with GBUAPCD's 2008 State Implementation Plan. Upon completion of Phase 8 in October 2012, LADWP has mitigated dust emissions from a total of approximately 42 square-miles of Owens Lake. Phase 7a was completed by the regulatory compliance deadline of December 31, 2015, and upon its completion, LADWP has mitigated dust emissions on 45 square-miles. Phase 7a is a water neutral project.

On November 14, 2014, an historic agreement between LADWP and GBUAPCD was reached which for the first time established an upper limit of 53.4 square miles that LADWP could potentially be ordered to mitigate dust emissions from Owens Lake playa

by the GBUAPCD. As part of this historic agreement, LADWP has agreed to mitigate dust emissions for an additional 3.62 square miles of Owens Lake playa. The Phase 9/10 Project is to be completed by December 31, 2017, and is anticipated to result in further water conservation at Owens Lake through increasing use of water efficient and waterless dust mitigation measures. Upon completion of Phase 9/10 Project, LADWP will mitigate approximately 48.6 square miles of dust missions in Owens Lake playa. Hence, GBUAPCD's potential future dust mitigation orders to LADWP cannot exceed an additional 4.8 square miles. The agreement allows LADWP to use water efficient and waterless dust mitigation measures, while maintaining existing wildlife habitat on the lakebed. As a result, LADWP expects to save significant amounts of water in coming years with implementation of the Owens Lake Master Project and other water conservation projects.

Average deliveries from LAA system have been approximately 111,293 AF of water annually from FY 2011/12 to 2015/16. During this period, the record low snowpack for LAA watershed in the Eastern Sierra Nevada Mountains was recorded on April 1, 2015. Supply conditions have changed drastically since 2015. Snowpack in the Eastern Sierra was at 203 percent of an average year on April 1, 2017. On March 20, 2017, Mayor Garcetti had proclaimed a state of local emergency for LAA as a response to the snowpack levels in the Eastern Sierra. The proclamation was issued to assist LADWP in taking immediate steps to protect infrastructure and manage runoff in the Owens Valley including, but not limited to, protection of facilities and diversion of conveyance flows.

The average annual long-term LAA delivery between 2015 and 2040, using the 50-year average hydrology from FY 1961/62 to 2010/11, is expected to be approximately 278,000 AFY and gradually decline to 267,000 AFY due to projected climate change impacts. However, with the anticipated completion of the Owens Lake Master Project by 2024, the projected LAA delivery may increase to 286,000 AFY due to water conserved at Owens Lake which would off-set most of the anticipated long-term losses.[13]

Groundwater

The SFB and Sylmar Basin are subject to the judgment in the City of San Fernando vs. the City of Los Angeles, et al. Groundwater pumping by LADWP and other parties is tracked and reported to the court-appointed Upper Los Angeles River Area (ULARA) Watermaster. The Central Basin is also subject to court judgments. Pumping is reported to the Water Replenishment District of California (WRD), the administrative member of the Central Basin Water Rights Panel.

SFB is the largest of four basins within ULARA. The basin consists of 112,000-acres of land and comprises 91.2 percent of ULARA valley fill. The City has accumulated 537,622 AF of stored groundwater in SFB as of October 1, 2014. This is water the City can withdraw from the basin during normal and dry years or in an emergency, in

[13] *Id.* at 5-15.

addition to the City's approximately 87,000 AF annual entitlement in the basin. With SFB remediation facilities in operation by FYE 2022, groundwater storage credit will be used to maximize pumping in the future above City's annual entitlement in SFB. The majority of the City's groundwater is extracted from SFB. Sylmar Basin is located in the northern part of ULARA, consists of 5,600 acres, and comprises 4.6 percent of ULARA valley fill. City's current annual entitlement per latest Sylmar Safe Yield is 3,570 AF. Sylmar Basin production will increase to 4,170 AFY from FYE 2016 to FYE 2039 to utilize groundwater the City has accumulated into storage and then return to the entitlement of 3,570 AFY in FYE 2040.[14]

A Court decision on pumping rights in ULARA was implemented in a judgment on January 26, 1979. Enclosed with the assessment are copies of those pages from the judgment showing the entitlements (see Appendix D). Further information about ULARA is in the ULARA Watermaster Report. ULARA Watermaster Report and some background information on the judgment are available for review at the office of the ULARA Watermaster or on-line at www.ularawatermaster.com.

City additionally has adjudicated rights to extract groundwater from the Central Basin. Annual entitlement to Central Basin is 17,236 AF. City has accumulated groundwater into storage in Central Basin, and pumping can be temporarily increased until stored water credits have been expended.[15] See Appendix D for copies of relevant portions of the third amended judgment. Judgment is available for review on the WRD Web site at http://wrdwater.org/.

For the period of July 2014 to June 2015, City extracted 80,097 AF and 6,948 AF from the San Fernando and Central Basins, respectively. City plans to continue production from its groundwater basins in the coming years to offset reductions in imported supplies. However, extraction from the basins may be limited by water quality, sustainable pumping practices, and groundwater elevation.

Groundwater produced by City from the San Fernando, Sylmar, and Central Basins for the last available five years are shown on Table IV, as well as groundwater pumping projections for average, single-dry, and multi-year dry weather conditions in five-year increments. Table IV excludes 15,000 AFY of anticipated pumping in SFB from stormwater recharge as well as 30,000 AFY of additional groundwater recharge with highly treated water from DCTWRP planned for 2024 and beyond.

[14] *Id.* at 11-4.
[15] *Id.* at 6-24.

TABLE IV
Local Groundwater Basin Supply

Fiscal Year (July-June)	San Fernando	Sylmar	Central
2010-2011	44,029	225	5,099
2011-2012	50,244	1,330	9,486
2012-2013	50,550	1,952	6,310
2013-2014	68,784	891	9,727
2014-2015	80,097	0	6,948
2019-2020*	90,000	4,170	18,500
2024-2025*	88,000	4,170	18,500
2029-2030*	84,000	4,170	18,500
2034-2035*	92,000	4,170	18,500
2039-2040*	92,000	3,570	18,500

Note: Units are in AF,
*projected production: LADWP 2015 UWMP Exhibit 6I

MWD

MWD is the largest water wholesaler for domestic and municipal uses in Southern California. As one of 26 member agencies, LADWP purchases supplemental water from MWD in addition to the supplies from local groundwater and LAA. MWD imports a portion of its water supplies from Northern California through the State Water Project's (SWP) California Aqueduct and from the Colorado River through MWD's own Colorado River Aqueduct (CRA). LADWP will continue to rely on MWD to meet its current and future water needs.

In ongoing efforts to evaluate MWD's own import reliability, an assessment was done to address changes in demand and supply conditions, and to provide additional resource reserves to mitigate against uncertainties in demand projections and risks in implementing supply programs. All these efforts went into MWD's 2015 UWMP.

All 26 member agencies have preferential rights to purchase water from MWD. Pursuant to Section 135 of MWD Act, "Each member public agency shall have a preferential right to purchase from the district for distribution by such agency, or any public utility therein empowered by such agency for the purpose, for domestic and municipal uses within the agency a portion of the water served by the district which shall, from time to time, bear the same ratio to all of the water supply of the district as the total accumulation of amounts paid by such agency to the district on tax assessments and otherwise, excepting purchase of water, toward the capital cost and operating expense of the district's works shall bear to the total payments received by the district on account of tax assessments and otherwise, excepting purchase of water, toward such capital cost and operating expense." This is known as preferential rights.

As of June 30, 2016, LADWP has a preferential right to purchase 19.94 percent of MWD's total water supply.

LADWP has worked with MWD in developing a plan for allocating water supplies during periods of shortage. On February 12, 2008, MWD Board adopted its Water Supply Allocation Plan (WSAP). LADWP supported the adoption of this plan to acquire its dry weather condition supplies from MWD.

In response to 2009 regulatory restrictions on water supplies from Northern California, MWD Board announced on April 14, 2009, that supply deliveries to the member agencies would be reduced by 10 percent. Reduced supply allocation was to be effective from July 1, 2009 through June 30, 2010, but in April 2010, MWD Board approved an extension of the reduced supply allocation through June 30, 2011, primarily to restore storage balances in MWD's groundwater and surface storage facilities.

On March 31, 2011, California Governor Brown declared an end to the statewide drought emergency that had been proclaimed earlier on February 27, 2009, by then Governor of California Arnold Schwarzenegger. MWD's Board subsequently voted on April 12, 2011, to end implementation of the 2010/11 water supply allocation. In the same decision, MWD Board also voted against implementing a water supply allocation for 2011/12. These actions restored full imported water deliveries to member agencies without risk of allocation penalties effective April 2011.

On January 17, 2014, Governor Brown proclaimed a drought State of Emergency. At the end of March 2015, state hydrologists measured a record low five percent of normal snow pack in the Sierra Nevada Mountains. As a result, on April 1, 2015, Governor Brown issued Executive Order B-29-15 to achieve a statewide 25 percent reduction compared to 2013 usage levels in urban water use through February 28, 2016. On May 18, 2016, due to improved hydrologic conditions, SWRCB adopted a revised emergency water conservation regulation, effective June 2016 through February 2017, requiring locally developed conservation standards based upon each agency's specific circumstances.

The record dry and hot conditions of 2014 significantly impacted the water resources of both the State of California and MWD. DWR limited supplies from SWP to only five percent of the contractors' SWP Table A amounts in 2014. This allocation was the lowest ever in the history of SWP. MWD was able to meet demands in 2014 by relying heavily on storage reserves to make up for the historically low allocation on SWP. MWD's dry-year storage reserves ended 2014 at approximately 1.2 million AF.

On April 14, 2015, to support Governor Brown's Executive Order B-29-15, and to reduce withdrawals from MWD's dry-year storage reserves, MWD implemented WSAP at a Level 3 Regional Shortage Level, effective July 1, 2015, though June 30, 2016. MWD's dry-year storage reserves ended 2015 at approximately 0.87 million AF.

On May 10, 2016, citing the improved water supply conditions and reduced water use due to conservation, MWD voted to end the current WSAP allocation and rescind WSAP Regional Shortage Level 3 and declared a Condition 2 Water Supply Alert for allocation year 2016/17. MWD, however, called for member agencies to continue with conservation efforts to safeguard against future dry years. On April 9, 2017, citing the improved water supply conditions, the actions taken by the Governor and the projected storage reserves, MWD voted to declare a Condition 1 Water Supply Watch.

Purchases from MWD have averaged 64 percent of the City's water supply over a five-year period from FY 2011/12 to 2015/16. The sustainable pLAn calls for a reduction in purchased imported water by 50 percent by 2025 from the FY 2013/14 level, which was approximately 441,870 AF. To meet targets established by the pLAn, LADWP plans to reduce water demand through increased conservation as well as increase local supply development. Local supply development includes enhancing the ability for groundwater pumping through increased stormwater capture projects and groundwater replenishment with highly treated recycled water as well as remediation of contaminated groundwater supplies in SFB. LADWP also plans to increase recycled water use for non-potable purposes. With these initiatives and under average hydrologic conditions, LADWP's 2015 UWMP projects MWD purchases to be approximately 65,930 AFY in 2025.

Recent Issues Related to the State Water Project

Federal Endangered Species Act (ESA) Litigation filed by several environmental interest groups in the United States District Court for the Eastern District of California alleged that existing biological opinions and incidental take statements inadequately analyzed impacts on listed species under the Federal ESA. On May 25, 2007, Federal District Judge Wanger issued a decision on summary judgment finding the United States Fish and Wildlife Service's (USFWS) biological opinion for Delta smelt was invalid. On December 14, 2007, Judge Wanger issued his Interim Remedial Order requiring that SWP and Central Valley Project operate according to certain specified criteria until a new biological opinion for the Delta smelt is issued. USFWS released the new biological opinion on December 15, 2008. Based on the Water Allocation Analysis released by DWR on December 19, 2008, which analyzed the biological opinion's effects on SWP operations, export restrictions under median hydrologic conditions reduce deliveries to MWD by approximately 500,000 AF.

MWD and other impacted agencies and stakeholders filed separate lawsuits in federal district court challenging the biological opinion, which the federal court consolidated under the caption "Delta Smelt Consolidated Cases." On December 14, 2010, Judge Wanger issued a decision on summary judgment finding that there were major scientific and legal flaws in the Delta smelt biological opinion and remanded the biological opinion to USFWS for reconsideration. The court's decision invalidated some of the restrictions on project operations contained in the Delta smelt biological opinion. On May 18, 2011, Judge Wanger issued a final decision, amended judgment directing USFWS to complete a new draft biological opinion by October 1, 2011, and to complete a final biological opinion with environmental documentation by December 1, 2013. Later

stipulations and orders changed the October 1, 2011, due date for a draft biological opinion to December 14, 2011, and changed the December 1, 2013, due date for the final biological opinion to December 1, 2014.

A draft biological opinion was issued on December 14, 2011. The draft biological opinion deferred specification of a reasonable and prudent alternative and an incidental take statement pending completion of environmental impact review under the National Environmental Policy Act (NEPA). The federal defendants and environmental interveners appealed the final judgment invalidating the 2008 Delta smelt biological opinion to the United States Court of Appeals for the Ninth Circuit. SWP and Central Valley Project contractor plaintiffs, including MWD, cross-appealed from the final judgment. Those appeals and cross-appeals were argued on September 10, 2012. On March 13, 2014, the Ninth Circuit reversed in part and affirmed in part the district court's decision. The Ninth Circuit reversed those portions of the district court decision which had found the 2008 Delta smelt biological opinion to be arbitrary and capricious, and held, instead, that the 2008 biological opinion was valid and lawful. MWD's deliveries from SWP were previously restricted under the 2008 biological opinion for a period prior to 2011. One practical result of the Ninth Circuit's decision was to legally approve the water supply restrictions in the 2008 biological opinion. These water supply restrictions could have a range of impacts on MWD's deliveries from SWP depending on hydrologic conditions. MWD and others subsequently filed motions for reconsideration of the Ninth Circuit's decision.

On May 25, 2010, the court granted the plaintiffs' request for a preliminary injunction in the Consolidated Salmon Cases, restraining enforcement of two requirements under the salmon biological opinion that limit exported water during the spring months based on San Joaquin River flows into the Bay-Delta and reverse flows on the Old and Middle Rivers. Hearings on motions for summary judgment in the Consolidated Salmon Cases were held on December 16, 2010. On September 20, 2011, Judge Wanger issued a decision on summary judgment, finding that the salmon biological opinion was flawed, and that some, but not all, of the project restrictions in the biological opinion were arbitrary and capricious. On December 12, 2011, Judge O'Neill (who was assigned to this case following Judge Wanger's retirement) issued a final judgment in the Consolidated Salmon Cases. The final judgment remands the 2009 salmon biological opinion to the National Marine Fisheries Service. It also directs that a new draft salmon biological opinion be issued by October 1, 2014, and that a final biological opinion be issued by February 1, 2016, after completion of environmental impact review under NEPA. The due date for the salmon biological opinion was later extended to February 1, 2017.

In January and February 2012, the federal defendants and environmental interveners filed appeals of the final judgment in the Consolidated Salmon Cases, and SWP and Central Valley Project contractors filed cross-appeals. On December 22, 2014, the Ninth Circuit reversed in part and affirmed in part the district court's decision. The Ninth Circuit reversed those portions of the district court decision which had found the 2009 salmon biological opinion to be arbitrary and capricious, and held, instead, that the 2009

biological opinion was valid and lawful. Any adverse impacts of this ruling on MWD's SWP supplies have not been determined.

These events have highlighted the challenges that water suppliers throughout the state currently face regarding supplies from the Delta.

On November 28, 2016, in consideration of several factors including existing storage in State Water Project conservation reservoirs, conservation constraints such as the conditions of the recent Biological Opinions for delta smelt and salmonids, the longfin smelt incidental take permit, and 2017 contractor demands, DWR announced an initial SWP allocation of 20 percent for 2017. On December 21, 2016, due to recent precipitation, runoff and water supply conditions, DWR increased the allocation from 20 percent to 45 percent, and on January 18, 2017, announced another increase from 45 to 60 percent for similar reasons. On April 14, 2017, DWR increased the allocation from 60 to 85 percent.

On February 7, 2017, the main flood control spillway at Oroville Dam, a primary reservoir on the SWP, experienced significant damage as DWR increased releases to manage higher inflows driven by continued precipitation in the Feather River basin. DWR halted releases on this spillway and diverted water over the emergency spillway for the first time ever. However, the emergency spillway quickly eroded, causing officials to order the temporary evacuation of downstream residents while ramping up water releases over the main spillway to control lake levels. The evacuation order was lifted on February 14, 2017. A multi-agency investigation and recovery design followed and demolition of Oroville Dam's flood-control spillways began in May, 2017. Repairs are expected to take two years, although DWR officials say the spillways will be functional by the November 1, 2017 start of the rainy season. Work to be completed prior to that time will include reinforcing of the structurally sound upper portion of the main spillway, demolition and replacement of the badly damaged lower portion of the main spillway, and construction of a cut-off wall downhill of the emergency spillway. The upper section of the main spillway will be replaced in 2018. Despite the damage to the main spillway, water supplies are not expected to be adversly affected. This would result in an allocation that is higher than average, and higher than any allocation since 2011. Future water supplies are expected to be primarily dependent on hydrology.

Delta Policy

In November 2009, the State Legislature and then Governor Arnold Schwarzenegger passed the 2009 Comprehensive Water Package, which set a statewide conservation target for urban per capita water use of 20 percent reductions by 2020 and consisted of four policy bills and an $11.14 billion bond proposal designed to ensure a reliable water supply for California's future and to restore the Delta and other ecologically sensitive areas.

Senate Bill (SB) X7-1 (Simitian) of the 2009 Water Package established the coequal goals for the Delta: to provide a more reliable water supply for California, and to protect,

restore, and enhance the Delta ecosystem. SB X7-1 also established a framework to achieve the co-equal goals for the Delta by creating a new Delta governance structure - including the Delta Stewardship Council, Delta Conservancy, and Delta Protection Commission - and laying out a process for determining the consistency of the Bay Delta Conservation Plan (BDCP) with the co-equal goals.

Implementation of the four policy bills in the 2009 Water Package achieved several major milestones. For example, the Delta Plan, a comprehensive, long-term management plan for the Delta, was adopted by the Delta Stewardship Council on May 16, 2013.

The goal of BDCP was to provide the basis for the issuance of endangered species permits for the operation of SWP and Central Valley Project, and for Delta conveyance improvements.

On April 30, 2015, state and federal agencies proposed a new sub-alternative, Alternative 4A, which would replace Alternative 4 (the proposed BDCP) as the State's proposed project. Alternative 4A reflected the state's proposal to separate the conveyance facility and habitat restoration measures into two separate efforts: California WaterFix and California EcoRestore.

The California EcoRestore is a California Natural Resources Agency initiative to advance the restoration of at least 30,000 acres of Sacramento-San Joaquin Delta habitat by 2020. The restoration will be implemented on an accelerated timeline independent of the proposed water conveyance facilities included in the California WaterFix.

The environmental analysis of California WaterFix, as well as two other additional alternatives, and updated information from the 2013 BDCP Draft EIR/EIS were included in BDCP/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS). The RDEIR/SDEIS was released for public review on July 10, 2015. The comment period ended on October 30, 2015.

The California Department of Water Resources and the U.S. Bureau of Reclamation (BOR), the Lead Agencies, have completed the Bay Delta Conservation Plan/California WaterFix Final EIR/EIS. The Lead Agencies for the EIR/EIS analyzed in detail 18 action alternatives, as well as the No Action Alternative. Alternative 4A, or California WaterFix, is the preferred alternative. The Final EIR/EIS, released on December 22, 2016, discusses potential environmental impacts, and identifies mitigation measures that would help avoid or minimize impacts. It also provides responses to all substantive comments received on the 2013 Draft EIR/EIS and 2015 RDEIR/SDEIS. The Notice of Availability of the Final EIR/EIS was published by BOR in the Federal Register on December 30, 2016. On June 26, 2017, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service issued final biological opinions on the proposed construction of California WaterFix. These biological opinions allow California WaterFix to continue moving toward construction as early as 2018 and conclude that

construction and operations of California WaterFix, as proposed, would not jeopardize the continued existence of ESA-listed species or destroy or adversely modify critical habitat for those species. The biological opnions recognize the uncertainty inherent in the dynamic ecology of the Delta and include a strong adaptive management component to guide future operation of the new intakes. Once the EIR has been certified through completion of the CEQA process, the California Department of Fish and Wildlife will be able to consider whether to issue an "incidental take" permit for the construction and operation of California WaterFix under the California Endangered Species Act.

On July 21, 2017, DWR issued its Notice of Determination (NOD) for California WaterFix, indicating the project meets requirements of CEQA. In addition to the NOD certification, DWR filed a validation action with the Sacramento County Superior Court to affirm the department's authority to, among other things, issue revenue bonds to finance the planning, design, construction and other capital costs of California WaterFix. The validation action will provide assurances to the financial community for the sale of the revenue bonds for California WaterFix.

Responsibilities of entities created by SB X7-1 are as follows:

- Delta Stewardship Council – Independent agency of the state composed of seven members with the responsibility to oversee and coordinate state agency actions within the Delta.
  - Develop a Delta Plan that will include all state and federal Delta ecosystem, flood management, water supply, and local economic sustainability efforts and serve as a guide for state and local agencies to ensure that their actions are consistent with their policies.
  - Develop performance measures to assess the progress of achieving the goals of the Delta Plan.
  - Determine compliance with the Delta Plan and serve as the appellate body in the event of disputes over the consistency of a project with the Delta Plan.
  - Ensure consistency of BDCP with the co-equal goals of water supply reliability and Delta restoration.

- Delta Conservancy – State entity governed by an eleven-member board with the responsibility to implement ecosystem restoration in the Delta and support efforts to advance environmental protection and the economic well-being of Delta residents.
  - Develop and adopt a strategic plan that will coordinate investments in the Delta's natural and cultural resources.
  - Promote the economic vitality in the Delta through increased tourism and the promotion of Delta legacy communities.
  - Promote environmental education about, and the public use of, public lands in the Delta.

- Delta Protection Commission – State commission with fifteen members charged with recognizing, preserving, protecting, and enhancing the unique resources of the Delta as an evolving place.
  - Provide a forum for Delta residents to engage in decisions regarding actions to recognize and enhance the cultural, recreational, and agricultural resources of the Delta.
  - Adopt an economic sustainability plan for the Delta, which is to include flood protection recommendations to state and local agencies, and is to be included in the Delta Stewardship Council's Delta Plan.

- Delta Watermaster
  - Exercise authority of the SWRCB and monitor and enforce orders, as well as license and permit terms and conditions, relating to water diversions in the Delta.

- Delta Independent Science Board – Standing board of no more than ten members made up of nationally or internationally prominent scientists with appropriate expertise to evaluate a broad range of scientific programs that support adaptive management of the Delta.
  - Provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta.

- Delta Science Program – Led by a Delta Stewardship Council-appointed lead scientist.
  - Provide unbiased scientific information to inform decision-making in the Delta.

The $11.14 billion "Water Bond" was originally scheduled to be on the 2010 statewide ballot for voter consideration, but was postponed twice – initially to 2012 and then to 2014. In 2014 the legislature replaced the 2010 Water Bond with a new bond measure to provide $7.545 billion to fund investments in water projects and programs as part of a statewide, comprehensive water plan for California. This new measure, Proposition 1 – the Water Quality, Supply, and Infrastructure Improvement Act of 2014, was approved by the voters on November 4, 2014.

Colorado River

MWD owns and operates the CRA, which since 1942 has delivered water from the Colorado River to Southern California. The Colorado River currently supplies approximately 17 percent of Southern California's water needs, and on average makes up about 15 percent of LADWP's purchases from MWD. This source of supply has been secured to MWD through long-standing legal entitlements. However, extended drought conditions and increased demands by other users have recently impacted its reliability.

The Colorado River supplies come from watersheds of the Upper Colorado River Basin in the states of Colorado, Utah, and Wyoming. Due to the way that Colorado River supplies are apportioned, snowpack and runoff levels do not impact MWD water

supplies in the current year. Instead, snowpack and runoff would impact storage levels at Lake Powell and Lake Mead, which would then affect the likelihood of surplus or shortage conditions in the future.

By MWD having two principal sources of supply that draw from two different watersheds, MWD is able to utilize supplies from the Colorado River to offset reductions in SWP supplies and buffer impacts of the California drought. MWD plans to use CRA deliveries, storage reserves and supplemental water transfers and purchases to meet regional demands.

Under a permanent service contract with the U.S. Secretary of the Interior (Secretary), MWD is entitled to receive water from the Colorado River and its tributaries. This water is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (Basin States). Under a 1944 treaty, Mexico is allotted 1.5 million AF annually, except in extraordinary circumstances. There is long history of competition among users, but current conditions necessitate increased cooperation.

California is apportioned 4.4 million AF, annually, plus one-half of any surplus that may be available for use, collectively, in Arizona, California, and Nevada. In addition, California has historically been allowed to use Colorado River water apportioned to, but not used by, Arizona or Nevada. Since 2003, due to increased consumption, there has been no such unused, apportioned water available to California. Of the California apportionment, MWD holds the fourth priority right to 550,000 AFY under a 1931 priority system governing allotments to California. This is the last priority within California's basic apportionment of 4.4 million AF. Beyond the basic apportionment, MWD holds the fifth priority right to 662,000 AF of water. See Appendix F for more details.

Historically, MWD has been able to claim most of its legal entitlement of Colorado River water and could divert over 1.2 million AF in any year, but persistent drought conditions since 1999 have contributed to a decrease in these claims. The recent 16-year drought has been so severe that it has resulted in major reductions in water deliveries from the Colorado River. MWD's total CRA supply for calendar year 2016 was 985,000 AF and included a base supply 935,000 AF and water management actions of 50,000 AF.

Under the Colorado River Basin Project Act of 1968, the Secretary is required to issue an Annual Operating Plan describing CRA operations and projected releases. Considering drought conditions and declining storages, the 2014 release for Lake Powell was 7.48 million AF, which was the lowest since the filling of the reservoir in the 1960s. Moreover, reservoir storages along the CRA have declined dramatically.

The shortage predicament has increased management efforts by the Federal Government and states holding water rights. In May 2005, the Secretary directed the U. S. Bureau of Reclamation (BOR) to initiate the "Development of Lower Colorado River Basin Shortage Guidelines and Coordinated Management Strategies for Lakes Powell and Mead Under Low Reservoir Conditions." These were the first such

guidelines to address shortage conditions, as opposed to normal and surplus conditions. Since May of 2005, and in response to the Secretary's directive, the seven Basin States have reached agreement to transform management of the Colorado River system water through conjunctive management of Lakes Mead and Powell, and the adoption of shortage guidelines.

In November 2007, BOR issued a Final EIS including new federal guidelines concerning the operation of the Colorado River system reservoirs. The Secretary issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during drought periods, encouraging agencies to develop conservation programs, and allowing the states to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions.

In January 2017, the 24-month look-ahead-study by BOR reported that Lake Powell's operations in water year 2017 will be governed by the Upper Elevation Balancing Tier, with an initial water year release volume of 8.23 million AF and the potential for an April adjustment to equalization or balancing releases in April 2017. The January 2017 24-Month Study indicated that an April adjustment to balancing releases is projected to occur and Lake Powell is projected to release 9.0 million AF in water year 2017.

Reliability Efforts for Southern California

MWD has been developing plans and making efforts to provide additional water supply reliability for the entire Southern California region. LADWP coordinates closely with MWD to ensure implementation of these water resource development plans. MWD's long-term plans to meet its member agencies' growing reliability needs are through: improvements to SWP as outlined in the California WaterFix and EcoRestore plans, conjunctive management efforts on the Colorado River, water transfer programs, outdoor conservation measures, and development of additional local resources, such as recycling, brackish water desalination, and seawater desalination. These plans are contained in MWD's 2015 IRP and 2015 UWMP, which can be found at the following links:

- MWD 2015 IRP: http://mwdh2o.com/PDF_About_Your_Water/2015%20IRP%20Update%20Report%20(web).pdf

- MWD 2015 UWMP: http://www.mwdh2o.com/PDF_About_Your_Water/2.4.2_Regional_Urban_Water_Management_Plan.pdf

Additionally, MWD has more than 5.0 million AF of storage capacity available in reservoirs and banking/transfer programs, with approximately 1.25 million AF, inclusive of Intentionally Created Surplus, in that storage, and 626,000 AF in emergency storage as of January 1, 2017. MWD plans to add to storage in 2017. Storage was previously estimated to range from 2.0 to 2.2 million AF by the end of 2017 assuming 60 percent and 70 percent SWP allocations, respectively. The allocation was subsequently increased to 85 percent. MWD will exercise flexibility and opportunities within the storage program to increase storage depending on the final SWP allocation and supply/demand balance.

MWD's 2015 IRP builds upon the strong foundation of diversification and adaptation developed in previous IRPs. 2015 IRP reinforces MWD commitment to meeting the region's water supply needs through an evolving long-term strategy that calls for maintaining and stabilizing existing resources along with developing more conservation and new local supplies.

MWD's 2015 UWMP reports on water reliability and identifies projected supplies to meet the long-term demand within MWD's service area. Table V summarizes MWD's reliability in five-year increments extending to 2040 and is based on information contained in MWD's 2015 UWMP. As reported, MWD has supply capabilities that would be sufficient to meet expected demands from 2020 through 2040 under average year, single dry-year and multiple dry-year hydrologic conditions. An in depth discussion on MWD is attached in Appendix F.

Table V
MWD System Forecast Supplies and Demands, Average Year (1922 - 2012 Hydrology)

Forecast year	Supply (Thousands of AF per Year)				
	2020	2025	2030	2035	2040
Current Programs					
In-Region Supplies and Programs	693	774	852	956	992
State Water Project[1]	1,555	1,576	1,606	1,632	1,632
Colorado River Aqueduct					
Colorado River Aqueduct Supply[2]	1,468	1,488	1,484	1,471	1,460
Aqueduct Capacity Limit[3]	1,200	1,200	1,200	1,200	1,200
Colorado Aqueduct Capability	1,200	1,200	1,200	1,200	1,200
Capability of Current Programs	**3,448**	**3,550**	**3,658**	**3,788**	**3,824**
Demands					
Total Demands on MWD	1,586	1,636	1,677	1,726	1,765
Imperial Irrigation District - San Diego County Water Authority Transfers and Canal Linings[4]	274	282	282	282	282
Total Demands on MWD	**1,860**	**1,918**	**1,959**	**2,008**	**2,047**
Surplus	**1,588**	**1,632**	**1,699**	**1,780**	**1,777**
Programs Under Development					
In-Region Supplies and Programs	43	80	118	160	200
State Water Project	20	20	268	268	268
Colorado River Aqueduct					
Colorado River Aqueduct Supply	5	25	25	25	25
Aqueduct Capacity Limit[2]	0	0	0	0	0
Colorado River Aqueduct Capability	0	0	0	0	0
Capability of Programs Under Development	**63**	**100**	**386**	**428**	**468**
Maximum MWD Supply Capability	**3,511**	**3,650**	**4,044**	**4,216**	**4,292**
Potential Surplus	**1,651**	**1,732**	**2,085**	**2,208**	**2,245**

1. Includes water transfers and groundwater banking associated with SWP.
2. Includes 296 TAF of non-MWD supplies conveyed in CRA for Imperial Irrigation District - San Diego County Water Authority Transfers and Canal Linings.
3. CRA has a capacity constraint of 1.20 MAF per year.
4. Does not include 16 TAF subject to satisfaction of conditions specified in agreement among MWD, the US, and the San Luis Rey Settlement.

Secondary Sources and Other Considerations

Stormwater capture, water conservation, and recycling will play an increasing role in meeting future water demands. LADWP has implemented stormwater capture, conservation and recycling programs with efforts under way to further promote and

increase the level of these programs. LADWP is committed to supply a higher percentage of the City's water demand through local water supply development.

LADWP works closely with MWD, LASAN (wastewater agency), other regional water providers, and various stakeholders to develop and implement programs that reduce overall water use. One example of such collaboration is an integrated resources planning process.

City's IRP is a unique approach of technical integration and community involvement to guide policy decisions and water resources facilities planning. IRP recognizes the inter-relationship of water, wastewater, and runoff management. Initiation of IRP began in 1999 and culminated in its adoption in 2006. Through the stakeholder driven IRP process, detailed facilities plans were developed for the City's wastewater and stormwater systems through the planning horizon of 2020.

One Water LA 2040 (One Water LA) plan is an initiative building upon the success of the IRP. One Water LA extends IRP planning period to year 2040 and takes into consideration an additional emphasis on environmental, social, and sustainability factors. The overarching goal of One Water LA is to maximize resources through the integration of multi-beneficial collaborative programs and projects to make the City greener and more sustainable. One Water LA will follow in the footsteps of IRP and will be a stakeholder driven process with a goal of increased public involvement to represent Los Angeles' diversity in geography, interests, and demographics.

Summary of Water Demand and Supply Projections for 20 Years

Table VI tabulates the service reliability assessment for average weather year. Existing water conservation has been subtracted already from projected demands, but new water conservation is included as a supply source.

Table VI
Service Area Reliability Assessment for Average Weather Year

Demand and Supply Projections (in acre-feet)	Average Weather Conditions (FY 1961/62 to 2010/11) Fiscal Year Ending on June 30				
	2020	2025	2030	2035	2040
Total Water Demand[1]	**611,800**	**644,700**	**652,900**	**661,800**	**675,700**
pLAn Water Demand Target	**485,600**	**533,000**	**540,100**	**551,100**	**565,600**
Existing / Planned Supplies					
Conservation (Additional Active[2] and Passive[3] after FY14/15)	125,800	110,900	111,600	109,100	108,100
Los Angeles Aqueduct[4]	275,700	293,400	291,000	288,600	286,200
Groundwater[5] (Net)	112,670	110,670	106,670	114,670	114,070
Recycled Water					
- Irrigation and Industrial Use	19,800	29,000	39,000	42,200	45,400
- Groundwater Replenishment	0	30,000	30,000	30,000	30,000
Stormwater Capture					
- Stormwater Reuse (Harvesting)	400	800	1,200	1,600	2,000
- Stormwater Recharge (Increased Pumping)	2,000	4,000	8,000	15,000	15,000
Subtotal	536,370	578,770	587,470	601,170	600,770
MWD Water Purchases					
With Existing/Planned Supplies	75,430	65,930	65,430	60,630	74,930
Total Supplies	**611,800**	**644,700**	**652,900**	**661,800**	**675,700**
Potential Supplies					
Water Transfers[6]	40,000	40,000	40,000	40,000	40,000
Subtotal	40,000	40,000	40,000	40,000	40,000
MWD Water Purchases					
With Existing/Planned/Potential Supplies	35,430	25,930	25,430	20,630	34,930
Total Supplies	**611,800**	**644,700**	**652,900**	**661,800**	**675,700**

[1] Total Demand with existing passive conservation

[2] Cumulative hardware savings since late 1980s reached 118,034 AFY by 2014-15.

[3] Additional non-hardware conservation required to meet water use reduction goals set in the Sustainable City pLAn.

[4] LADWP anticipates conserving 20,000 AFY of water usage for dust mitigation on Owens Lake after the Master Project is implemented in FY 2023-24. Los Angeles Aqueduct supply is estimated to decrease 0.1652% per year due to climate change impact.

[5] Net GW excludes Stormwater Recharge and Groundwater Replenishment supplies that contribute to increased pumping. The LADWP Groundwater Remediation project in the San Fernando Basin is expected in operation in 2021-22. Storage credit of 5,000 AFY will be used to maximize pumping in 2019-20 and thereafter. Sylmar Basin production will increase to 4,170 AFY from 2015-16 to 2038-39 to avoid the expiration of stored water credits, then go back to its entitlement of 3,570 AFY in 2039-40.

[6] Potential water transfer occurs in dry years with stored water acquired in average and wet years.

Service area reliability assessments for single-dry year and multiple-dry year conditions are shown in LADWP 2015 UWMP Exhibits 11F through 11H. Demands are met by the available supplies under all scenarios.

Rates

Capital costs to finance facilities for the delivery of water supply to LADWP's service area are supported through customer-billed water rates. The Board sets rates subject to approval of City Council by ordinance. The Board is obligated by City Charter to establish water rates and collect charges in an amount sufficient to service the water system indebtedness and to meet its expenses for operation and maintenance.

On March 15, 2016, City Council approved the new water rates and rate structure. New water rates, which became effective April 15, 2016, through Ordinance 184130 provide for modest rate increases each year over a five-year period for infrastructure improvements, meeting regulatory water quality requirements, Owens Valley mitigation measures, and expanding the local water supply, which includes recycled water, stormwater capture, conservation, and groundwater remediation. New water rate structure increases the number of tiers from two to four for single-family residential customers. Goal is to incentivize conservation while recovering the higher costs of providing water to high volume users. In keeping with cost of service principles, the incremental pricing for the tiers is based on the cost of water supply.

Findings

The Times Project is estimated to increase the total water demand within the site by 220 AF annually. This additional water demand has been accounted for in the City's overall total demand projections in the LADWP 2015 UWMP using a service area-wide approach that does not rely on individual development demand. The LADWP 2015 UWMP utilized SCAG's RTP data that provide for more reliable water demand forecasts, taking into account changes in population, housing units, and employment.

Based on Planning Department's determination that the Times Project is consistent with the demographic forecasts for the City from the 2012 SCAG RTP, LADWP finds that the Times Project water demand is included in the City's LADWP 2015 UWMP water demand projection. Furthermore, the LADWP 2015 UWMP forecasts adequate water supplies to meet all projected water demands in the City through the year 2040.

LADWP therefore concludes that the 220 AFY increase in the total water demand for the Times Project falls within the available and projected water supplies for normal, single-dry, and multiple-dry years through the year 2040, as described in LADWP's 2015 UWMP. LADWP finds it will be able to meet the proposed water demand of the Times Project, as well as existing and planned future water demands of its service area.

Appendix A

City of Los Angeles Department of City Planning
Request for Water Supply Assessment,
and Scope Confirmation e-mail

DEPARTMENT OF
CITY PLANNING

CITY PLANNING COMMISSION

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May 15, 2017

Mr. Richard F. Harasick
Senior Assistant General Manager for Water System
Los Angeles Department of Water & Power
111 North Hope Street, Room 1455
Los Angeles, CA 90012-5701

RE: REQUEST FOR WATER SUPPLY ASSESSMENT FOR PROJECT LOCATED AT 100 SOUTH BROADWAY, LOS ANGELES, CA 90012 (TIMES MIRROR SQUARE)

Dear Mr. Harasick:

The Department of City Planning is preparing an Environmental Impact Report in accordance with the California Environmental Quality Act (CEQA) for the proposed Times Mirror Square Project located at 100 S. Broadway, Los Angeles, CA 90012 (Project). Pursuant to CEQA Guidelines Section 15206(b)(2)(B), this Project meets the criteria for being of "regional significance" because it includes the development of more than 500 dwelling units, a shopping center or business establishment encompassing more than 500,000 square feet of floor space or employing more than 1,000 persons, and a commercial office building encompassing more than 250,000 square feet of floor space or employing more than 1,000 persons.

For this reason, the Project must comply with the water supply assessment requirements of State Water Code (Section 10910-10915). As such, we are requesting that the Los Angeles Department of Water & Power prepare a water supply assessment to determine its ability to meet the water demands of this Project. Provided below is a description of the Proposed Project.

Project Title
Times Mirror Square Project

Project Applicant
Onni Times Square LP
315 W. 9th Street, #801
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Department of City Planning
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Project Location

The Times Mirror Square Project site is located at 100 S. Broadway, just south of the Civic Center in Downtown Los Angeles (Project Site), in the Central City Community Plan area. The Project Site occupies the City block bounded by West 1st Street to the north, South Spring Street to the east, West 2nd Street to the south, and South Broadway Street to the west. The Project Site consists of five parcels totaling approximately 160,578 square feet (3.6 acres). A list of the property addresses and assessor parcel numbers associated with the Project Site are identified in Table 1, Project Site Addresses and Assessor Parcel Numbers. A Project Location Map is shown in Figure 1, Regional and Site Location Map.

Table 1
Project Site Addresses and APNs

Address	APN
145 South Spring Street 147 South Spring Street 205 West 2nd Street 211 West 2nd Street	5149-001-003
124 South Broadway 126 South Broadway 128 South Broadway 130 South Broadway 140 South Broadway 142 South Broadway 221 West 2nd Street	5149-001-004
110 South Broadway 118 South Broadway 120 South Broadway	5149-001-005
202 West 1st Street 212 West 1st Street 214 West 1st Street 220 West 1st Street 121 South Spring Street	5149-001-006
100 South Broadway 102 South Broadway 106 South Broadway 108 South Broadway 224 West 1st Street 228 West 1st Street 230 West 1st Street 234 West 1st Street	5149-001-007

Existing Uses

The Project Site is currently occupied by five structurally distinct, but internally connected buildings used by the Los Angeles Times, a bank, and other office uses. These include the 8-story Times Building, the 4-story Plant Building, the 10-story Mirror Building, the 6-story parking garage, and the 6-story Executive Building. As summarized in Table 2 below, and as shown in Figure 2, Existing On Site Uses, the buildings total approximately 559,863 square feet of floor area. Approximately 223,945 square feet (40 percent) of the existing uses are vacant office spaces that have been vacant for 10 years.

Table 2
Existing Land Uses on the Project Site

Land Use Type	Developed Floor Area (square feet)
Executive Building	
Office[a]	176,258
Bank[b]	7,500
Executive Building Subtotal	183,758
Times Building	
Office[a]	116,113
Times Building Subtotal	116,113
Mirror Building	
Cafeteria[c]	11,250
Office[a]	158,152
Mirror Building Subtotal	169,402
Plant Building	
Office[a]	90,590
Plant Building Subtotal	90,590
Total	**559,863 sf**

Notes:

[a] A total of 176,258 square feet of office space would be demolished.
[b] 7,500 square feet of bank would be demolished.
[c] The cafeteria would be converted into the grocery store.

Source: ESA PCR, 2017.

The existing uses water demand was estimated based on the above information pertaining to the existing land uses and 120 percent of the estimated sewer generation rates provided by the Bureau of Sanitation. As shown in Table 3, below, the existing uses on the Project Site currently generate a demand of approximately 138,467 gallons per day (gpd) of water.

Table 3
Existing Conditions Water Demands

Land Use	Size (sf)	Water Demand Rates (gpd/unit)[a]	Total Water Demand (gpd)
Office[b]	541,113[c]	204 gpd/1,000 sf	110,387
Bank[d]	7,500	144 gpd/1,000 sf	1,080
Cafeteria[e]	11,250	36 gpd/seat	27,000
		Total Water Demand Based on Developed Area	***138,467***

Notes:

[a] Water demand rates are based on 120 percent of the wastewater generation rates provided in the City of Los Angeles CEQA Thresholds Guide (2006), Exhibit M.2-12. This increased generation rate is used to compensate and account for any water loss via evaporation, recycling, etc. and results in a more conservative water demand.
[b] Office Building with Cooling Tower was used to be more conservative.
[c] Demands included in the table assumed 100 percent occupancy of all uses. However, it is noted that approximately 223,945 SF (40 percent) of the office uses have been vacant for 10 years.
[d] Bank: Headquarters was used to be more conservative.
[e] Cafeteria sewage generation factor is based on seats. It is assumed that each seat will occupy approximately 15 square feet.

Source: ESA PCR, 2017.

The following is a list of the meter/service numbers which cover domestic, irrigation, and fire protection for the Project Site:

- Fire Water Meter # 1626099
- Fire Domestic Water Meter # 5272552
- Fire Domestic Water Meter # 90154214, 90154213, 90119351
- Domestic Water # 3151370
- Fire Domestic Water Meter # 3306872
- Domestic Water Meter # 2200536
- Fire Water Meter # F1286

Project Characteristics

The Proposed Project would retain and renovate the Times, Plant, and Mirror Buildings to provide approximately 376,105 square feet of offices and/or other retail and commercial uses, including an approximately 50,000 square-foot grocery store. The three buildings, which have a combined total floor area of approximately 376,105 square feet, are aligned along S. Spring Street, with frontages along both W. 1st Street and W. 2nd Street. The Project proposes to demolish the Parking Garage and Executive Building located on the western half of the Site and construct two mixed-use towers.

The Project's North Tower and South Tower mixed use components would be constructed in the west sector of the Project Site in the areas currently occupied by the 6-story Executive Building at the corner of W. 1st Street and S. Broadway and the 6-story parking structure at the corner of W. 2nd Street and S. Broadway. The North Tower would contain 450 residential units and the South Tower would contain 677 residential units for a total of 1,127 residential units. Total residential floor area would be 1,071,692 square feet. With the addition of open space amenities, lounges, loading areas, and retail uses, total new construction would amount to 1,135,803 square feet. The towers would include approximately 34,572 square feet of retail uses, which would be located at ground level and oriented to W. 1st Street, S. Broadway, and W. 2nd Street, while also fronting the Paseo. The Paseo would be constructed along the east edge of Tower A and Tower B, passing from sidewalk to sidewalk between W. 1st Street to W. 2nd Street. The resulting floor-area ratio (FAR) would be approximately 9.42:1. Approximately 72,902 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. With the addition of approximately 56,350 square feet of private balconies, combined private and common open space would be approximately 129,252 square feet.

Development of the Project would occur in one phase, with initiation of construction expected in 2019, followed by an approximate four year construction period ending with buildout and occupancy in 2023. A summary of the land uses and amount of square feet of development as defined by the Los Angeles Municipal Code (LAMC) is presented in Table 4. A site plan and illustrative rendering are provided in Figures 3 and 4, respectively.

Table 4
Proposed Development Program

Use	Size/Area	
Site Area (Net)	**160,578**	**sf**
	3.6	**ac**
Maximum Building Height	665	feet
	53	floors
North and South Towers New Development		
Residential		
Studio	90	du
One Bedroom	546	du
One Bedroom + Den	160	du
Two Bedroom	324	du
Three Bedroom	4	du
Penthouse	3	du
Total Dwelling Units	1,127	du
Total Residential Floor Area (approx.)	1,071,692	sf
Non-Residential		
Amenities	23,956	sf
Lounges	2,997	sf
Loading	2,586	sf
Retail	34,572	sf
Total Non-Residential Floor Area	64,111	sf
Proposed New Floor Area in North and South Towers	**1,135,803**	**sf**
Times, Plant, and Mirror Buildings Rehabilitation		
Office	285,088	sf
Ground-floor Restaurant	18,817	sf
Upper-floor Restaurant	22,200	sf
Grocery Store	50,000	sf
Proposed Adaptive Reuse Floor Area	**376,105**	**sf**
Total Proposed Project Floor Area	**1,511,908**	**sf**
Floor Area Ratio (FAR)	**9.42:1**	
Vehicle Parking Proposed On-Site	**1,744[a]**	**spaces**
LAMC Required Vehicle Parking	**1,661**	**spaces**
Bicycle Parking Proposed	**1,274[b]**	**spaces**
LAMC Required Bicycle Parking	**1,274**	**spaces**
Open Space		
Level 1 – Paseo/Plaza[c]	15,708	sf
Level 1 – Lounge (North Tower)	1,270	sf
Level 1 – Lounge (South Tower)	1,529	sf
Level 6 – Amenity (North Tower)	13,331	sf
Level 6 – Amenity (South Tower)	12,287	sf
Level 6 – Garden Plaza	28,777	sf
Subtotal Common Open Space	72,902	sf

Table 4
Proposed Development Program

Use	Size/Area	
Private Balconies	56,350	sf
Total Open Space	**129,252**	**sf**
LAMC Required Open Space	**125,325**	**sf**

Notes:
[a] *Parking count may change throughout the planning process.*
[b] *1,240 bicycle parking spaces will be required for residential uses, and 34 bicycle parking spaces will be required for commercial uses.*
[c] *Available for public use.*

Source: ESA PCR, 2017.

Table 5 below shows the water and sewer calculations for the Proposed Project. Two 350 ton Evapco Cooling Towers and two 400 ton Evapco Cooling Towers will be used depending on load demand. It is assumed to have an average usage of 8 hours/day, 7 days/week, and 52 weeks/year at approximately 75% capacity.

Table 5
Wastewater and Sewer Calculations

Type of Use	Size	Consumption Rate (gpd)[a]	Water Consumption (gpd)	Water Consumption (afy)
North and South Tower Residential				
Studio	90 du	75/du	6,750	7.43
1 Bedroom	546 du	110/du	60,060	66.07
1 Bedroom + Den	160 du	110/du	17,600	19.36
2 Bedroom	324 du	150/du	48,600	53.46
3 Bedroom	4 du	190/du	760	0.84
Penthouse[b]	3 du	230/du	690	0.76
North and South Tower Non-Residential				
Amenities[c]	23,956 sf	50/1,000 sf	1,198	1.32
Lounges[c]	2,997 sf	50/1,000 sf	150	0.16
Loading[d]	2,586 sf	30/1,000 sf	78	0.09
Retail	34,572 sf	25/1,000 sf	864	0.95
Times, Plant, and Mirror Buildings Rehabilitation				
Office Uses[e] (Times, Plant, and Mirror Buildings)	285,088 sf	170/1,000 sf	48,465	53.31
Ground-floor Restaurant[f] (Times, Plant, and Mirror Buildings)	18,817 sf (1,255 seats)	30/seat	37,634	41.40
Upper-floor Restaurant[f] (Times, Plant, and Mirror Buildings)	22,200 sf (1,480 seats)	30/seat	44,400	48.84
Grocery Store[g] (Plant Building)	50,000 sf	50/1,000 sf	2,500	2.75
		Landscape Irrigation[h]	708	0.79
		Total Proposed Gross Water Consumption	**270,457**	**297.53**
Existing Uses				
Office Uses[e] (Times, Plant, Mirror, and Executive Buildings)	541,113 sf	170/1,000 sf	91,989	101.19
Bank (Executive Building)[i]	7,500 sf	120/1,000 sf	900	0.98
Cafeteria (Plant Building)[j]	11,250 sf	30/seat	22,500	24.75
Subtotal Existing Uses	559,863 sf			
		Existing Water Consumption	**(115,389)**	**(126.93)**
		Total Proposed Net Water Consumption	**155,068**	**170.60**

Notes:

[a] Consumption rates are based on the City of Los Angeles Department of Public Works, Bureau of Sanitation Sewer Generation rates.
[b] Penthouses are assumed to have four bedrooms to be conservative.
[c] Amenities and Lounges both use the Lounge generation factor.
[d] Loading docks use the Storage: Building/Warehouse generation factor.
[e] The Office Uses component of the Project will use the Office Building with Cooling Tower generation factor.
[f] Restaurants assume that each seat will occupy approximately 15 sf.
[g] The Grocery Store will use the Commercial generation factor.
[h] The Landscape Irrigation amount is the Total Maximum Applied Water Allowance (MAWA) for the year (228,359 gal/year) divided by 365 days to provide the gpd amount. The provided number is a worst case calculation and is about 10% over the

MAWA allowance. The overage is due to the burden imposed by the existing street trees, Platanus racemose – Syamores, which are relatively high water users because the Project must irrigate street trees and the street tree irrigation is part of the water budget, the amount of landscape irrigation will be higher than normal.
[I] The Bank will use the Bank: Headquarters generation factor.
[J] The Cafeteria assumes that each seat will occupy approximately 15 sf. The cafeteria within the Plant Building will be converted to be part of the 50,000 sf grocery store.

SOURCE: ESA PCR, 2017.

Table 6 below provides information on plumbing fixture/appliance counts/estimates for the proposed project:

Table 6
Fixture Count

	Residential Dwelling Unit	Residential Common Area	Restaurant/ Bar	Retail/ Commercial
Toilets	1465	15	15	15
Urinals	N/A	N/A	10	10
Bath Faucets	1465	15	15	15
Kitchen Faucets	1127	5	N/A	N/A
Commercial Kitchen Pre-Rinse Spray Faucets	15	N/A	15	N/A
Showerheads	1465	5	N/A	N/A
Clothes washer (Residential)	1127	2	N/A	N/A
Clothes washer (Commercial)	N/A	N/A	N/A	N/A
Dishwasher (Residential)	1127	5	N/A	N/A
Dishwasher (Commercial)	15	N/A	15	N/A

Source: AC Martin Partners, Inc., 2017.

Project Conformance with Existing Zoning and the General Plan

As proposed, the project does not generally conform with the use and intensity of development permitted by the General Plan for this site without land use entitlement(s) to permit deviations from the Zoning Code. In order to develop the project as proposed, the following approvals are required:

1. Vesting Tentative Tract Map for the merger and re-subdivision of the Project Site for residential and commercial condominium purposes (LAMC Sec. 17.15)
2. Transfer of Floor Area Rights (TFAR) greater than 50,000 square feet of floor area for the transfer of 548,440 square feet of floor area from the Los Angeles Convention Center (Donor Site) to the Project Site (Receiver Site) (LAMC Sec. 14.5.6)
3. Vesting Conditional Use Permit to permit floor averaging within a unified development (LAMC Sec. 12.24 U.19 and 12.24.T)
4. Master Conditional Use Permit (MCUB) to permit the onsite and offsite sale and consumption of alcoholic beverages within the Project's commercial retail spaces (LAMC Sec. 12.24.W. 1)
5. Construction permits, including building, grading, excavation, foundation, and associated permits.

6. Haul Route Permit, as may be required.
7. Other approvals as needed.

The Project Site is currently designated for Regional Center Commercial land uses by the General Plan. The General Plan Framework designates the entire Central City area as a Downtown Center. The Project Site is zoned C2-4D-SN, which permits general commercial and multi-family residential uses. The 4D Height District establishes a maximum Floor Area Ratio (FAR) of 6.0:1, but does not specifically limit building heights.

Land Use Consistency and Growth Projections

The Proposed Project is consistent with the demographic projections in the 2016 SCAG Regional Transportation Plan/Sustainability Communities Strategy (2016 RTP/SCS). The Project's contribution to population, housing, and employment opportunities is shown below in Table 7. These Project increases are used to confirm the Project's consistency with the 2016 SCAG RTP/SCS.

Table 7
Project Increases in Population, Housing, and Employment

Housing Units and Population			
Total Housing Units		**Average Household Size[a]**	**Total Population**
1,127		1.68	1,894
Employees			
Use	**Amount (sf)**	**Employment Generation Factor (per sf)[b]**	**Number of Employees**
Retail	34,572	0.00271	94
Office	285,088	0.00431	1,229
Ground-floor Restaurant	18,817	0.00271	51
Upper-floor Restaurant	22,200	0.00271	61
Grocery	50,000	0.00271	136
Total Proposed Uses	**410,677 sf**	**Projected Employees**	**1,571**
Existing Uses			
Office	541,113 sf	0.00431	2,333
Bank	7,500 sf	0.00283	22
Cafeteria	11,250 sf	0.00271	31
Total Existing Uses	559,863 sf	**Projected Existing Employees**	2,386

Notes:

[a] *The average household size reflects the average household size for the Central City Community Plan area, based on the 2015 Demographics Statistics Report by the City of Los Angeles Department of City Planning Demographics Research Unit.*

[b] *The employee generation factors are taken from the Los Angeles Unified School District, 2014 Developer Fee Justification Study, March 2014. As a separate rate is not provided for the retail, grocery, and cafeteria, the Neighborhood Shopping Centers was used.*

Source: ESA PCR, 2017.

Table 8 presents a comparison of the projected Project increase in population, housing, and employment to growth projections in the SCAG 2016 RTP/SCS for the Central City Community Plan area and the City of Los Angeles. As shown in Table 8, below, the Project's direct increases in population, housing, and employment would be within SCAG's projected growth for both the 2023 buildout year and 2040 SCAG horizon year.

Table 8
Project Population, Housing, and Employment Impacts on SCAG 2016 RTP/SCS Projected Growth

	Project Increase	SCAG Projected Growth	Project Percentage of Growth
Population			
2017 - 2023 Buildout			
Central City Community Plan Area	1,894	24,267	7.8%
City of Los Angeles	1,894	163,293	1.2%
2017 - 2040 Projection Horizon			
Central City Community Plan Area	1,894	92,541	2.1%
City of Los Angeles	1,894	656,750	0.3%
Households			
2017 - 2023 Buildout			
Central City Community Plan Area	1,127	14,096	8.0%
City of Los Angeles	1,127	73,652	1.5%
2017 - 2040 Projection Horizon			
Central City Community Plan Area	1,127	14,096	2.1%
City of Los Angeles	1,127	73,652	0.4%
Employment			
2017 - 2023 Buildout			
Central City Community Plan Area	-815	8,107	-10.1%
City of Los Angeles	-815	93,574	-0.9%
2017 - 2040 Projection Horizon			
Central City North Community Plan Area	-815	29,855	-2.7%
City of Los Angeles	-815	345,751	-0.2%

Source: ESA PCR, 2017. Based on SCAG 2016 RTP/SCS projections.

Landscaping/Open Space

Figures 5 and 6 illustrate proposed landscaping and open space on Levels 1 and 6. Open space amenities would be available to tower residents and would include an approximately 28,777-square-foot garden plaza (Garden Plaza) at the rooftop of the 5-story Podium (Level 6). The Garden Plaza would be open to sky and provide

approximately 7,700 square feet of landscaping, a pool deck, a dog run, cabanas, steam room and sauna, and other amenities such as dining tables and fire-side seating. As shown in Table 3, the Project would provide other amenities at the 6th floor level, as well as ground-floor lobbies in each of the tower buildings. These amenity areas are expected to include a gym, club rooms, meeting rooms, film screening room, private dining, and potentially other common areas to serve residents. Approximately 72,902 square feet of common open space, including the approximately 15,708-square-foot Paseo, would be provided as part of the North and South Towers component. With the addition of approximately 56,350 square feet of private balconies, combined private and common open space would be approximately 129,252 square feet.

The thirteen existing California Sycamores, six trees along West 1st Street and seven trees along South Broadway would remain in place under the Project. The Project would add an additional four California Sycamores along West 1st Street to create a double row near the corner of West 1st Street and South Broadway. In addition, the Project would add ten California Sycamores along South Broadway to fill in the existing trees on South Broadway and create a continuous line of California Sycamores along the street edge. The Project would plant two trees, "Hymenosporum flavum," also known as "Sweet Shade," at the corner of South Broadway and West 2nd Street. The Sweet Shade tree is generally smaller than the California Sycamore, but produces clusters of fragrant yellow flowers. Groups of Sweet Shade trees, a total of approximately twenty-five, would be planted along the pedestrian Paseo, which bisects the Project Site passing from West 1st Street to West 2nd Street.

The street front of the Tower component, including South Broadway, West 1st Street, West 2nd Street, and the Paseo would be lined with retail uses. Decorative pavement would be installed along West 2nd Street, leading to the Paseo entrance, which would also be similarly paved. Bench planters and trees would be located throughout the Paseo, as well as at the corners of West Broadway and West 2nd Street. The Paseo would also allow views to Civic Center Park immediately to the north of West 1st Street. With the proposed landscaping, benches, pavement treatment and adjacent retail shops, the tree-lined Paseo would facilitate pedestrian use and provide aesthetic and visual relief.

As shown in Figure 6, the pool deck would be surrounded by a variety of trees. The eastern and western sides of the building would be lined with Grecian Laurels and Golden Italian Cypresses that would overlook the ground-level Paseo. There would also be a dog run on the western side of the building and a steam room and sauna on the eastern side of the building. Other groups of trees would be planted throughout the Podium rooftop. The trees along the Podium roof would enhance to the visual character of the Project as viewed from South Broadway and the Paseo.

A total of approximately 129,252 square feet of open space is proposed across the Project Site, which exceeds the LAMC requirement for 125,325 square feet for the proposed mix of uses. Of the approximately 129,252 square feet of open space proposed across the Project Site, approximately 11,250 square feet is proposed to be landscaped; this exceeds the LAMC requirement of 11,121 square feet of landscaped common open space.

Table 9 below shows the plant factors and the square footages of each Hydrozone Area.

Table 9 Hydrozone Area Information		
Hydrozone	**PF**	**Hydrozone Area (sf)**
Very Low	0.1	1,017 sf
Low	0.3	10,158 sf
Moderate	0.6	4,911 sf
Total		16,086 sf
Source: Carter, Romanek Landscape Architects Inc., 2017.		

As shown in Figure 7, the Project's landscaping and open space is designed for almost entirely low water use hydrozones for all of the on-site areas. The calculation in Table 9 has a larger total hydrozone area square footage because it includes the landscaped terrace for the office side. The office terrace is not available for the apartment residents and are not counted towards the City's multi-family housing common open space requirement (which is detailed in Figure 5 and 6). In addition, the 6th Floor Garden Plaza landscaped area (which shows 7,700 sf) includes both the pool and the dog run at 1,200 sf and 5,525 sf, respectively. The calculation above in Table 9 excludes the dog run as it is synthetic grass and will not be irrigated. Similarly, the streetscape areas, including street trees and tree well planters, are not included in the Figure 5 and Figure 6 landscaped open plan calculations as they are public right-of-way and cannot be counted towards common open space.

Parking

Parking for the Project will be provided in accordance with the LAMC requirements. The Project includes the construction of parking at, above, and below grade. The Project proposes nine levels of below grade parking, mezzanine level parking, and four levels of above-grade podium parking. The LAMC would require 1,250 and 411 vehicle parking spaces for the Project's residential and commercial components, respectively, resulting in a total of 1,661 parking spaces. The Project would provide approximately 1,744 on-site vehicle parking spaces.

Approximately 684,000 square feet will be used for the subterranean parking structure, and 304,000 square feet will be used for the above grade parking structure. The total parking area will encompass 988,000 square feet, excluding utility rooms and elevator shafts/stairs. No restrooms will be provided in the parking areas.

Environmental Design Features

The Project would be designed to achieve the equivalent of the United States Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Silver Certification level for new buildings. The Project would be designed to meet the California Green Building Standards (CALGreen) Code as adopted and amended by the City of Los Angeles through the incorporation of green building techniques and other sustainability features, including those within the City of Los Angeles Green Building Code, where applicable. Some of the Project's key design features that would contribute

to energy efficiencies include the use of glass/window areas for ventilation and daylight accessibility, use of recyclable materials for flooring and demisable partitions in limited amounts, green walls in some areas, low albedo (high reflectivity) color paving to reduce heat island effect, conduit for solar panels installed on roof deck areas pursuant to code requirements, and landscaping of courtyards and roof decks. Other building features would include such items as installation of energy-efficient lighting, heating, ventilation, and air conditioning (HVAC) systems that utilize ozone-friendly refrigerants; use of materials and finishes that emit low quantities of volatile organic compounds (VOCs); use of high efficiency fixtures and appliances; water conservation features; and dedicated on-site recycling area. The Project's inclusion of bicycle parking, as discussed above, would encourage the use of alternative modes of transportation.

The Project would reduce outdoor potable water use by a minimum of 20 percent compared to baseline water consumption. Reductions would be achieved through drought-tolerant/California native plant species selection and artificial turf, landscape contouring to minimize precipitation runoff, irrigation system efficiency, alternative water supplies (e.g., stormwater retention for use in landscaping), smart irrigation systems (e.g., weather-based controls), and water-saving pool equipment.

In addition, to encourage carpooling and the use of electric vehicles by Project residents and visitors, the Project would designate a minimum of eight percent on on-site parking for carpool and/or alternative-fueled vehicles and shall pre-wire, or install conduit and panel capacity for, electric vehicle charging stations up to a maximum of 20 percent of onsite parking spaces.

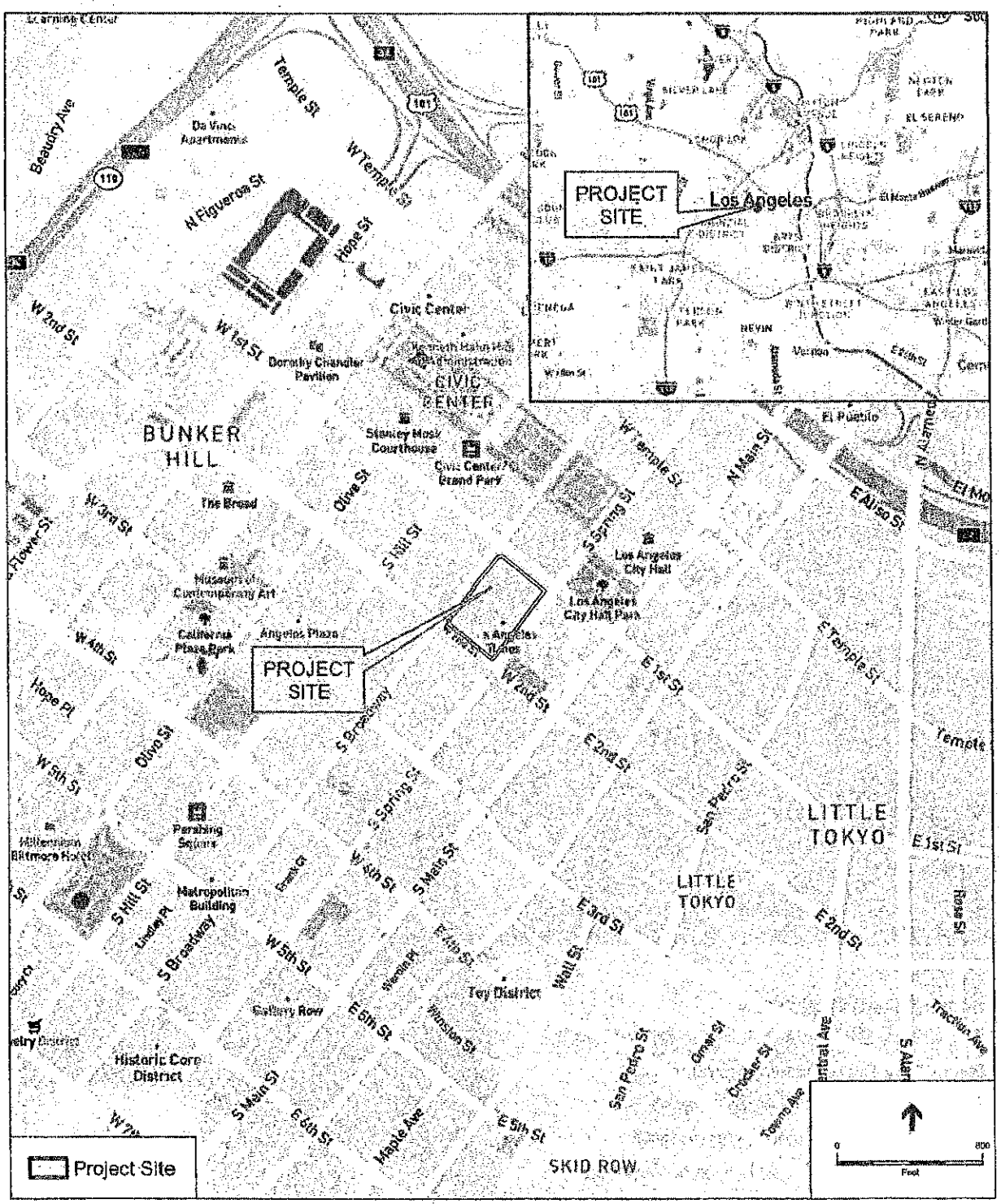
Thank you for your assistance with this request. Your expert evaluation will help to ensure that our analysis of the proposed project's impacts on water demand is accurate and complete. If you have any questions or comments, please contact me at (213) 978-1470.

Sincerely,

William Lamborn
City of Los Angeles Department of City Planning

Attachments:

Figure 1, Regional and Site Location Map
Figure 2, Existing On Site Uses
Figure 3, Project Site Plan
Figure 4, Simulated Aerial View
Figure 5, Level 1 Landscape Plan
Figure 6, Level 6 Landscape Plan
Figure 7, Overall Landscape Concept Plan – Hydrozones



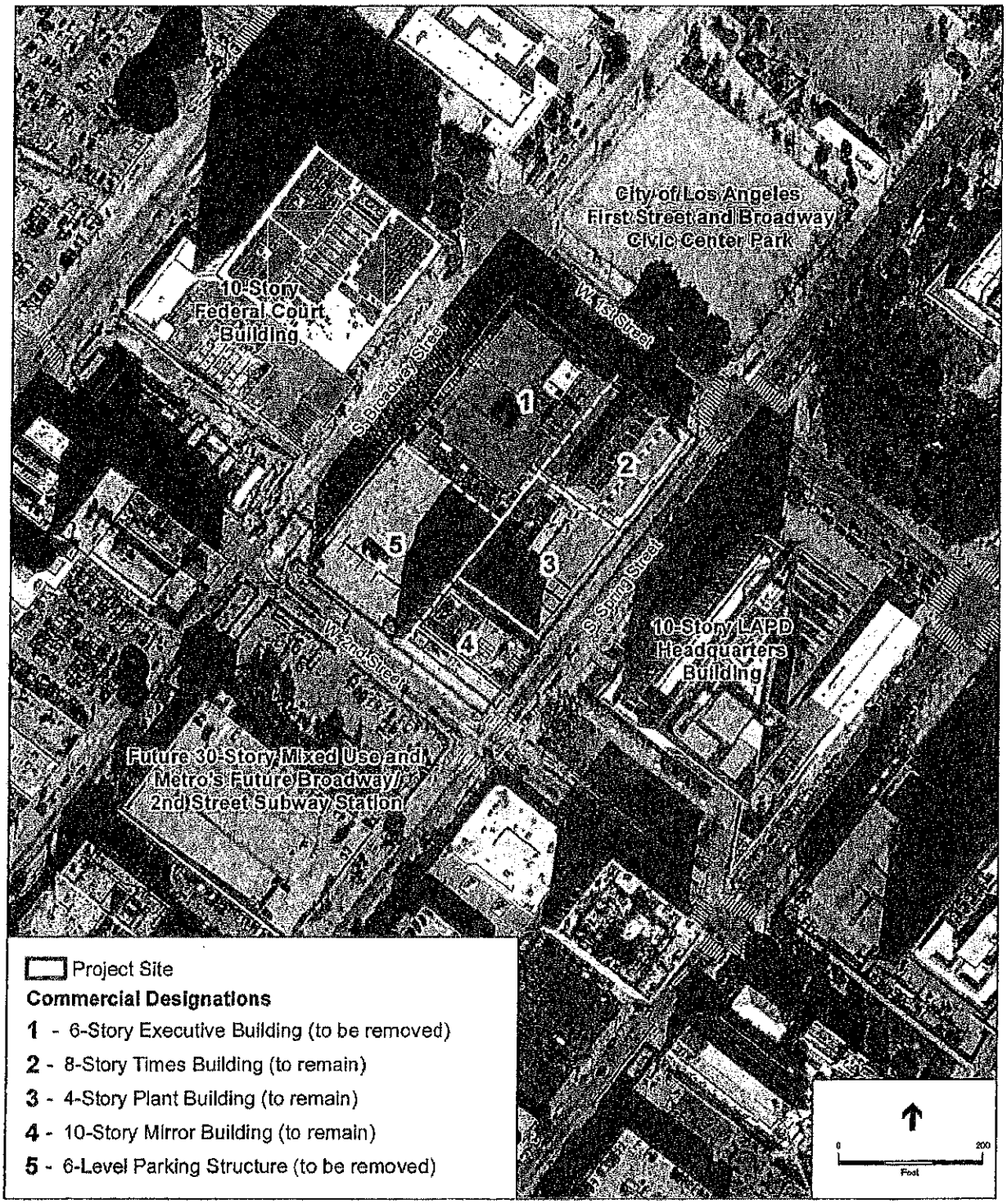
SOURCE: Open Street Map, 2016.

Times Mirror Square Project

Figure 1

Regional and Site Location Map

ESA PCR



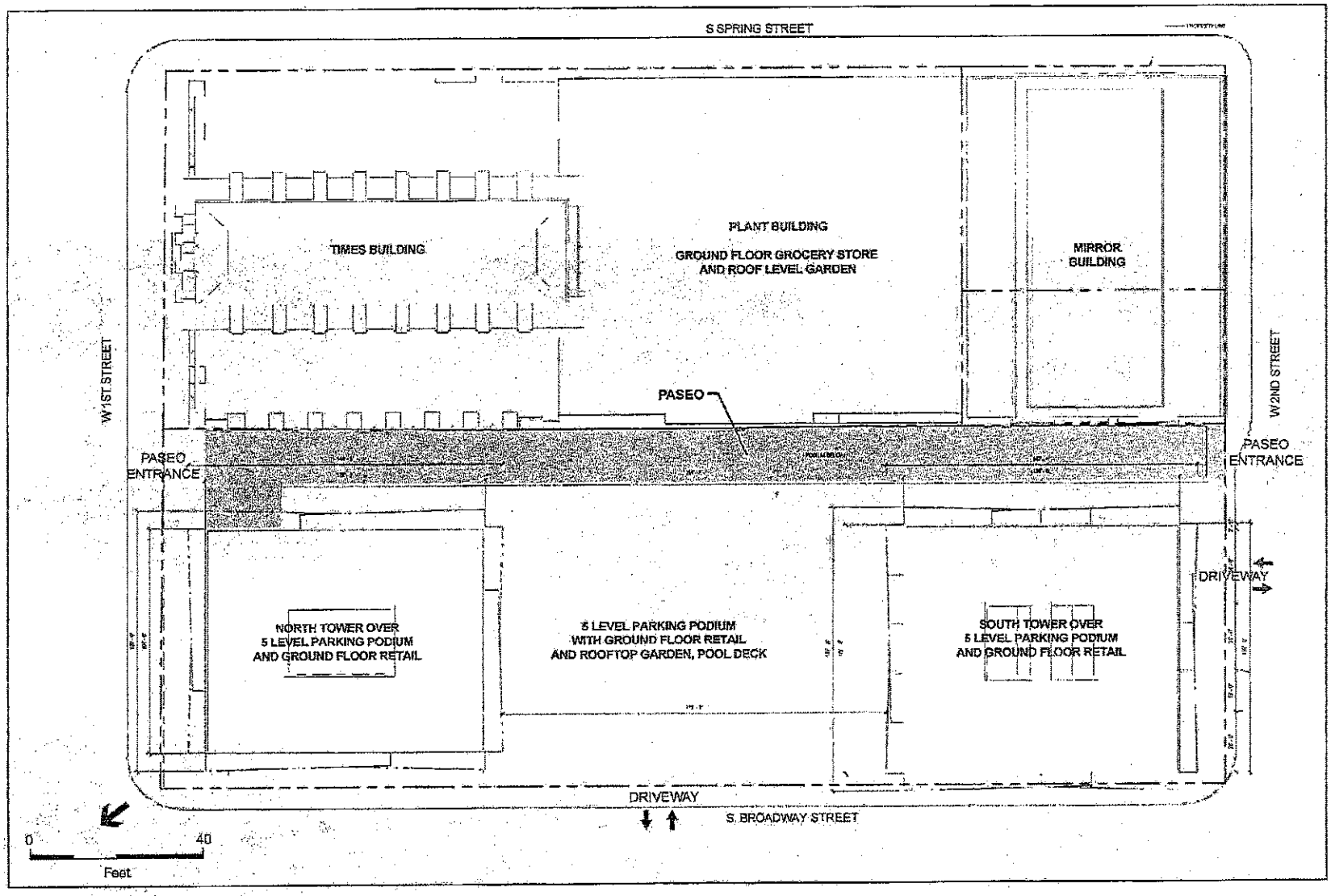
SOURCE: Google Maps, 2016 (Aerial), ESA PCR, 2017

Times Mirror Square Project

Figure 2

Existing On Site Uses

ESA PCR



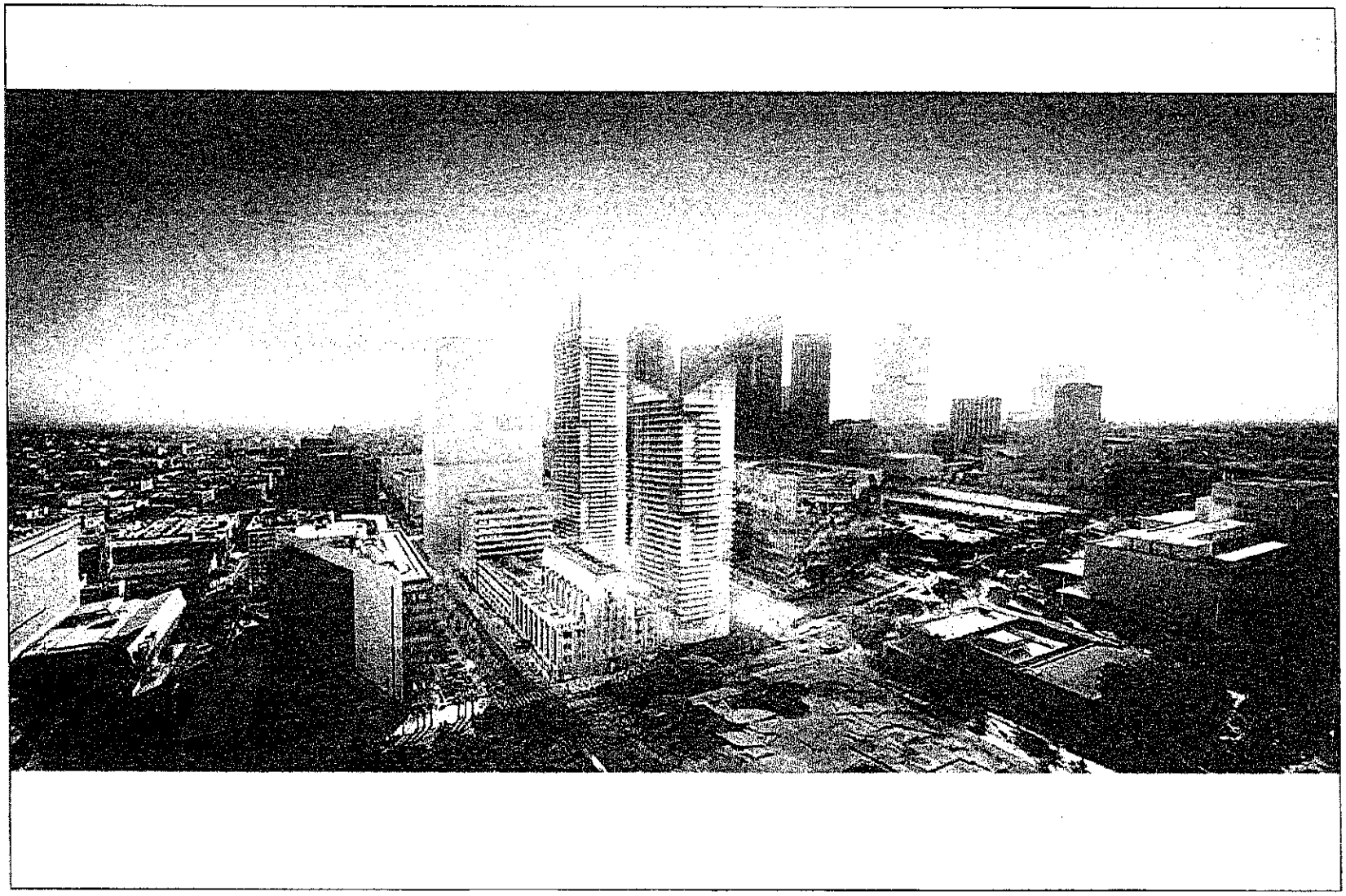
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure 3

Project Site Plan

ESA PCR



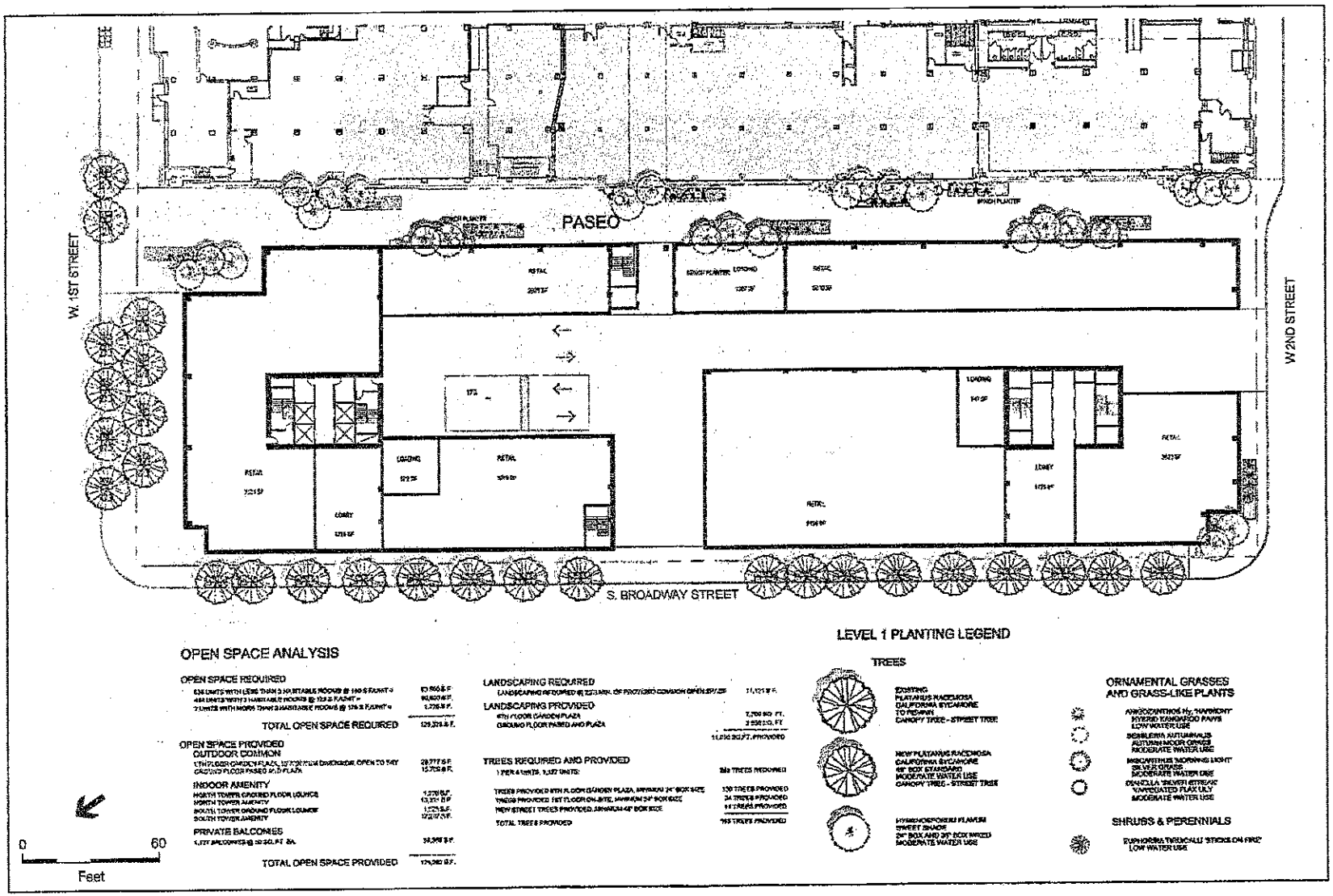
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure 4

Simulated Aerial View

ESA PCR



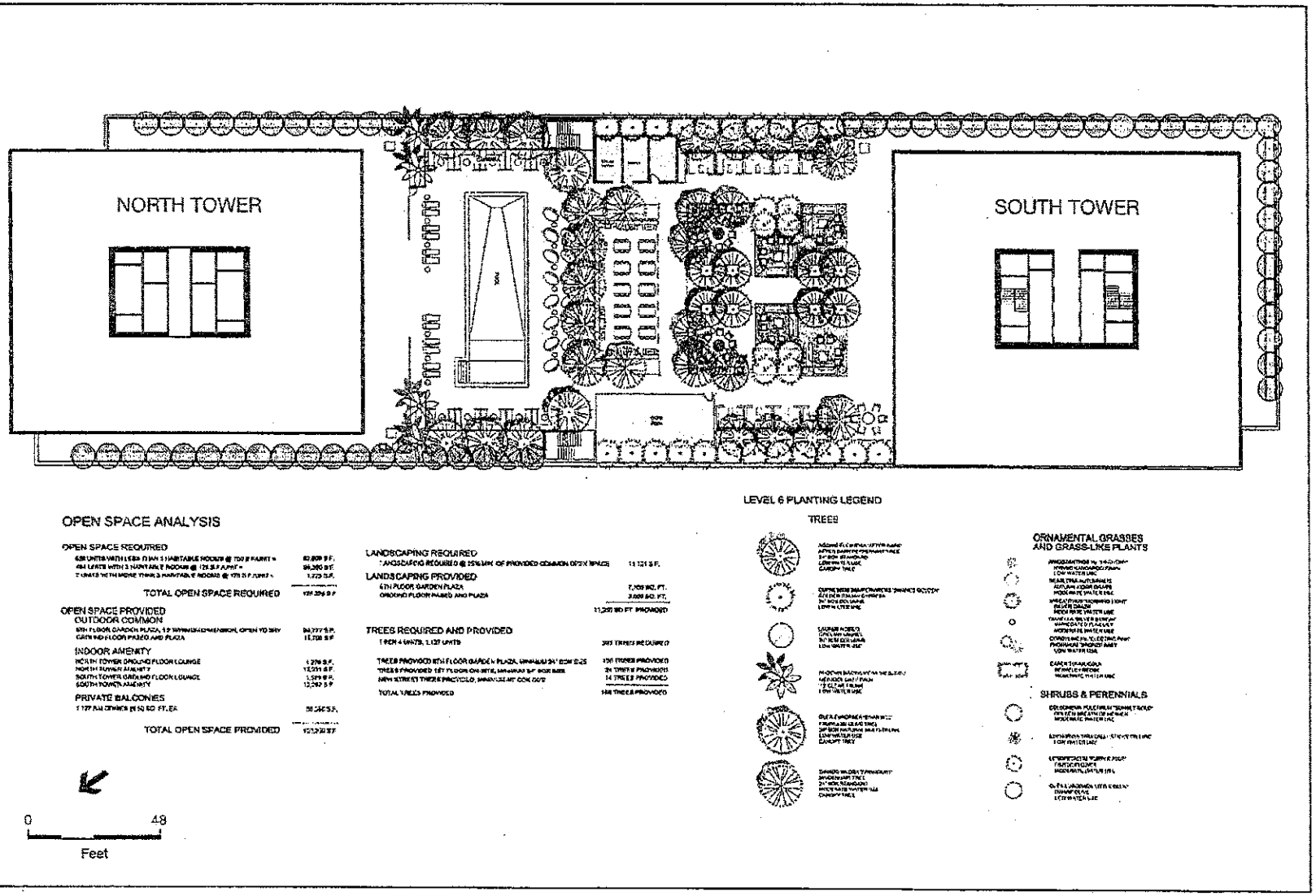
SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure 5

Level 1 Landscape Plan

ESA PCR

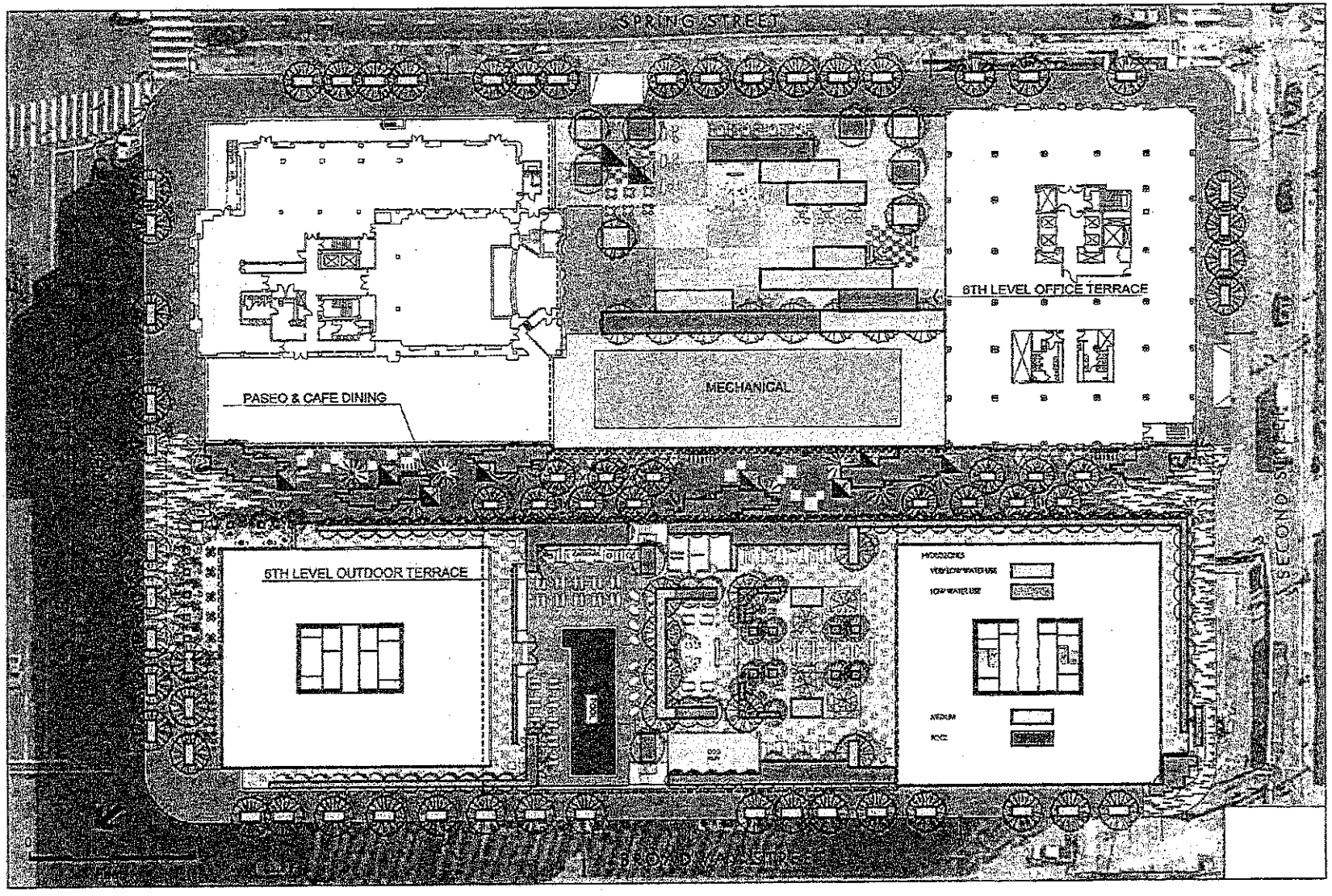


SOURCE: AC Martin Partners, Inc, 2017

Times Mirror Square Project

Figure 6

Level 6 Landscape Plan



SOURCE: Carter, Romanek Landscape Architects Inc., 2017

Times Mirror Square Project

Figure 7

Overall Landscape Concept Plan – Hydrozones

From: William Lamborn
To: Aghakhani, Ryan
Cc: Jessie Fan; Mark Spector; Kwan, Delon
Subject: Re: Times Mirror Square Project WSA - Scope Confirmation Email
Date: Tuesday, August 08, 2017 11:26:29 AM
Attachments: image.png

Thank you, Ryan. The above scope is accurate.

Best,
Will

On Mon, Aug 7, 2017 at 2:38 PM, Aghakhani, Ryan <Ryan.Aghakhani@ladwp.com> wrote:

> Hello William,
>
> We are in the process of completing the Water Supply Assessment (WSA) Board Package for the Time Mirror Square (Proposed Project). The Los Angeles Department of Water and Power (LADWP) requests that the Department of City Planning (Planning Department) confirm, by e-mail, the correct detailed scope (shown below) for the Proposed Project. Your scope confirming e-mail will be included as part of the WSA, and the confirmed scope will be used for calculating the water demand in the WSA.
>
> LADWP has received the WSA Request Letter for the Proposed Project, dated May 16,
>
> WSA Request Letter and from the EIR consultant, is as follows:
>
> **Existing use to be removed:**

Existing Use	Quantity
Executive Building Offices*	103,312 sf
Executive Building Bank	7,500 sf
Mirror Building Cafeteria	11,250 sf
6-story Parking Structure	44,306 sf
Total	**166,368 sf**

> * 103,312 sf of all Executive Building Office spaces (176,258 sf) are occupied and have water use.
>
> **Proposed:**

Proposed Use	Quantity
Residential	
Residential – Studio	90 du
Residential – 1 Bedroom	706 du
Residential – 2 Bedroom	324 du
Residential – 3 Bedroom	7 du
Residential Units Total	**1,127 du**
Residential Common	

Lobby	3,025 sf
Gym/Fitness Center	25,618 sf
Pool	2,250 sf
Commercial	
Offices**	71,232 sf
Grocery Store	50,000 sf
Retail	34,572 sf
Restaurant: Full Service	41,017 sf (2,735 seats)
Landscaping	
Non-Residential:	
Trees, Shrubs, Plants & Grasses (PF=0.1)	646 sf
Trees, Shrubs, Plants & Grasses (PF=0.3)	5,632 sf
Trees, Shrubs, Plants & Grasses (PF=0.6)	4,283 sf
Residential:	
Trees, Shrubs, Plants & Grasses (PF=0.1)	371 sf
Trees, Shrubs, Plants & Grasses (PF=0.3)	4,526 sf
Trees, Shrubs, Plants & Grasses (PF=0.6)	784 sf
Total Landscaping:	**16,242 sf**
(Proposed landscape IE is 0.81)	
Covered Parking Structure	**988,000 sf**
Cooling Towers	
Chiller Capacity – North Tower	750 tons
Chiller Capacity – South Tower	750 tons
Operating Hours	8 hrs/day, 7days/week, 365 days/yr

** 71,232 sf of additional office spaces are expected to be occupied after the rehabilitation of the buildings.

The proposed project will NOT apply for LEED Certification.

du = dwelling unit sf = square feet PF = Plant Factor IE = Irrigation Efficiency

hrs = hours yr = year

Proposed Project does not require a General Plan amendment.

Proposed Project is consistent with the 2012 and 2016 Regional Transportation Plan demographic projections by Southern California Association of Governments for the City of Los Angeles.

If the above listed scope is accurate and consistent with the Proposed Project, please e-mail reply. If not, please edit the scope accordingly and send back to me by e-mail.

Ryan Aghakhani

Resources Development and Supply Assessment Group

Water System Executive Office / Water Resources Section

Los Angeles Department of Water and Power

111 N. Hope Street, Room 1450

Los Angeles, CA 90012

(213) 367-2022

----------Confidentiality Notice----------
This electronic message transmission contains information from the Los Angeles Department of Water and Power, which may be confidential. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of the content of this information is prohibited. If you have received this communication in error, please notify us immediately by e-mail and delete the original message and any attachment without reading or saving in any manner.

--



William Lamborn
Major Projects
Department of City Planning
200 N. Spring Street, Rm 750
Ph: 213.978.1470
Please note that I am out of the office every other Friday.

Appendix B

Water Conservation Commitment Letter

July 28, 2017

Richard F. Harasick
Senior Assistant General Manager for Water Systems
Los Angeles Department of Water & Power
111 North Hope Street, Room 1455
Los Angeles, CA 90012-5701

Re: WATER CONSERVATION COMMITMENTS FOR THE TIMES MIRROR SQUARE PROJECT

Dear Mr. Harasick:

Onni Times Square LP (Applicant) proposes to develop the Times Mirror Square Project (the Project) within the Central City Community Plan Area. The Project Site, which encompasses approximately 3.68 acres is generally bounded by West 1st Street to the north, South Spring Street to the east, West 2nd Street to the south, and South Broadway Street to the west. The Project Site is currently occupied by the eight story "Times Building", the four-story "Plant Building", the ten-story "Mirror Building", the six-story parking garage, and the six-story "Executive Building." The Project proposes retention and renovation of the Times, Plant, and Mirror Buildings on the eastern half of the Project Site comprised of approximately 376,105 square feet of existing floor area. The Executive Building and parking garage on the western half of the Project Site would be demolished for the construction of the North and South Tower which would contain residential units and ground-floor retail uses. The proposed Project would develop approximately 34,572 square feet of commercial retail uses, 1,127 apartment units, , 41,017 square feet of restaurant (ground floor and upper floor), and a 50,000 square foot grocery store. The Project would also include approximately 15,708 square feet of Paseo/Plaza at grade, 28,777 square feet of open space and amenities at the Level 6 Garden Plaza, and 28,643 square feet of internal amenities (lounges and fitness centers), resulting in a total of 72,902 square feet of common open space. An additional 56,350 square feet would be included for private balconies. The Project would also include five levels of above grade podium parking as well as nine levels of subterranean parking.

The Applicant understands the City of Los Angeles' policy that future water needs shall be met by expanding water recycling and conservation. The Applicant has committed to implement the following water conservation measures that are in addition to those required by codes and ordinances for the entire Project:

- High Efficiency Toilets with flush volume of 1.0 gallons of water per flush, or less.
- ENERGY STAR Certified Residential Clothes Washers– Front-loading with Integrated Water Factor of 3.6 or less and capacity of 4.3 cu ft.
- Showerheads with flow rate of 1.5 gallons per minute, or less
- Domestic Water Heating System located close proximity to point(s) of use
- Individual Metering and billing for water use for commercial space will be used.
- Drip/Subsurface Irrigation (Micro-Irrigation)
- Proper Hydro-zoning/Zoned Irrigation (groups plants with similar water requirements together)
- Drought Tolerant Plants – 70% of total landscaping

Onni Times Square LP has also committed to comply with the City of Los Angeles Low Impact Development Ordinances (City Ordinance No. 181899 and No. 183833) and to implement Best Management Practices that have stormwater recharge or reuse benefits for the entire Project as applicable—and subject to design approval by the Department of Public Works.

- Infiltration Basin (drainage area of 5-50 acres) – captures first-flush stormwater, removes particulate pollutants and some soluble pollutants, and contributes toward recharging groundwater.
- Infiltration Trench (drainage area of less than 5 acres) – similar to infiltration basin but used for smaller drainage areas to capture and infiltrate rainwater.
- Catch Basin Insert - a device that can be inserted into an existing catch basin design to provide some level of runoff contaminant removal.
- Catch Basin Screens
- Pervious Pavements – captures runoff by allowing stormwater to pass through the pavement surface and then infiltrate into the groundwater basin.
- Cistern - captures stormwater runoff as it comes down through the roof gutter system.

The following is the information on plumbing fixture/appliance counts/estimates for the Times Mirror Square Project:

	Residential Dwelling Unit	Residential Common Area	Restaurant / Bar	Retail/ Commercial
Toilets	1465	15	15	15
Urinals	N/A	N/A	10	10
Bath Faucets	1465	15	15	15
Kitchen Faucets	1127	5	N/A	N/A
Commercial Kitchen Pre-Rinse Spray Faucets	15	N/A	15	N/A
Showerheads	1465	5	N/A	N/A
Clothes washer (Residential)	1127	2	N/A	N/A
Clothes washer (Commercial)	N/A	N/A	N/A	N/A
Dishwasher (Residential)	1127	5	N/A	N/A
Dishwasher (Commercial)	15	N/A	15	N/A

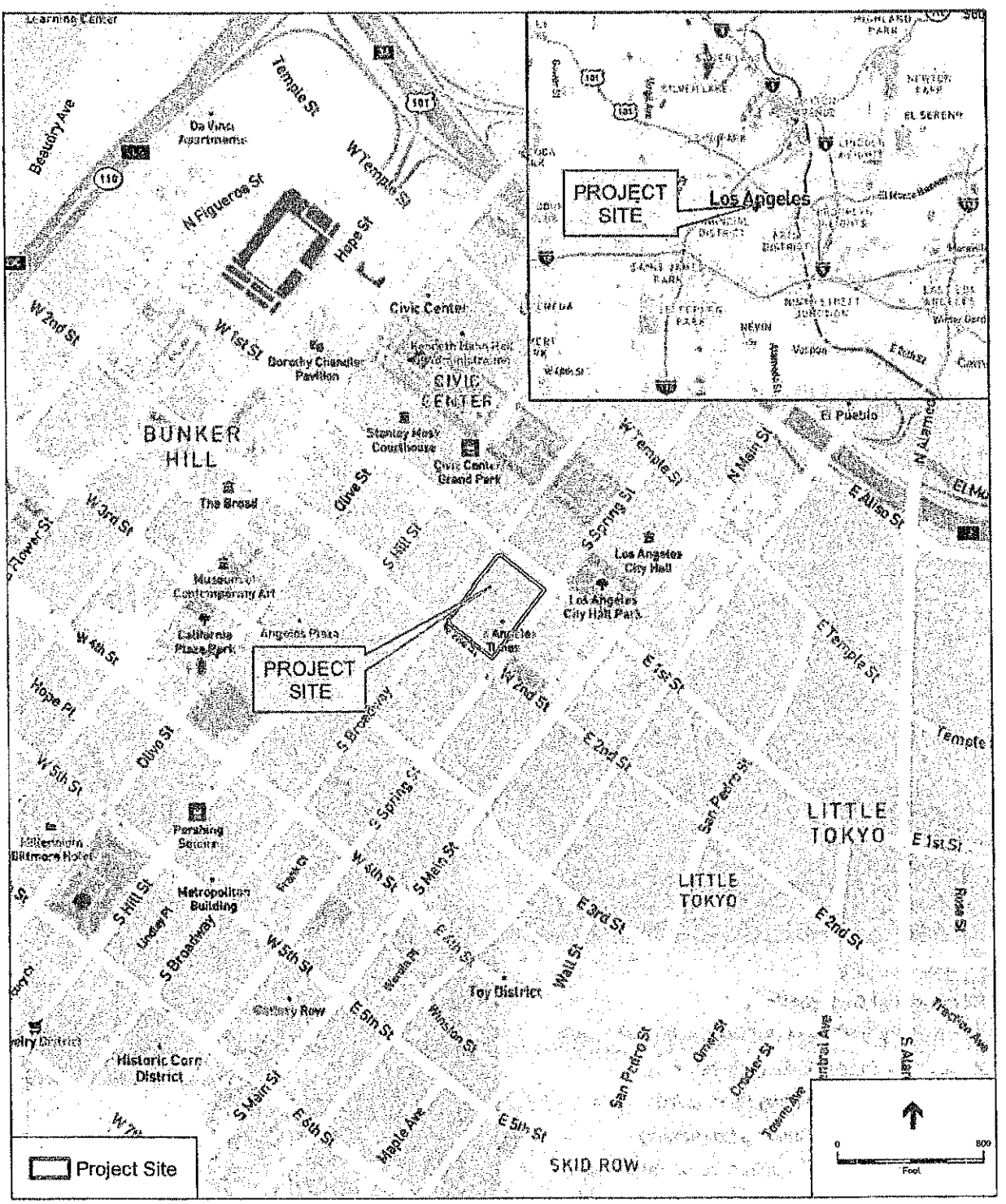
Should you have any questions, please do not hesitate to call at (213) 629-2041.

Sincerely,

Mark Spector
Senior Development Manager
ONNI GROUP

Appendix C

Project Location Maps



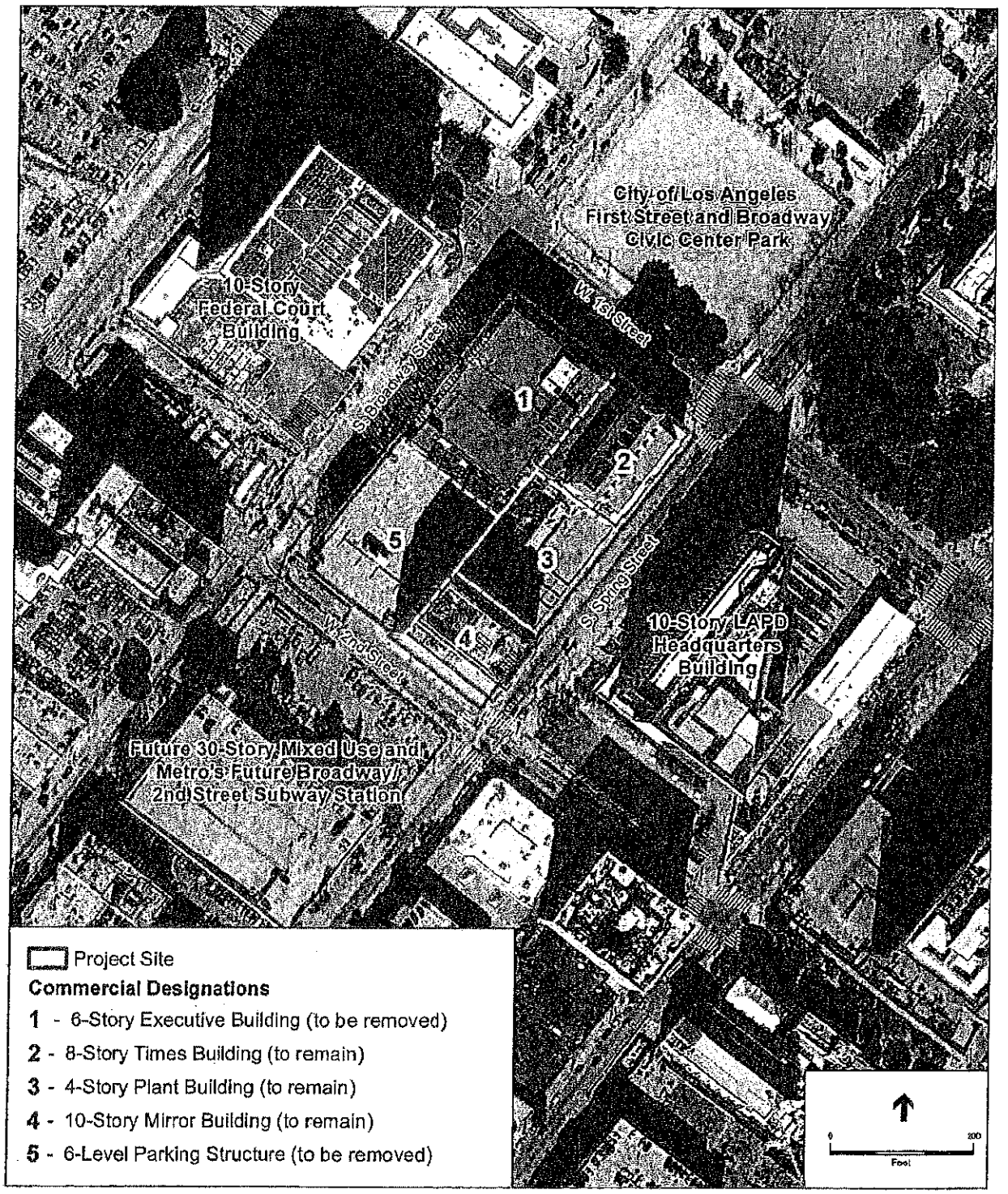
SOURCE: Open Street Map, 2016.

Times Mirror Square Project

Figure 1

Regional and Site Location Map

ESA PCR



SOURCE: Google Maps, 2016 (Aerial), ESA PCR, 2017

Times Mirror Square Project

Figure 2

Existing On Site Uses

ESA PCR

Appendix D

Adjudicated Groundwater Basin Judgments

- San Fernando Basin – Judgment No. 650079
- Sylmar Basin – Judgment No. 650079
- Central Basin – Judgment No, 786656

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

THE CITY OF LOS ANGELES, Plaintiff, vs. CITY OF SAN FERNANDO, ET AL. Defendants.	No. 650079 JUDGMENT

There follows by consecutive paging Recitals (page 1), Definitions and List of Attachments (pages 1 to 6), Designation of Parties (page 6), Declaration re Geology and Hydrology (pages 6 to 12), Declaration of Rights (pages 12 to 21), Injunctions (pages 21 to 22), Continuing Jurisdiction (page 23), Watermaster (pages 23 to 29), Physical Solution (pages 29 to 34), and Miscellaneous Provisions (pages 34 to 35), and Attachments (pages 36 to 46). Each and all of said several parts constitute a single integrated Judgment herein.

4.2.3 Separate Ground Water Basins. The physical and geologic characteristics of each of the ground water basins, Eagle rock, Sylmar, Verdugo and San Fernando, cause impediments to inter-basin ground water flow whereby there is created separate underground reservoirs. Each of said basins contains a common source of water supply to parties extracting ground water from each of said basins. The amount of underflow from Sylmar Basin, Verdugo Basin and Eagle Rock Basin to San Fernando Basin is relatively small, and on the average has been approximately 540 acre feet per year from the Sylmar Basin; 80 acre feet per year from Verdugo Basin; and 50 acre feet per year from Eagle Rock Basin. Each has physiographic, geologic and hydrologic differences, one from the other, and each meets the hydrologic definition of "basin". The extractions of water in the respective basins affect the other water users within that basin but do not significantly or materially affect the ground water levels in any of the other basins. The underground reservoirs of Eagle Rock, Verdugo and Sylmar Basins are independent of one another and of the San Fernando Basin.

4.2.4 Safe Yield and Native Safe Yield. The safe yield and native safe yield, stated in acre feet, of the three largest basins for the year 1964-65 was as follows:

Basin	Safe Yield	Native Safe Yield
San Fernando	90,680	43,660
Sylmar	6,210	3,850
Verdugo	7,150	3,590

The safe yield of Eagle Rock Basin is derived from imported water delivered by Los Angeles. There is no measurable native safe yield.

4.2.5 Separate Basins -- Separate Rights. The rights of the parties to extract ground water within ULARA are separate and distinct as within each of the several ground water basins within said watershed.

4.2.6 Hydrologic Condition of Basins. The several basins within ULARA are in varying hydrologic conditions, which result in different legal consequences.

4.2.6.1 San Fernando Basin. The first full year of overdraft in San Fernando Basin was 1954-55. It remained in overdraft continuously until 1968, when an injunction

LAGERLOF, SENICAL, DRESCHER & SWIFT
301 North Lake Avenue, 10th Floor
Pasadena, California 91101
(818) 793-9400 or (213) 385-4345

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT, etc., Plaintiff, v. CHARLES E. ADAMS, et al., Defendants. CITY OF LAKEWOOD, a municipal corporation, Cross-Complaint, v. CHARLES E. ADAMS, et al., Cross-Defendants.	No. 786,656 SECOND AMENDED JUDGMENT (Declaring and establishing water rights in Central Basin and enjoining extractions therefrom in excess of specified quantities.)

The above-entitled matter duly and regularly came on for trial in Department 73 of the above-entitled Court (having been transferred thereto from Department 75 by order of the presiding Judge), before the Honorable Edmund M. Moor, specially assigned Judge, on May 17, 1965, at 10:00 a.m. Plaintiff was represented by its attorneys BEWLEY, KNOOP,

of the close of the water year ending September 30, 1978 in accordance with the Watermaster Reports on file with this Court and the records of the Plaintiff. This tabulation does not take into account additions or subtractions from any Allowed Pumping Allocation of a producer for the 1978-79 water year, nor other adjustments not representing change in fee title to water rights, such as leases of water rights, nor does it include the names of lessees of landowners where the lessees are exercising the water rights. The exercise of all water rights is subject, however, to the provisions of this Judgment is hereinafter contained. All of said rights are of the same legal force and effect and are without priority with reference to each other. Each party whose name is hereinafter set forth in the tabulation set forth in Appendix "2" of this judgment, and after whose name there appears under the column "Total Water Right" the figure "0" owns no rights to extract any ground water from Central Basin, and has no right to extract any ground water from Central Basin.

(b) Defendant The City of Los Angeles is the owner of the right to extract fifteen thousand (15,000) acre feet per annum of ground water from Central Basin. Defendant Department of Water and Power of the City of Los Angeles has no right to extract ground water from Central Basin except insofar as it has the right, power, duty or obligation on behalf of defendant The City of Los Angeles to exercise the water rights in Central Basin of defendant The City of Los Angeles. The exercise of said rights are subject, however, to the provisions of this judgment hereafter contained, including but not limited to, sharing with other parties in any subsequent decreases or increases in the quantity of extractions permitted from Central Basin, pursuant to continuing jurisdiction of the Court, on the basis that fifteen thousand (15,000) acre feet bears to the Allowed Pumping Allocations of the other parties.

(c) No party to this action is the owner of or has any right to extract ground water from Central Basin except as herein affirmatively determined.

2. Parties Enjoined as Regards Quantities of Extractions.

Appendix E

Water Supply Assessment Provisions
California Water Code Section 10910-10915

WATER CODE
SECTION 10910-10915

10910. (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined in Section 10912, that may supply water for the project. If the city or county is not able to identify any public water system that may supply water for the project, the city or county shall prepare the water assessment required by this part after consulting with any entity serving domestic water supplies whose service area includes the project site, the local agency formation commission, and any public water system adjacent to the project site.

(c) (1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).

(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f), and (g).

(3) If the projected water demand associated with the proposed project was not accounted for in the most recently adopted urban water management plan, or the public water system has no urban water management plan, the water supply assessment for the project shall include a discussion with regard to whether the public water system's

total projected water supplies available during normal, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand associated with the proposed project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.

(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

(d) (1) The assessment required by this section shall include an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project, and a description of the quantities of water received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts.

(2) An identification of existing water supply entitlements, water rights, or water service contracts held by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall be demonstrated by providing information related to all of the following:

(A) Written contracts or other proof of entitlement to an identified water supply.

(B) Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system.

(C) Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.

(D) Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

(e) If no water has been received in prior years by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), under the existing water supply entitlements, water rights, or water service contracts, the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), shall also include in its water supply assessment pursuant to subdivision (c), an

identification of the other public water systems or water service contractholders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water as the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has identified as a source of water supply within its water supply assessments.

(f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water supply assessment:

(1) A review of any information contained in the urban water management plan relevant to the identified water supply for the proposed project.

(2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available,

including, but not limited to, historic use records.

(5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project.

A water supply assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

(g) (1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.

(2) Prior to the expiration of the 90-day period, if the public water system intends to request an extension of time to prepare and adopt the assessment, the public water system shall meet with the city or county to request an extension of time, which shall not exceed 30 days, to prepare and adopt the assessment.

(3) If the public water system fails to request an extension of time, or fails to submit the assessment notwithstanding the extension of time granted pursuant to paragraph (2), the city or county may seek a writ of mandamus to compel the governing body of the public water system to comply with the requirements of this part relating to the submission of the water supply assessment.

(h) Notwithstanding any other provision of this part, if a project has been the subject of a water supply assessment that complies with the requirements of this part, no additional water supply assessment shall be required for subsequent projects that were part of a larger project for which a water supply assessment was completed and that has complied with the requirements of this part and for which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has concluded that its water supplies are sufficient to meet the projected water demand associated with the proposed project, in addition to the existing and planned future uses, including, but not limited to, agricultural and industrial uses, unless one or more of the following changes occurs:

(1) Changes in the project that result in a substantial increase

in water demand for the project.

(2) Changes in the circumstances or conditions substantially affecting the ability of the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), to provide a sufficient supply of water for the project.

(3) Significant new information becomes available which was not known and could not have been known at the time when the assessment was prepared.

10911. (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the considerations set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to be able to acquire additional water supplies.

(b) The city or county shall include the water supply assessment provided pursuant to Section 10910, and any information provided pursuant to subdivision (a), in any environmental document prepared for the project pursuant to Division 13 (commencing with Section 21000) of the Public Resources Code.

(c) The city or county may include in any environmental document an evaluation of any information included in that environmental

document provided pursuant to subdivision (b). The city or county shall determine, based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses. If the city or county determines that water supplies will not be sufficient, the city or county shall include that determination in its findings for the project.

10912. For the purposes of this part, the following terms have the following meanings:

(a) "Project" means any of the following:

(1) A proposed residential development of more than 500 dwelling units.

(2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.

(3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

(4) A proposed hotel or motel, or both, having more than 500 rooms.

(5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.

(6) A mixed-use project that includes one or more of the projects specified in this subdivision.

(7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

(b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3000 or more service connections. A public water system includes all of the

following:

(1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.

(2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.

(3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.

10914. (a) Nothing in this part is intended to create a right or entitlement to water service or any specific level of water service.

(b) Nothing in this part is intended to either impose, expand, or limit any duty concerning the obligation of a public water system to provide certain service to its existing customers or to any future potential customers.

(c) Nothing in this part is intended to modify or otherwise change existing law with respect to projects which are not subject to this part.

(d) This part applies only to a project for which a notice of preparation is submitted on or after January 1, 1996.

10915. The County of San Diego is deemed to comply with this part if the Office of Planning and Research determines that all of the following conditions have been met:

(a) Proposition C, as approved by the voters of the County of San Diego in November 1988, requires the development of a regional growth management plan and directs the establishment of a regional planning and growth management review board.

(b) The County of San Diego and the cities in the county, by agreement, designate the San Diego Association of Governments as that review board.

(c) A regional growth management strategy that provides for a comprehensive regional strategy and a coordinated economic development and growth management program has been developed pursuant to Proposition C.

(d) The regional growth management strategy includes a water element to coordinate planning for water that is consistent with the

requirements of this part.

(e) The San Diego County Water Authority, by agreement with the San Diego Association of Governments in its capacity as the review board, uses the association's most recent regional growth forecasts for planning purposes and to implement the water element of the strategy.

(f) The procedures established by the review board for the development and approval of the regional growth management strategy, including the water element and any certification process established to ensure that a project is consistent with that element, comply with the requirements of this part.

(g) The environmental documents for a project located in the County of San Diego include information that accomplishes the same purposes as a water supply assessment that is prepared pursuant to Section 10910.

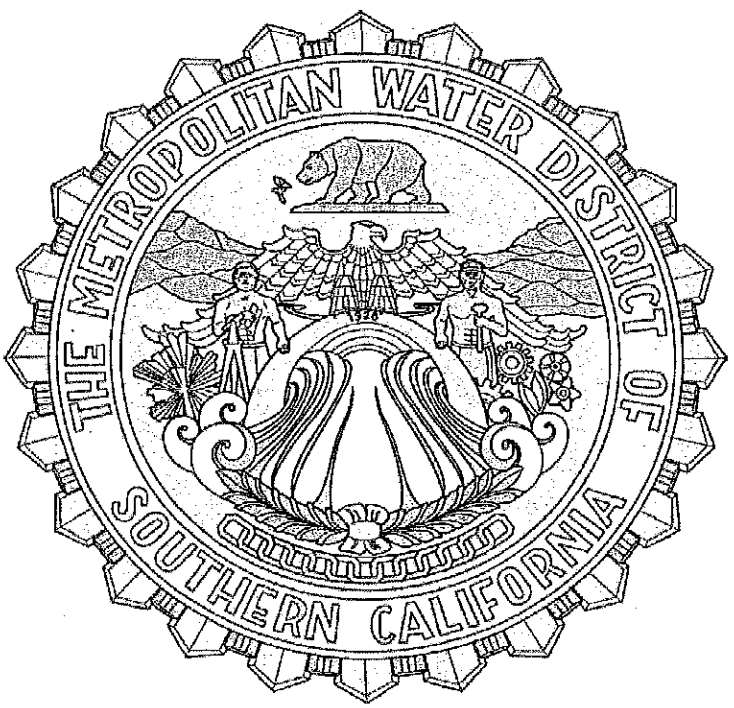
Appendix F

Metropolitan Water District of Southern California

(APPENDIX A)

APPENDIX A

The Metropolitan Water District of Southern California



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INTRODUCTION

This Appendix A provides general information regarding The Metropolitan Water District of Southern California ("Metropolitan"), including information regarding Metropolitan's operations and finances. Statements included or incorporated by reference in this Appendix A constitute "forward-looking statements." Such statements are generally identifiable by the terminology used such as "plan," "project," "expect," "estimate," "budget" or other similar words. Such statements are based on facts and assumptions set forth in Metropolitan's current planning documents including, without limitation, its most recent biennial budget. The achievement of results or other expectations contained in such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Actual results may differ from Metropolitan's forecasts. Metropolitan is not obligated to issue any updates or revisions to the forward-looking statements in any event.

Metropolitan maintains a website that may include information on programs or projects described in this Appendix A; however, none of the information on Metropolitan's website is incorporated by reference or intended to assist investors in making an investment decision or to provide any additional information with respect to the information included in this Appendix A. The information presented on Metropolitan's website is not part of the Official Statement and should not be relied upon in making investment decisions.

Formation and Purpose

Metropolitan is a metropolitan water district created in 1928 under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended (herein referred to as the "Act")). The Act authorizes Metropolitan to: levy property taxes within its service area; establish water rates; impose charges for water standby and service availability; incur general obligation bonded indebtedness and issue revenue bonds, notes and short-term revenue certificates; execute contracts; and exercise the power of eminent domain for the purpose of acquiring property. In addition, Metropolitan's Board of Directors (the "Board") is authorized to establish terms and conditions under which additional areas may be annexed to Metropolitan's service area.

Metropolitan's primary purpose is to provide a supplemental supply of water for domestic and municipal uses at wholesale rates to its member public agencies. If additional water is available, such water may be sold for other beneficial uses. Metropolitan serves its member agencies as a water wholesaler and has no retail customers.

The mission of Metropolitan, as promulgated by the Board, is to provide its service area with adequate and reliable supplies of high quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan's charges for water sales and availability are fixed by its Board, and are not subject to regulation or approval by the California Public Utilities Commission or any other state or federal agency. Metropolitan imports water from two principal sources: northern California via the Edmund G. Brown California Aqueduct (the "California Aqueduct") of the State Water Project owned by the State of California (the "State" or "California") and the Colorado River via the Colorado River Aqueduct ("CRA") owned by Metropolitan.

Member Agencies

Metropolitan is comprised of 26 member public agencies, including 14 cities, 11 municipal water districts, and one county water authority, which collectively serve the residents and businesses of more than 300 cities and numerous unincorporated communities. Member agencies request water from Metropolitan at

various delivery points within Metropolitan's system and pay for such water at uniform rates established by the Board for each class of water service. Metropolitan's water is a supplemental supply for its member agencies, most of whom have other sources of water. See "METROPOLITAN REVENUES–Principal Customers" in this Appendix A for a listing of the ten member agencies with the highest water purchases from Metropolitan during the fiscal year ended June 30, 2016. Metropolitan's member agencies may, from time to time, develop additional sources of water. No member is required to purchase water from Metropolitan, but all member agencies are required to pay readiness-to-serve charges whether or not they purchase water from Metropolitan. See "METROPOLITAN REVENUES–Rate Structure", "–Member Agency Purchase Orders" and "–Other Charges" in this Appendix A.

The following table lists the 26 member agencies of Metropolitan.

Municipal Water Districts		Cities		County Water Authority
Calleguas	Las Virgenes	Anaheim	Los Angeles	San Diego[1]
Central Basin	Orange County	Beverly Hills	Pasadena	
Eastern	Three Valleys	Burbank	San Fernando	
Foothill	West Basin	Compton	San Marino	
Inland Empire Utilities Agency		Fullerton	Santa Ana	
Upper San Gabriel Valley		Glendale	Santa Monica	
Western of Riverside County		Long Beach	Torrance	

(1) The San Diego County Water Authority, currently Metropolitan's largest customer, is a plaintiff in litigation challenging the allocation of costs to certain rates adopted by the Board and asserting other claims. See "METROPOLITAN REVENUES–Litigation Challenging Rate Structure" in this Appendix A.

Service Area

Metropolitan's service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. When Metropolitan began delivering water in 1941, its service area consisted of approximately 625 square miles. Its service area has increased by 4,500 square miles since that time. The expansion was primarily the result of annexation of the service areas of additional member agencies.

Metropolitan estimates that approximately 18.8 million people lived in Metropolitan's service area in 2016, based on official estimates from the California Department of Finance and on population distribution estimates from the Southern California Association of Governments ("SCAG") and the San Diego Association of Governments ("SANDAG"). Population projections prepared by SCAG in 2012 and SANDAG in 2013, as part of their planning process to update regional transportation and land use plans, show expected population growth of about 18 percent in Metropolitan's service area between 2010 and 2035. The economy of Metropolitan's service area is exceptionally diverse. In 2015, the economy of the six counties which contain Metropolitan's service area had a gross domestic product larger than all but eleven nations of the world. Metropolitan has historically provided between 40 and 60 percent of the water used annually within its service area. For additional economic and demographic information concerning the six county area containing Metropolitan's service area, see Appendix E–"SELECTED DEMOGRAPHIC AND ECONOMIC INFORMATION FOR METROPOLITAN'S SERVICE AREA."

The climate in Metropolitan's service area ranges from moderate temperatures throughout the year in the coastal areas to hot and dry summers in the inland areas. Annual rainfall in an average year has historically been approximately 13 to 15 inches along the coastal area, up to 20 inches in foothill areas and less than 10 inches inland.

GOVERNANCE AND MANAGEMENT

Board of Directors

Metropolitan is governed by a 38-member Board of Directors, made up of representatives from all of Metropolitan's member agencies. Each member public agency is entitled to have at least one representative on the Board, plus an additional representative for each full five percent of the total assessed valuation of property in Metropolitan's service area that is within the member public agency. Changes in relative assessed valuation do not terminate any director's term. Accordingly, the Board may, from time to time, have more or fewer than 38 directors.

The Board includes business, professional and civic leaders. Directors are appointed by member agencies in accordance with those agencies' processes. They serve on the Board without compensation from Metropolitan. Voting is based on assessed valuation, with each member agency being entitled to cast one vote for each $10 million or major fractional part of $10 million of assessed valuation of property within the member agency, as shown by the assessment records of the county in which the member agency is located. The Board administers its policies through the Metropolitan Water District Administrative Code (the "Administrative Code"), which was adopted by the Board in 1977. The Administrative Code is periodically amended to reflect new policies or changes in existing policies that occur from time to time.

Management

Metropolitan's day-to-day management is under the direction of its General Manager, who serves at the pleasure of the Board, as do Metropolitan's General Counsel, General Auditor and Ethics Officer. Following is a biographical summary of Metropolitan's principal executive officers.

Jeffrey Kightlinger, General Manager – Mr. Kightlinger was appointed as General Manager in February 2006, leaving the position of General Counsel, which he had held since February 2002. Before becoming General Counsel, Mr. Kightlinger was a Deputy General Counsel and then Assistant General Counsel, representing Metropolitan primarily on Colorado River matters, environmental issues, water rights and a number of Metropolitan's water transfer and storage programs. Prior to joining Metropolitan in 1995, Mr. Kightlinger worked in private practice representing numerous public agencies including municipalities, redevelopment agencies and special districts. Mr. Kightlinger earned his bachelor's degree in history from the University of California, Berkeley, and his law degree from Santa Clara University.

Marcia Scully, General Counsel – Ms. Scully assumed the position of General Counsel in March 2012. She previously served as Metropolitan's Interim General Counsel from March 2011 to March 2012. Ms. Scully joined Metropolitan in 1995, after a decade of private law practice, providing legal representation to Metropolitan on construction, employment, Colorado River and significant litigation matters. From 1981 to 1985 she was assistant city attorney for the City of Inglewood. Ms. Scully served as president of University of Michigan's Alumnae Club of Los Angeles and is a recipient of the 1996 State Bar of California, District 7 President's Pro Bono Service Award and the Southern California Association of Non-Profit Housing Advocate of the Year Award. She is also a member of the League of Women Voters for Whittier and was appointed for two terms on the City of Whittier's Planning Commission, three years of which were served as chair. Ms. Scully earned a bachelor's degree in liberal arts from the University of Michigan, a master's degree in urban planning from Wayne State University and law degree from Loyola Law School.

Gerald C. Riss, General Auditor – Mr. Riss was appointed as Metropolitan's General Auditor in July 2002 and is responsible for the independent evaluation of the policies, procedures and systems of control throughout Metropolitan. Mr. Riss is a certified fraud examiner, certified financial services auditor and certified risk professional with more than 25 years of experience in accounting, audit and risk management. Prior to joining Metropolitan, Mr. Riss was Vice President and Assistant Division Head of Risk Management

Administration at United California Bank/Bank of the West. He also served as Senior Vice President, director of Risk Management and General Auditor of Tokai Bank of California from 1988 until its reorganization as United California Bank in 2001. He earned a bachelor's degree in accounting and master's degree in business administration from Wayne State University in Detroit, Michigan.

Deena Ghaly, Ethics Officer – Ms. Ghaly was appointed Ethics Officer in November 2012. Ms. Ghaly joined Metropolitan with over 20 years of legal and ethics-related experience. Prior to joining Metropolitan, she served as an administrative law judge for the California Office of Administrative Hearings. She previously was head of enforcement and general counsel for the Los Angeles City Ethics Commission, which administers and enforces the laws regarding campaign contributions, lobbying, and government ethics for the City of Los Angeles. Before moving to Southern California in 2001, Ms. Ghaly worked in New York City, where she headed the labor department in the general counsel's office of a large city agency. Licensed to practice law in California, New York and New Jersey, Ms. Ghaly is knowledgeable in workplace investigations, government ethics, regulatory affairs, and labor and employment matters. She has lectured throughout the nation on various topics, including parallel criminal and administrative prosecution, due process in administrative procedures, and effective internal investigations. Ms. Ghaly earned a bachelor's degree in philosophy from Wellesley College in Massachusetts and a law degree from Cornell Law School.

Gary Breaux, Assistant General Manager/Chief Financial Officer – Mr. Breaux has had extensive experience working for local governments since 1983. From 1994 until joining Metropolitan in October 2011, he served as Director of Finance for East Bay Municipal Utility District ("EBMUD"). At EBMUD, he was responsible for all financial areas, including treasury operations, debt management, rates, internal audit, accounting and reporting, risk management and customer and community services. Prior to joining EBMUD, he was Director of Finance for the City of Oakland, California. A native of Colorado, Mr. Breaux received a Bachelor of Science degree in Business from the University of Colorado in 1977 and a master's degree in Public Administration in 1987 from Virginia Commonwealth University.

Debra Man, Assistant General Manager/Chief Operating Officer – Ms. Man was appointed to her current position in December 2003. Ms. Man has worked at Metropolitan since 1986, beginning as an engineer and advancing to Chief of the Planning and Resources Division. As Chief of Planning and Resources she was responsible for major initiatives adopted by Metropolitan's Board, such as the Integrated Water Resources Plan, rate structure, and facility plans for expansion of Metropolitan's distribution system. In 1999, she was appointed as Vice President of Water Transfers and Exchanges, responsible for securing water supplies through agreements and partnerships with other water and agricultural interests in San Joaquin Valley and Southern California and demonstrating Metropolitan's water supply reliability in compliance with current laws. Ms. Man is a registered professional civil engineer in California and Hawaii. She has a bachelor's degree in civil engineering from the University of Hawaii and a master's degree in civil/environmental engineering from Stanford University.

Roger Patterson, Assistant General Manager/Strategic Initiatives – Mr. Patterson was appointed Assistant General Manager in March 2006. He is responsible for overseeing water supply and planning issues, including the Colorado River and State Water Project. He previously served as a consultant to Metropolitan on Colorado River issues. Mr. Patterson was the director of the Nebraska Department of Natural Resources from 1999 to 2005, where he was responsible for water administration, water planning, flood-plain delineation, dam safety and the state databank. Prior to his work in Nebraska, Mr. Patterson spent 25 years with the U.S. Bureau of Reclamation ("Bureau of Reclamation"), retiring from the Bureau of Reclamation as the Regional Director for the Mid-Pacific Region. He is a registered professional engineer in Nebraska and Colorado, and earned bachelor's and master's degrees in engineering from the University of Nebraska.

Fidencio M. Mares, Interim Assistant General Manager/Chief Administrative Officer – Mr. Mares was appointed the Interim Assistant General Manager/Chief Administrative Officer in July 2015 and is

responsible for the strategic direction and management of Metropolitan's administrative functions. His primary responsibilities include managing human resources, information technology, real property and administrative services. Prior to joining Metropolitan, Mr. Mares was the owner of the Mares Company, where he served as a consultant to companies in the overall assessment of their management programs and processes. Prior to becoming a consultant, Mares worked both in the private and public sectors, serving as vice president of human resources and corporate communications for Beckham Coulter and as chief administrative officer of BHP/Pacific Resources and President & CEO of Gas Operations. He worked for more than 15 years for The Gas Company in Hawaii and Southern California Edison Company. A graduate of the California State University, Fresno, he also serves on the National Board of Visitors (Distinguished Graduates) for the University.

Dee Zinke, Assistant General Manager/Chief External Affairs Officer– Ms. Zinke was appointed Assistant General Manager in January 2016. She is responsible for Metropolitan's communications, business outreach, education and legislative matters. She joined Metropolitan in 2009 as Manager of the Legislative Services Section. Before coming to Metropolitan, Ms. Zinke was the Manager of Governmental and Legislative Affairs at the Calleguas Municipal Water District for nearly 10 years, where she received recognition for her significant contributions to the Association of California Water Agencies, the Ventura County Special Districts Association and the Association of Water Agencies of Ventura County. During her tenure at Calleguas, she was named Chair of the Ventura County Watersheds Coalition and appointed by then-Secretary of Resources Mike Chrisman to the State Watershed Advisory Committee. Prior to her public service, she worked in the private sector as the Executive Officer and Senior Legislative Advocate for Building Industry Association of Greater Los Angeles and Ventura Counties and as Director of Communications for E-Systems, a defense contractor specializing in communication, surveillance and navigation systems in Washington, D.C. Ms. Zinke holds a Bachelor of Arts degree in Communication and Psychology from Virginia Polytechnic Institute and State University.

Employee Relations

The total number of regular full-time Metropolitan employees on January 1, 2017 was 1,765, of whom 1,223 were represented by AFSCME Local 1902, 95 by the Supervisors Association, 294 by the Management and Professional Employees Association and 129 by the Association of Confidential Employees. The remaining 24 employees are unrepresented. The four bargaining units represent 99 percent of Metropolitan's employees. The Memorandum of Understanding ("MOU") with each of the Association of Confidential Employees, the Management and Professional Employees Association and AFSCME Local 1902 covered the period January 1, 2011 through December 31, 2016. The MOU with the Supervisors Association covered the period September 13, 2011 to December 31, 2016. Although the contracts with the bargaining units are expired, the provisions of such contracts will govern until a successor contract is negotiated. The Board authorized the General Manager to exercise discretion under Administrative Code Section 6101(k) to enter into a successor MOU with the Management and Professional Employees Association on February 14, 2017. Negotiations with the remaining bargaining units are underway and are currently expected to be completed in early 2017.

Risk Management

Metropolitan is exposed to various risks of loss related to the design and construction of facilities, and the treatment and delivery of water. With the assistance of third party claims administrators, Metropolitan is self-insured for liability, property and workers' compensation. Metropolitan self-insures the first $25 million per liability occurrence, with commercial liability coverage of $75 million in excess of the self-insured retention. The $25 million self-insured retention is maintained as a separate restricted reserve. Metropolitan is also self-insured for loss or damage to its property, with the $25 million self-insured retention also being accessible for emergency repairs and Metropolitan property losses. In addition, Metropolitan obtains other excess and specialty insurance coverages such as directors' and officers' liability, fiduciary liability and aircraft hull and liability coverage.

Metropolitan self-insures the first $5 million for workers' compensation with statutory excess coverage. The self-insurance retentions and reserve levels currently maintained by Metropolitan may be modified by the Board at its sole discretion.

Information Security

Metropolitan has adopted and maintains an active Information Security program ("ISP") that includes comprehensive policies and procedures reviewed annually by its internal Information Security Team, Audit and independent third party auditors and consultants. Metropolitan has appointed an Information Security Manager who is responsible for overseeing the annual review of the ISP and its alignment with the strategic plan and direction of Metropolitan. Metropolitan's policies and procedures are consistent with public agency standards as well as staying aligned with governance, risk, and compliance. All Metropolitan users are required to participate in Metropolitan's Information Security education and awareness training. Metropolitan's Information Security Team is responsible for providing guidance and education on the implementation of new technologies based on Metropolitan's ISP as well as overseeing the monitoring of potential threats and vulnerabilities, utilizing and executing security controls to validate policy enforcement, protecting against virus and malware attacks, and investigating any potential unauthorized activity on Metropolitan's network.

METROPOLITAN'S WATER SUPPLY

General

Metropolitan's principal sources of water supplies are the State Water Project and the Colorado River. Metropolitan receives water delivered from the State Water Project under State Water Contract provisions, including contracted supplies, use of carryover storage in San Luis Reservoir, and surplus supplies. Metropolitan holds rights to a basic apportionment of Colorado River water and has priority rights to an additional amount depending on availability of surplus supplies. Water management programs supplement these Colorado River supplies. To secure additional supplies, Metropolitan also has groundwater banking partnerships and water transfer and storage arrangements within and outside its service area. Metropolitan's principal water supply sources, and other supply arrangements and water management are more fully described herein.

Metropolitan faces a number of challenges in providing adequate, reliable and high quality supplemental water supplies for southern California. These include, among others: (1) population growth within the service area; (2) increased competition for low-cost water supplies; (3) variable weather conditions; (4) increased environmental regulations; and (5) climate change. Metropolitan's resources and strategies for meeting these long-term challenges are set forth in its Integrated Water Resources Plan, as updated from time to time. See "–Integrated Water Resources Plan." In addition, Metropolitan manages water supplies in response to the prevailing hydrologic conditions by implementing its Water Surplus and Drought Management ("WSDM") Plan, and in times of prolonged or severe shortages, the Water Supply Allocation Plan (the "Water Supply Allocation Plan"). See "CONSERVATION AND WATER SHORTAGE MEASURES–Water Surplus and Drought Management Plan" and "–Water Supply Allocation Plan."

Hydrologic conditions can have a significant impact on Metropolitan's imported water supply sources. For Metropolitan's State Water Project supplies, precipitation in California's northern Sierra Nevada during the fall and winter helps replenish storage levels in Lake Oroville, a key State Water Project facility. The subsequent runoff from the spring snowmelt helps satisfy regulatory requirements in the San Francisco Bay/Sacramento-San Joaquin River Delta ("Bay-Delta") bolstering water supply reliability in the same year. See "–State Water Project – Bay-Delta Proceedings Affecting State Water Project." The source of Metropolitan's Colorado River supplies is primarily the watersheds of the Upper Colorado River basin in

the states of Colorado, Utah, and Wyoming. Although precipitation is primarily observed in the winter and spring, summer storms are common and can affect water supply conditions.

Uncertainties from potential future temperature and precipitation changes in a climate driven by increased concentrations of atmospheric carbon dioxide also present challenges. Areas of concern to California water planners identified by researchers include: reduction in Sierra Nevada and Colorado Basin snowpack; increased intensity and frequency of extreme weather events; and rising sea levels resulting in increased risk of damage from storms, high-tide events, and the erosion of levees and potential cutbacks of deliveries of imported water. While potential impacts from climate change remain subject to study and debate, climate change is among the uncertainties that Metropolitan seeks to address through its planning processes.

Current Water Conditions

Following the drought period from 2012-2015, current hydrologic conditions have improved. As of February 1, 2017, the northern Sierra precipitation was 197 percent of normal with a snowpack accumulation that was 140 percent of normal. Lake Oroville, the principal State Water Project reservoir, began flood control releases in early January. See "–Recent Events at Oroville Dam" below. On January 18, 2017, the California Department of Water Resources ("DWR") notified State Water Contractors that its calendar year 2017 allocation estimate to State Water Contractors was 60 percent of contracted amounts, or 1,146,900 acre-feet for Metropolitan. (An acre-foot is the amount of water that will cover one acre to a depth of one foot and equals approximately 326,000 gallons, which represents the needs of two average families in and around the home for one year.) See "–State Water Project."

As of February 1, 2017, the Upper Colorado River Basin snowpack measured 156 percent of normal and total system storage in the Colorado River Basin was 49 percent of capacity. As of such date, the projected base supply of Colorado River water in calendar year 2017 was estimated to be 960,000 acre-feet. See "–Colorado River Aqueduct."

See also "–Storage Capacity and Water in Storage."

Recent Events at Oroville Dam

Oroville Dam, the earthfill embankment dam on the Feather River which impounds Lake Oroville, is operated by DWR as a facility of the State Water Project. On February 7, 2017, the main flood control spillway at Oroville Dam, a gated and concrete lined facility, experienced significant damage as DWR increased releases to 55,000 cubic feet per second to manage higher inflows driven by continued precipitation in the Feather River basin. Subsequently, DWR halted releases at the main spillway to inspect the damage and conduct flow tests. After testing, the main spillway was returned to service on February 8 at a reduced flow rate to offset inflows into Lake Oroville. On February 11, the water elevation in Lake Oroville reached 901 feet, leading water to flow over the emergency spillway structure, an ungated, 1,730 foot long concrete barrier located adjacent to and north of the main flood control spillway structure. Releases from the emergency spillway flow uncontrolled down an earthen hillside to the Feather River. On February 12, erosion began to progress up the right side of the emergency spillway. Concerns about the erosion at the emergency spillway prompted DWR to increase releases through the damaged main spillway and led the Butte County Sheriff to evacuate downstream communities for two days to ensure the safety of the residents. As of February 14, water levels in Lake Oroville were 13 feet below the crest of the emergency spillway and the mandatory evacuation order was lifted. DWR has begun repairs to the erosion areas below the emergency spillway. As of February 15, 2017, the cause of the damage to the main spillway was unknown.

The State has requested federal emergency funding to help offset costs related to the response efforts. The Federal Emergency Management Agency has approved the State's request for federal assistance.

Following the rainy season, the spillways will be repaired on a more permanent basis in preparation for the following winter. DWR's initial assessments indicate costs may range from $100-200 million. These estimates are subject to revision as more detailed information becomes known. Metropolitan is unable to assess at this time what costs, if any, it will incur as a State Water Contractor, associated with the spillway repairs.

State Water Project water allocations to State Water Contractors for calendar year 2017 are currently estimated to be 60 percent of contracted amounts. In spite of the damage to the main spillway and the unknowns associated with DWR's corresponding repair plan, the State Water Project allocation is expected to increase from the current estimate of 60 percent. If realized, this would result in an allocation that is higher than average, and likely higher than any allocation since 2011. Nonetheless, future water supplies will be primarily dependent on hydrology.

Integrated Water Resources Plan

Overview. The Integrated Water Resources Plan ("IRP") is Metropolitan's principal water resources planning document. Metropolitan, its member agencies, subagencies and groundwater basin managers developed their first IRP as a long-term planning guideline for resources and capital investments. The purpose of the IRP was the development of a portfolio of preferred resources to meet the water supply reliability and water quality needs for the region in a cost-effective and environmentally sound manner. The first IRP was adopted by the Board in January 1996 and has been subsequently updated in 2004, 2010 and 2015.

On January 12, 2016, Metropolitan's Board adopted the most recent IRP update (the "2015 IRP Update") as a strategy to set goals and a framework for water resources development. This strategy enables Metropolitan and its member agencies to manage future challenges and changes in California's water conditions and to balance investments with water reliability benefits. The 2015 IRP Update provides an adaptive management approach to address future uncertainty, including uncertainty from climate change. It was formulated with input from member agencies, retail water agencies, and other stakeholders including water and wastewater managers, environmental and business interests and the community.

The 2015 IRP Update seeks to provide regional reliability through 2040 by stabilizing Metropolitan's traditional imported water supplies and continuing to develop additional conservation programs and local resources, with an increased emphasis on regional collaboration. It also advances long-term planning for potential future contingency resources, such as storm water capture and seawater desalination.

Specific projects that may be developed by Metropolitan in connection with the implementation of the 2015 IRP Update will be subject to future Board consideration and approval, as well as environmental and regulatory documentation and compliance. The 2015 IRP Update and associated materials are available on Metropolitan's website at: http://www.mwdh2o.com/AboutYourWater/Planning/Planning-Documents/Pages/default.aspx. The information set forth on Metropolitan's website is not incorporated by reference.

An Adaptive Management Strategy. Adaptive water management, as opposed to a rigid set of planned actions over the coming decades, is the most nimble and cost-effective manner for Metropolitan and local water districts throughout Southern California to effectively prepare for the future. An adaptive management approach began to evolve with Metropolitan's first IRP in 1996, after drought-related shortages in 1991 prompted a rethinking of Southern California's long-term water strategy. Reliance on imported supplies to meet future water needs has decreased steadily over time, replaced by plans for local actions to

meet new demands. The 2015 IRP Update continues to build a robust portfolio approach to water management.

The following paragraphs describe the goals, approaches and targets for each of the resource areas that are needed to ensure reliability under planned conditions.

State Water Project. The State Water Project is one of Metropolitan's two major sources of water. The goal for State Water Project supplies is to adaptively manage flow and export regulations in the near term and to achieve a long-term Bay-Delta solution that addresses ecosystem and water supply reliability challenges. Achieving this goal will require continued participation and successful outcomes in the California WaterFix and the California EcoRestore efforts. See "–State Water Project" and "REGIONAL WATER RESOURCES–Local Water Supplies" in this Appendix A. The stated goal of the IRP is to manage State Water Project supplies in compliance with regulatory restrictions in the near-term for an average of 980,000 acre-feet of annual supplies, and to pursue a successful outcome in the California WaterFix and California EcoRestore efforts for long-term average supplies of approximately 1.2 million acre-feet annually from this resource. See "–State Water Project – Bay-Delta Proceedings Affecting State Water Project."

Colorado River Aqueduct. The CRA delivers water from the Colorado River, Metropolitan's original source of supply. Metropolitan has helped to fund and implement agricultural conservation programs, improvements to river operation facilities, land management programs and water transfers and exchanges through agreements with agricultural water districts in southern California, entities in Arizona and Nevada that use Colorado River water, and the Bureau of Reclamation. See "–Colorado River Aqueduct" and "–Water Transfer, Storage and Exchange Programs – Colorado River Aqueduct." The stated goal of the IRP for the CRA supplies is to maintain current levels of water supplies from existing programs, while also developing flexibility through dry-year programs and storage to ensure that a minimum of 900,000 acre-feet of CRA deliveries are available when needed, with a target of 1.2 million acre-feet in dry years.

Water Transfers and Exchanges. Under voluntary water transfer or exchange agreements, agricultural communities using irrigation water may periodically sell or conserve some of their water allotments for use in urban areas. The water may be delivered through existing State Water Project or CRA facilities, or may be exchanged for water that is delivered through such facilities. Metropolitan's policy toward potential transfers states that the transfers will be designed to protect and, where feasible, enhance environmental resources and avoid the mining of local groundwater supplies. See "–Water Transfer, Storage and Exchange Programs." The stated goal of the IRP is to pursue transfers and exchanges to hedge against shorter-term water demand and supply imbalances while long-term water supply solutions are developed and implemented.

Water Conservation. Conservation and other water use efficiencies are integral components of Metropolitan's IRP. Metropolitan has invested in conservation programs since the 1980s. Historically, most of the investments have been in water efficient fixtures in the residential sector. With outdoor water use comprising at least 50 percent of residential water demand, Metropolitan has increased its conservation efforts to target outdoor water use reduction in its service area. See "CONSERVATION AND WATER SHORTAGE MEASURES." The stated goal of the IRP is to pursue further water conservation savings of 485,000 acre-feet annually by 2040 through continued increased emphasis on outdoor water-use efficiency using incentives, outreach/education and other programs.

Local Water Supplies. Local supplies are a significant and growing component to the region's diverse water portfolio. While the extent to which each member agency's water supply is provided by imported water purchased from Metropolitan varies, in the aggregate, local supplies can provide over half of the region's water in a given year, and the maintenance of these supplies remain an integral part of the IRP. Similar to water conservation, local supplies serve the important function of reducing demands for imported water supplies and thereby making regional water system capacity and storage available and accessible to

meet the needs of the region. Local water supply projects may include, among other things, recycled water, groundwater recovery, conjunctive use, and seawater desalination. Metropolitan offers financial incentives to member agencies to help fund the development of a number of these types of local supply projects. The stated goal of the IRP is to seek to develop 230,000 acre-feet of additional local supplies produced by existing and future projects, with the region reaching a target of 2.4 million acre-feet of total dependable local supply by 2040. See "REGIONAL WATER RESOURCES–Local Water Supplies" in this Appendix A.

State Water Project

Background

One of Metropolitan's two major sources of water is the State Water Project, which is owned by the State, and managed and operated by DWR. The State Water Project is the largest state-built, multipurpose, user-financed water project in the country. It was designed and built primarily to deliver water, but also provides flood control, generates power for pumping, is used for recreation, and enhances habitat for fish and wildlife. The State Water Project provides irrigation water to 750,000 acres of farmland, mostly in the San Joaquin Valley, and provides municipal and industrial water to approximately 25 million of California's estimated 39.2 million residents, including the population within the service area of Metropolitan.

The State Water Project's watershed encompasses the mountains and waterways around the Feather River, the principal tributary of the Sacramento River, in the Sacramento Valley of Northern California. Through the State Water Project, Feather River water stored in and released from Oroville Dam (located about 70 miles north of Sacramento, east of the city of Oroville, California) and unregulated flows diverted directly from the Bay-Delta are transported south through the Central Valley of California, over the Tehachapi Mountains and into Southern California, via the California Aqueduct, to four delivery points near the northern and eastern boundaries of Metropolitan's service area. The total length of the California Aqueduct is approximately 444 miles long. See "METROPOLITAN'S WATER DELIVERY SYSTEM–Primary Facilities and Method of Delivery – State Water Project" in this Appendix A.

State Water Contract

In 1960, Metropolitan signed a water supply contract (as amended, the "State Water Contract") with DWR to receive water from the State Water Project. Metropolitan is one of 29 agencies and districts that have long-term contracts for water service from DWR (known collectively as the "State Water Contractors" and sometimes referred to herein as "Contractors"). Metropolitan is the largest of the State Water Contractors in terms of the number of people it serves (approximately 18.8 million), the share of State Water Project water that it has contracted to receive (approximately 46 percent), and the percentage of total annual payments made to DWR by agencies with State water contracts (approximately 52 percent for 2016). Metropolitan received its first delivery of State Water Project water in 1972.

Pursuant to the terms of the State water contracts, all water-supply related expenditures for capital and operations, maintenance, power, and replacement costs associated with the State Water Project facilities are paid for by the State Water Contractors. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them. Each year DWR estimates the total State Water Project water available for delivery to the State Water Contractors and allocates the available project water among the State Water Contractors in accordance with the State water contracts. DWR's total water supply availability projections are refined over the course of the winter season based upon updated rainfall and snowpack values and allocations to the State Water Contractors are adjusted accordingly.

Metropolitan's State Water Contract has been amended a number of times since its original execution and delivery. Several of the amendments, entered into by DWR and various subsets of State Water Contractors, relate to the financing and construction of a variety of State Water Project facilities and

improvements and impose certain cost responsibility therefor on the affected Contractors, including Metropolitan. For a description of Metropolitan's financial obligations under its State Water Contract, including with respect to such amendments, see "METROPOLITAN EXPENSES–State Water Contract Obligations" in this Appendix A.

Amendments, approved by Metropolitan's Board in 1995, and since executed by DWR and 27 of the State Water Contractors (collectively known as the "Monterey Amendment"), among other things, made explicit that the Contractors' rights to use the portion of the State Water Project conveyance system necessary to deliver water to them also includes the right to convey non-State Water Project water at no additional cost as long as capacity exists. These amendments also expanded the ability of the State Water Contractors to carry over State Water Project water in State Water Project storage facilities, allowed participating Contractors to borrow water from terminal reservoirs, and allowed Contractors to store water in groundwater storage facilities outside a Contractor's service area for later use. These amendments provided the means for individual Contractors to increase supply reliability through water transfers and storage outside their service area. Metropolitan has subsequently developed and actively manages a portfolio of water supplies to convey through the California Aqueduct pursuant to these contractual rights. See "–Water Transfer, Storage and Exchange Programs." The Monterey Amendment is the subject of ongoing litigation. See "–Related Litigation – Monterey Amendment Litigation" below.

Under its State Water Contract, Metropolitan has a contractual right to its proportionate share of the State Water Project water that DWR determines annually is available for allocation to the Contractors. This determination is made by DWR each year based on existing supplies in storage, forecasted hydrology, and other factors. Available State Water Project water is then allocated to the Contractors in proportion to the amounts set forth in "Table A" of their respective State water contract. Pursuant to Table A of its State Water Contract, Metropolitan is entitled to approximately 46 percent of the total annual allocation made available to State Water Contractors each year.

Metropolitan's State Water Contract, under a 100 percent allocation, provides Metropolitan 1,911,500 acre-feet of water. The 100 percent allocation is referred to as the contracted amount. Late each year, DWR announces an initial allocation estimate for the upcoming year, but periodically provides subsequent estimates throughout the year if warranted by developing precipitation and water supply conditions. From calendar years 2004 through 2016, the amount of water received by Metropolitan from the State Water Project, including water from water transfer, groundwater banking and exchange programs delivered through the California Aqueduct (described under "–Water Transfer, Storage and Exchange Programs"), varied from a low of 593,000 acre-feet in calendar year 2015 to a high of 1,800,000 acre-feet in 2004. In calendar year 2016, DWR's allocation to State Water Contractors was 60 percent of contracted amounts, or 1,146,000 acre-feet, for Metropolitan.

On December 1, 2016, DWR announced an initial calendar year 2017 allocation of 20 percent. On December 21, 2016, DWR increased the allocation estimate to 45 percent. On January 18, 2017, DWR increased the allocation estimate to 60 percent of contracted amounts based on runoff from storms that increased the combined storage in Oroville and San Luis Reservoir by over 600,000 acre-feet. This increased allocation estimate reflects improving hydrologic conditions in California and increasing storage levels in the State's major reservoirs, but also takes into account federally mandated environmental restrictions that have been imposed upon water deliveries from the Bay-Delta, including the biological opinions discussed below. See "–Endangered Species Act and Other Environmental Considerations – Endangered Species Act Considerations – State Water Project – Delta Smelt and Salmon Federal ESA Biological Opinions." If necessary, Metropolitan may augment its State Water Project deliveries using withdrawals from its storage programs along the State Water Project and through water transfer and exchange programs. However, in light of current water conditions in California and the estimated 2017 allocation, supplies are expected to exceed projected demands and Metropolitan anticipates it will add water to its storage programs. See "–Water Transfer, Storage and Exchange Programs."

The term of Metropolitan's State Water Contract currently extends to December 31, 2035. Upon expiration of the State Water Contract term, Metropolitan has the option to continue service under substantially the same terms and conditions. Metropolitan and other State Water Contractors have undertaken negotiations with DWR to extend their State water contracts. In June 2014, DWR and the State Water Contractors reached an Agreement in Principle (the "Agreement in Principle") on an amendment to the State water contract to extend the contract and to make certain changes related to financial management of the State Water Project in the future. DWR and 25 of the State Water Contractors, including Metropolitan, have signed the Agreement in Principle. Under the Agreement in Principle, the term of the State water contract for each Contractor that signs an amendment would be extended until December 31, 2085. The Agreement in Principle will serve as the "proposed project" for purposes of environmental review under the California Environmental Quality Act ("CEQA"). DWR issued a Notice of Availability of the Draft Environmental Impact Report ("EIR") for the proposed project on August 17, 2016. The review period ended October 17, 2016. Following CEQA review, a State Water Project contract amendment will be prepared. Such amendment will be subject to review by the Legislature.

Bay-Delta Proceedings Affecting State Water Project

General. In addition to being a source of water for diversion into the State Water Project, the Bay-Delta is also the source of water for local agricultural, municipal and industrial needs, and, in addition, supports significant resident and anadromous fish and wildlife resources and important recreational uses of water. Both the State Water Project's upstream reservoir operations and its Bay-Delta diversions can at times affect these other uses of Bay-Delta water directly, or indirectly, through impacts on Bay-Delta water quality. A variety of proceedings and other activities are ongoing with the participation of various State and federal agencies, as well as California's environmental, urban and agricultural communities, in an effort to develop long-term, collectively-negotiated solutions to the environmental and water management issues concerning the Bay-Delta, and Metropolitan actively participates in these proceedings. Metropolitan cannot predict the ultimate outcome of any of the litigation or regulatory processes described below, but believes that a materially adverse impact on the operation of State Water Project pumps, Metropolitan's State Water Project deliveries or Metropolitan's water reserves could result.

SWRCB Regulatory Activities and Decisions. The State Water Resources Control Board (the "SWRCB") is the agency responsible for setting water quality standards and administering water rights throughout California. The SWRCB exercises its regulatory authority over the Bay-Delta by means of public proceedings leading to regulations and decisions that can affect the availability of water to Metropolitan and other users of State Water Project water. These include the Water Quality Control Plan ("WQCP") for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, which establishes the water quality objectives and proposed flow regime of the estuary, and water rights decisions, which assign responsibility for implementing the objectives of the WQCP to users throughout the system by adjusting their respective water rights permits.

The WQCP gets reviewed periodically and new standards and allocations of responsibility can be imposed on the State Water Project as a result. The last review was completed in 2006, and the current review has been ongoing since approximately 2010.

Since 2000, SWRCB's Water Rights Decision 1641 ("D-1641") has governed the State Water Project's ability to export water from the Bay-Delta for delivery to Metropolitan and other agencies receiving water from the State Water Project. D-1641 allocated responsibility for meeting flow requirements and salinity and other water quality objectives established earlier by the WQCP. In response to ongoing drought conditions in 2014 and 2015, DWR and the Bureau of Reclamation requested temporary relief from certain WQCP standards and filed petitions requesting changes to D-1641 terms that govern outflows and salinity standards in the Bay-Delta. The SWRCB approved temporary urgency changes in the Bay-Delta in 2014 and 2015, enabling water to be conserved in reservoirs in case of continued drought.

Bay-Delta Planning Activities. In 2000, several State and federal agencies released the CALFED Bay Delta Programmatic Record of Decision ("ROD") and Environmental Impact Report/Environmental Impact Statement ("EIR/EIS") that outlined and disclosed the environmental impacts of a 30-year plan to improve the Bay-Delta's ecosystem, water supply reliability, water quality, and levee stability. The CALFED ROD remains in effect and many of the State, federal, and local projects begun under CALFED continue.

Building on CALFED and other Bay-Delta planning activities, in 2006 multiple State and federal resource agencies, water agencies, and other stakeholder groups entered into a planning agreement for the Bay-Delta Conservation Plan ("BDCP"). The BDCP was originally conceived as a comprehensive conservation strategy for the Bay-Delta designed to restore and protect ecosystem health, water supply, and water quality within a stable regulatory framework to be implemented over a 50-year time frame with corresponding long-term permit authorizations from fish and wildlife regulatory agencies. The BDCP includes both alternatives for new water conveyance infrastructure and extensive habitat restoration in the Bay-Delta.

In 2015, the State and federal lead agencies proposed an alternative implementation strategy and new alternatives to the BDCP to provide for the protection of water supplies conveyed through the Bay-Delta and the restoration of the ecosystem of the Bay-Delta, termed "California WaterFix" and "California EcoRestore," respectively. In this alternative approach, DWR and the Bureau of Reclamation would implement planned water conveyance improvements (California WaterFix) as a stand-alone project that would seek incidental take authorization for an unspecified period and would include only limited amounts of habitat restoration. The habitat restoration to be required would be that directly related to construction mitigation and the associated costs of such mitigation which would be underwritten by the public water agencies participating in the California WaterFix project. Ecosystem improvements and habitat restoration more generally (California EcoRestore) would be undertaken under a more phased approach than previously contemplated by the BDCP and would not be linked with the California WaterFix project or permits. Accelerated restoration actions totaling 30,000 acres of tidal marsh habitat were proposed to be undertaken in the coming decade to provide public benefits for listed fish in the Bay-Delta. (See also "–Endangered Species Act and Other Environmental Considerations – Endangered Species Act Considerations – State Water Project.") Subsequent actions would be based on the proven merits of restoration. Preliminary cost estimates for the WaterFix alternative are currently estimated to be $17 billion. When a decision selecting the final project has been made, costs will be updated and allocated. Metropolitan anticipates that it could bear approximately 25 percent of the costs of the project. The Final EIR/EIS for the BDCP/California WaterFix was completed and made available to the public and other agencies on December 22, 2016. The Notice of Availability of the Final EIR/EIS was published by the Bureau of Reclamation in the Federal Register on December 30, 2016. On January 4, 2017, the U.S. Secretary of the Interior issued an order to federal agencies involved in the California WaterFix stating the U.S. Fish and Wildlife Service will issue a final biological opinion by April 2017. A similar schedule is anticipated for the biological opinion to be issued by the National Marine Fisheries Service. Upon receipt of the biological opinions, the Bureau of Reclamation will be able to issue a Record of Decision for the project. Certification of the EIR/EIS under CEQA and final decision-making by DWR is expected at that same time. See also "–Endangered Species Act and Other Environmental Considerations – Endangered Species Act Considerations – State Water Project."

Related Litigation

California Water Impact Network Litigation. On September 3, 2010, the California Water Impact Network and two other non-profit organizations filed a petition for writ of mandate and for declaratory and injunctive relief in Sacramento Superior Court against the SWRCB and DWR. The petition alleges that by permitting and carrying out the export of large volumes of water from the Bay-Delta through the State Water Project, the SWRCB and DWR have failed to protect public trust fishery resources in the delta; have been diverting water from the Bay-Delta wastefully and unreasonably in violation of the prohibition against waste

and unreasonable use in the California Constitution; and have failed to enforce and comply with water quality and beneficial use standards in D-1641, the 1995 WQCP, and the federal Porter-Cologne Act. Among the relief sought in the petition is an injunction against Bay-Delta exports by the State Water Project pending compliance with the various laws and administrative orders that are alleged to have been violated. The State Water Contractors filed a motion to intervene in this action, which was granted on March 25, 2011. In August 2016, the court dismissed the case without prejudice based on the failure of the petitioners to bring the case to trial within five years of filing their original petition.

Monterey Amendment Litigation. On May 4, 2010, DWR completed an EIR and concluded a remedial CEQA review for the Monterey Amendment, which reflects the settlement of certain disputes regarding the allocation of State Water Project water. See "– State Water Contract" above. Central Delta Water Agency, South Delta Water Agency, California Water Impact Network, California Sportfishing Protection Alliance, and the Center For Biological Diversity filed a lawsuit against DWR in Sacramento County Superior Court challenging the validity of the EIR under CEQA and the validity of underlying agreements under a reverse validation action (the "Central Delta I" case). In January 2013, the Court ruled that the validation cause of action in Central Delta I was time barred by the statute of limitations. The court also held that DWR must complete a limited scope remedial CEQA review addressing the potential impacts of the Kern Water Bank, a portion of the Monterey Amendment that does not directly affect Metropolitan. The court also ruled that the State Water Project may continue to be operated under the terms of the Monterey Amendment while the remedial CEQA review is prepared and leaves in place the underlying project approvals while DWR prepares the remedial CEQA review. Plaintiffs appealed. Briefing by the parties was completed, but no date for oral argument has been set. Any adverse impact of this litigation and rulings on Metropolitan's State Water Project supplies cannot be determined at this time.

In September 2016, DWR certified the Final Revised Draft EIR for the Monterey Amendment, recorded a Notice of Determination, and filed papers in the trial demonstrating compliance with the court's order for remedial CEQA review. On October 21, 2016, the petitioner group from Central Delta I and a new lead petitioner, Center for Food Safety, filed litigation against DWR challenging this EIR and named Metropolitan and the other State Water Project contractors as respondent parties. Any adverse impact of this litigation and rulings on Metropolitan's State Water Project supplies cannot be determined at this time.

Colorado River Aqueduct

Background

The Colorado River was Metropolitan's original source of water after Metropolitan's establishment in 1928. Metropolitan has a legal entitlement to receive water from the Colorado River under a permanent service contract with the Secretary of the Interior. Water from the Colorado River and its tributaries is also available to other users in California, as well as users in the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming (collectively, the "Colorado River Basin States"), resulting in both competition and the need for cooperation among these holders of Colorado River entitlements. In addition, under a 1944 treaty, Mexico has an allotment of 1.5 million acre-feet of Colorado River water annually except in the event of extraordinary drought or serious accident to the delivery system in the United States, in which event the water allotted to Mexico would be curtailed. Mexico can also schedule delivery of an additional 200,000 acre-feet of Colorado River water per year if water is available in excess of the requirements in the United States and the 1.5 million acre-feet allotted to Mexico.

Construction of the CRA, which is owned and operated by Metropolitan, was undertaken by Metropolitan to provide for the transportation of its Colorado River water entitlement to its service area. The CRA originates at Lake Havasu on the Colorado River and extends approximately 242 miles through a series of pump stations and reservoirs to its terminus at Lake Mathews in Riverside County. Up to 1.25 million acre-feet of water per year may be conveyed through the CRA to Metropolitan's member agencies, subject to

availability of Colorado River water for delivery to Metropolitan as described below. Metropolitan first delivered CRA water to its member agencies in 1941.

Colorado River Water Apportionment and Seven-Party Agreement

Pursuant to the federal Boulder Canyon Project Act of 1928, California is apportioned the use of 4.4 million acre-feet of water from the Colorado River each year plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada (the "Lower Basin States"). Under an agreement entered into in 1931 among the California entities that expected to receive a portion of California's apportionment of Colorado River water (the "Seven-Party Agreement") and which has formed the basis for the distribution of Colorado River water made available to California, Metropolitan holds the fourth priority right to 550,000 acre-feet per year. This is the last priority within California's basic apportionment. In addition, Metropolitan holds the fifth priority right to 662,000 acre-feet of water, which is in excess of California's basic apportionment. Until 2003, Metropolitan had been able to take full advantage of its fifth priority right as a result of the availability of surplus water and water apportioned to Arizona and Nevada that was not needed by those states. However, during the 1990s Arizona and Nevada increased their use of water from the Colorado River, and by 2002 no unused apportionment was available for California. As a result, California has limited its annual use to 4.4 million acre-feet since 2003, not including supplies made available under water supply programs such as intentionally-created surplus and certain conservation and storage agreements. In addition, a severe drought in the Colorado River Basin from 2000-2004 reduced storage in system reservoirs, ending the availability of surplus deliveries to Metropolitan. Prior to 2003, Metropolitan could divert over 1.25 million acre-feet in any year, but since that time, Metropolitan's net diversions of Colorado River water have ranged from a low of nearly 633,000 acre-feet in 2006 to a high of approximately 1,179,000 acre-feet in 2015, and totaled over 996,000 acre-feet in 2016. Average annual net deliveries for 2007 through 2016 were approximately 962,000 acre-feet, with annual volumes dependent primarily on programs to augment supplies, including transfers of conserved water from agriculture. See "– Quantification Settlement Agreement" and "– Colorado River Operations: Surplus and Shortage Guidelines – Interim Surplus Guidelines" below. See also "–Water Transfer, Storage and Exchange Programs – Colorado River Aqueduct."

The following table sets forth the existing priorities of the California users of Colorado River water established under the 1931 Seven-Party Agreement.

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PRIORITIES UNDER THE 1931 CALIFORNIA SEVEN-PARTY AGREEMENT[1]

Priority	Description	Acre-Feet Annually
1	Palo Verde Irrigation District gross area of 104,500 acres of land in the Palo Verde Valley	3,850,000
2	Yuma Project in California not exceeding a gross area of 25,000 acres in California	
3(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys[2] to be served by All-American Canal	
3(b)	Palo Verde Irrigation District - 16,000 acres of land on the Lower Palo Verde Mesa	
4	Metropolitan Water District of Southern California for use on the coastal plain	550,000
	SUBTOTAL	4,400,000
5(a)	Metropolitan Water District of Southern California for use on the coastal plain	550,000
5(b)	Metropolitan Water District of Southern California for use on the coastal plain[3]	112,000
6(a)	Imperial Irrigation District and other lands in Imperial and Coachella Valleys to be served by the All-American Canal	300,000
6(b)	Palo Verde Irrigation District - 16,000 acres of land on the Lower Palo Verde Mesa	
	TOTAL	5,362,000
7	Agricultural use in the Colorado River Basin in California	Remaining surplus

Source: Metropolitan.

(1) Agreement dated August 18, 1931, among Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley County Water District, Metropolitan, the City of Los Angeles, the City of San Diego and the County of San Diego. These priorities were memorialized in the agencies' respective water delivery contracts with the Secretary of the Interior.

(2) The Coachella Valley Water District serves Coachella Valley.

(3) In 1946, the City of San Diego, the San Diego County Water Authority, Metropolitan and the Secretary of the Interior entered into a contract that merged and added the City and County of San Diego's rights to storage and delivery of Colorado River water to the rights of Metropolitan.

Quantification Settlement Agreement

The Quantification Settlement Agreement ("QSA"), executed by the Coachella Valley Water District ("CVWD"), Imperial Irrigation District ("IID") and Metropolitan in October 2003, establishes Colorado River water use limits for IID and CVWD, and provides for specific acquisitions of conserved water and water supply arrangements for up to 75 years. The QSA and related agreements provide a framework for Metropolitan to enter into other cooperative Colorado River supply programs and set aside several disputes among California's Colorado River water agencies.

. Specific programs under the QSA and related agreements include lining portions of the All-American and Coachella Canals, which were completed in 2009 and conserve approximately 96,000 acre-feet annually. As a result, about 80,000 acre-feet of conserved water is delivered to the San Diego County Water Authority ("SDCWA") by exchange with Metropolitan. Metropolitan takes delivery of the remaining 16,000 acre-feet annually. The 16,000 acre-feet provided annually to Metropolitan will eventually be made available for the benefit of the La Jolla, Pala, Pauma, Rincon and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido and the Vista Irrigation District, upon completion of a water rights settlement. Also included under the QSA is a delivery and exchange agreement between Metropolitan and CVWD that provides for Metropolitan, when requested, to deliver annually up to 35,000 acre-feet of Metropolitan's State Water Project contractual water to CVWD by exchange with Metropolitan's available Colorado River supplies. The QSA and related agreements also authorized the transfer of water (up to a maximum expected amount in 2021 of 205,000 acre-feet) annually by IID to SDCWA. See description below under the caption "– Sale of Water by the Imperial Irrigation District to San Diego County Water Authority" below; see also "METROPOLITAN REVENUES–Principal Customers" in this Appendix A. With full implementation of the programs identified in the QSA, at times when California is limited to its basic apportionment of 4.4 million acre-feet per year, Metropolitan expects to be able to annually divert to its service area approximately 850,000 acre-feet of Colorado River water plus water from other water augmentation programs it develops, including the Palo Verde Land Management, Crop Rotation and Water Supply Program (described under "Water Transfer, Storage and Exchange Programs–Colorado River Aqueduct" below), which provides up to approximately 133,000 acre-feet of water per year. (Amounts of Colorado River water received by Metropolitan in 2007 through 2016 are discussed under the heading "– Colorado River Aqueduct–Colorado River Water Apportionment and Seven-Party Agreement" above.)

A complicating factor in completing the QSA was the fate of the Salton Sea. The Sea and its environs provide a habitat complex supporting more than 400 species of birds. Located at the lowest elevation of an inland basin and fed primarily by agricultural drainage with no outflows other than evaporation, the Salton Sea was naturally trending towards hyper-salinity, which had already impacted the Salton Sea's fishery. Without mitigation, the transfer of water from IID to SDCWA, one of the core programs implemented under the QSA, would reduce the volume of agricultural drainage from IID's service area flowing into the Salton Sea, which would reduce the volume of water in the Sea, exposing shoreline and accelerating the natural trend of the Salton Sea to hyper-salinity. See "– Sale of Water by the Imperial Irrigation District to San Diego County Water Authority" below. In 2002, the SWRCB issued Water Rights Order 2002-0013, which gave approval for the transfer of water from IID to SDCWA and CVWD, and which required Salton Sea mitigation water deliveries from 2003 through 2017.

In 2003, to facilitate implementation of the QSA, the Legislature directed the Secretary for the California Natural Resources Agency to undertake a restoration study to determine a preferred alternative for the restoration of the Salton Sea ecosystem and the protection of wildlife dependent on that ecosystem. In May 2007, the Secretary submitted his $8.9 billion preferred alternative to the Legislature. While withholding authorization of the preferred alternative, in 2008 the Legislature directed the California Natural Resources Agency to undertake demonstration projects and investigations called for in the Secretary's May 2007 recommendation. Since then, the California Natural Resources Agency and the U.S. Fish and Wildlife Service have been developing various pilot-scale projects which are at various stages of planning and implementation.

Concerned that the California Natural Resources Agency has not made sufficient progress to develop a long-term restoration plan for the Salton Sea, in November 2014, IID filed a petition with the SWRCB asking it to modify the SWRCB's 2002 order. IID stated that it is concerned that the scheduled termination of mitigation water deliveries to the Salton Sea at the end of 2017 will result in the shrinking of the Sea and an increase in exposed playa and fugitive dust emissions. IID's petition requested that the SWRCB modify its order to include a requirement that "the State fulfill its statutory obligation to restore the Salton Sea as a

condition of the QSA transfers." See "– Sale of Water by the Imperial Irrigation District to San Diego County Water Authority" below. The SWRCB has held various workshops to receive input on the petition.

During the spring of 2015, the Governor tasked a number of individuals from his staff, known as the "Salton Sea Task Force," to look into actions that could be taken at the Sea. In October 2015, the Salton Sea Task Force announced that it would implement a number of actions to address the Salton Sea ecosystem, including immediate implementation and further development of the Salton Sea management plan, meeting a short-term goal by 2020 of 9,000-12,000 acres of habitat creation and dust suppression projects and a medium-term goal after 2020 of 18,000-25,000 acres of habitat creation and dust suppression projects. In August 2016, the U.S. Department of the Interior and the California Natural Resources Agency entered into an MOU which outlines the manner in which federal agencies would cooperate with State and local agencies to assist the Salton Sea Task Force in achieving its stated goals. While projects that are currently underway or are anticipated to begin in 2017 are not expected to meet the Salton Sea Task Force's short-term goal, the Salton Sea Task Force continues its efforts to identify a long-term plan for the Salton Sea for construction to begin as early as 2018. In the absence of a Salton Sea restoration project, the QSA and related agreements provide for the control of exposed playa by IID as a mitigation measure funded by CVWD, IID, and SDCWA, with the State of California obligated to meet all mitigation costs that exceed $133 million in 2003 dollars. Metropolitan has no obligation to pay any costs associated with restoration of the Salton Sea.

Sale of Water by the Imperial Irrigation District to San Diego County Water Authority

On April 29, 1998, SDCWA and IID executed an agreement (the "Transfer Agreement") for SDCWA's purchase from IID of Colorado River water that is conserved within IID. An amended Transfer Agreement, executed as one of the QSA agreements, set the maximum transfer amount at 205,000 acre-feet in 2021, with the transfer gradually ramping up to that amount over an approximately twenty-year period, then stabilizing at 200,000 acre-feet per year beginning in 2023.

No facilities exist to deliver water directly from IID to SDCWA. Accordingly, Metropolitan and SDCWA entered into an exchange agreement, pursuant to which SDCWA makes available to Metropolitan at its intake at Lake Havasu on the Colorado River the conserved Colorado River water acquired by SDCWA from IID and water allocated to SDCWA that has been conserved as a result of the lining of the All-American and Coachella Canals. See "–Quantification Settlement Agreement" above. Metropolitan delivers an equal volume of water from its own sources of supply through portions of its delivery system to SDCWA. The deliveries to both Metropolitan and SDCWA are deemed to be made in equal monthly increments. In consideration for the conserved water made available to Metropolitan by SDCWA, a lower rate is paid by SDCWA for the exchange water delivered by Metropolitan. The price payable by SDCWA is calculated using the charges set by Metropolitan's Board from time to time to be paid by its member agencies for the conveyance of water through Metropolitan's facilities. See "METROPOLITAN REVENUES–Litigation Challenging Rate Structure" in this Appendix A for a description of Metropolitan's charges for the conveyance of water through Metropolitan's facilities and litigation in which SDCWA is challenging such charges. In 2016, 178,493 acre-feet were delivered to Metropolitan by SDCWA for exchange, consisting of 100,000 acre-feet of IID conservation plus 78,493 acre-feet of conserved water from the Coachella Canal and All-American Canal lining projects.

Colorado River Operations: Surplus and Shortage Guidelines

General. The Secretary of the Interior is vested with the responsibility of managing the mainstream waters of the lower Colorado River pursuant to federal law. Each year, the Secretary of the Interior is required to declare the Colorado River water supply availability conditions for the Lower Basin States in terms of "normal," "surplus" or "shortage" and has adopted operations criteria in the form of guidelines to determine the availability of surplus or potential shortage allocations among the Lower Basin States and reservoir operations for such conditions.

Interim Surplus Guidelines. In January 2001, the Secretary of the Interior adopted guidelines (the "Interim Surplus Guidelines"), initially for use through 2016, in determining if there is surplus Colorado River water available for use in California, Arizona and Nevada. The Interim Surplus Guidelines were amended in 2007 and now extend through 2026. The purpose of the Interim Surplus Guidelines was to provide mainstream users of Colorado River water, particularly those in California who utilize surplus flows, a greater degree of predictability with respect to the availability and quantity of surplus water.

Under the Interim Surplus Guidelines, Metropolitan initially expected to divert up to 1.25 million acre-feet of Colorado River water annually under foreseeable runoff and reservoir storage scenarios from 2004 through 2016. However, an extended drought in the Colorado River Basin reduced these initial expectations. In May 2002, the Southern Nevada Water Authority ("SNWA") and Metropolitan entered into an Agreement Relating to Implementation of Interim Colorado River Surplus Guidelines, in which SNWA and Metropolitan agreed to the allocation of unused apportionment as provided in the Interim Surplus Guidelines and on the priority of SNWA for interstate banking of water in Arizona. SNWA and Metropolitan entered into a storage and interstate release agreement on October 21, 2004. Under this agreement, SNWA can request that Metropolitan store unused Nevada apportionment in California. The amount of water stored through 2014 under this agreement was approximately 205,000 acre-feet. In subsequent years, SNWA may request recovery of the stored water. As part of a 2012 executed amendment to the agreement, it is expected that SNWA will not request return of the water stored with Metropolitan before 2022. In October 2015, SNWA and Metropolitan executed an additional amendment to the agreement under which Metropolitan paid SNWA approximately $44.4 million and SNWA stored an additional 150,000 acre-feet with Metropolitan during 2015. Of that amount, 125,000 acre-feet has been added to SNWA's storage account with Metropolitan, increasing the total amount of water stored to approximately 330,000 acre-feet. When SNWA requests the return of any of the stored 125,000 acre-feet, SNWA will reimburse Metropolitan for an equivalent proportion of the $44.4 million plus inflation based on the amount of water returned. The stored water allowed Metropolitan to have a full water supply from the Colorado River in 2015.

Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead. In May 2005, the Secretary of the Interior directed the Bureau of Reclamation to develop additional strategies for improving coordinated management of the reservoirs of the Colorado River system. In November 2007, the Bureau of Reclamation issued a Final Environmental Impact Statement ("EIS") regarding new federal guidelines concerning the operation of the Colorado River system reservoirs, particularly during drought and low reservoir conditions. These guidelines provide water release criteria from Lake Powell and water storage and water release criteria from Lake Mead during shortage and surplus conditions in the Lower Basin, provide a mechanism for the storage and delivery of conserved system and non-system water in Lake Mead and extend the Interim Surplus Guidelines through 2026. The Secretary of the Interior issued the final guidelines through a Record of Decision signed in December 2007. The Record of Decision and accompanying agreement among the Colorado River Basin States protect reservoir levels by reducing deliveries during drought periods, encourage agencies to develop conservation programs and allow the Colorado River Basin States to develop and store new water supplies. The Colorado River Basin Project Act of 1968 insulates California from shortages in all but the most extreme hydrologic conditions. Consistent with these legal protections, under the guidelines, Arizona and Nevada are first subject to the initial annual shortages identified by the Secretary up to 500,000 acre-feet.

The guidelines also created the Intentionally Created Surplus ("ICS") program, which allows the Lower Basin States to store conserved water in Lake Mead. Under this program, ICS water (water that has been conserved through an extraordinary conservation measure, such as land fallowing) is eligible for storage in Lake Mead by Metropolitan. See the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage" below. The Secretary of the Interior delivers the stored ICS water to Metropolitan in accordance with the terms of December 13, 2007, January 6, 2010, and November 20, 2012 Delivery Agreements between the United States and Metropolitan. As of January 1, 2017, Metropolitan had an estimated 71,000 acre-feet in its ICS accounts. These surplus accounts are made

up of water conserved by fallowing in the Palo Verde Valley, projects implemented with IID in its service area, groundwater desalination, the Warren H. Brock Reservoir Project, and the Yuma Desalting Plant pilot run, which have not been delivered to the region.

Related Litigation

Navajo Nation Litigation. The Navajo Nation filed litigation against the Department of the Interior, specifically the Bureau of Reclamation and the Bureau of Indian Affairs, in 2003, alleging that the Bureau of Reclamation has failed to determine the extent and quantity of the water rights of the Navajo Nation in the Colorado River and that the Bureau of Indian Affairs has failed to otherwise protect the interests of the Navajo Nation. The complaint challenges the adequacy of the environmental review for the Interim Surplus Guidelines (described under "– Colorado River Operations: Surplus and Shortage Guidelines" above) and seeks to prohibit the Department of the Interior from allocating any "surplus" water until such time as a determination of the rights of the Navajo Nation is completed. Metropolitan and other California water agencies filed motions to intervene in this action. In October 2004 the court granted the motions to intervene and stayed the litigation to allow negotiations among the Navajo Nation, federal defendants, Central Arizona Water Conservation District ("CAWCD"), State of Arizona and Arizona Department of Water Resources. After years of negotiations, a tentative settlement was proposed in 2012 that would provide the Navajo Nation with specified rights to water from the Little Colorado River and groundwater basins under the reservation, along with federal funding for development of water supply systems on the tribe's reservation. The proposed agreement was rejected by tribal councils for both the Navajo and the Hopi, who were seeking to intervene. On May 16, 2013, the stay of proceedings was lifted. On June 3, 2013, the Navajo Nation moved for leave to file a first amended complaint, which the court granted on June 27, 2013. The amended complaint added a legal challenge to the Lower Basin Shortage Guidelines adopted by the Secretary of the Interior in 2007 that allow Metropolitan and other Colorado River water users to store water in Lake Mead (described under "– Colorado River Operations: Surplus and Shortage Guidelines" above). Metropolitan has used these new guidelines to store over 500,000 acre-feet of water in Lake Mead, a portion of which has been delivered, and the remainder of which may be delivered at Metropolitan's request in future years. On July 22, 2014, the district court dismissed the lawsuit in its entirety, ruling that the Navajo Nation lacked standing and that the claim was barred against the federal defendants. The district court denied a motion by the Navajo Nation for leave to amend the complaint further after the dismissal. On September 19, 2014, the Navajo Nation appealed the dismissal of its claims related to the Interim Surplus Guidelines, the Lower Basin Shortage Guidelines, and breach of the federal trust obligation to the tribe. Briefing by the parties was completed by May 20, 2015. Oral argument in the Ninth Circuit Court of Appeals has been set for February 14, 2017. Metropolitan is unable to assess at this time the likelihood of success of this appeal or any future claims, or their potential effect on Colorado River water supplies.

Endangered Species Act and Other Environmental Considerations

Endangered Species Act Considerations – State Water Project

General. DWR has altered the operations of the State Water Project to accommodate species of fish listed as threatened or endangered under the Federal ESA or California ESA. Currently, five species (the winter-run and spring-run Chinook salmon, Delta smelt, North American green sturgeon and Central Valley steelhead) are listed under the ESAs. In addition, the longfin smelt is listed as a threatened species under the California ESA. These changes in project operations have limited the flexibility of the State Water Project and adversely affected State Water Project deliveries to Metropolitan. State Water Project operational requirements may be further modified in the future under new biological opinions for listed species under the Federal ESA or by the California Department of Fish and Wildlife's issuance of incidental take authorizations under the California ESA. Additionally, new litigation, listings of additional species or new regulatory requirements could further adversely affect State Water Project operations in the future by requiring additional export reductions, releases of additional water from storage or other operational changes impacting the water supply available for export. Such operational constraints are likely to continue until long-term solutions to the problems in the Bay-Delta are identified and implemented. See also "–State Water Project – Bay-Delta Proceedings Affecting State Water Project."

The Federal ESA requires that before any federal agency authorizes funds or carries out an action that may affect a listed species or designated critical habitat, it must consult with the appropriate federal fishery agency to determine whether the action would jeopardize the continued existence of any threatened or endangered species, or adversely modify habitat critical to the species' needs. The result of the consultation is known as a "biological opinion." In the biological opinion the federal fishery agency determines whether the action would cause jeopardy to a threatened or endangered species or adverse modification to critical habitat, and recommends reasonable and prudent alternatives or measures that would allow the action to proceed without causing jeopardy or adverse modification. The biological opinion also includes an "incidental take statement." The incidental take statement allows the action to go forward even though it will result in some level of "take," including harming or killing some members of the species, incidental to the agency action, provided that the agency action does not jeopardize the continued existence of any threatened or endangered species and complies with reasonable mitigation and minimization measures recommended by the federal fishery agency.

Delta Smelt and Salmon Federal ESA Biological Opinions. The United States Fish and Wildlife Service (USFWS) released a biological opinion on December 15, 2008 on the impacts of the State Water Project and the federal Central Valley Project on Delta smelt. On June 4, 2009, the National Marine Fisheries Service (NMFS) released a biological opinion for salmonid species. The water supply restrictions imposed by these biological opinions on Delta smelt and salmonid species have a range of impacts on Metropolitan's deliveries from the State Water Project, depending on hydrologic conditions. The impact on total State Water Project deliveries to State Water Contractors attributable to the Delta smelt and salmonid species biological opinions combined is estimated to be one million acre-feet in an average year, reducing total State Water Project deliveries to State Water Contractors from approximately 3.3 million acre-feet to approximately 2.3 million acre-feet for the year under average hydrology. Reductions are estimated to range from 0.3 million acre-feet during critically dry years to 1.3 million acre-feet in above normal water years. Total State Water Project delivery impacts to Metropolitan for calendar years 2008 through 2016 are estimated to be 2.0 million acre-feet.

Endangered Species Act Considerations - Colorado River

Federal and state environmental laws protecting fish species and other wildlife species have the potential to affect Colorado River operations. A number of species that are on either "endangered" or "threatened" lists under the ESAs are present in the area of the Lower Colorado River, including among others, the bonytail chub, razorback sucker, southwestern willow flycatcher and Yuma clapper rail. To address this issue, a broad-based state/federal/tribal/private regional partnership that includes water, hydroelectric power and wildlife management agencies in Arizona, California and Nevada have developed a multi-species conservation program for the main stem of the Lower Colorado River (the Lower Colorado River Multi-Species Conservation Program or "MSCP"). The MSCP allows Metropolitan to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species. The MSCP also covers operations of federal dams and power plants on the river that deliver water and hydroelectric power for use by Metropolitan and other agencies. The MSCP covers 27 species and habitat in the Lower Colorado River from Lake Mead to the Mexican border for a term of 50 years (commencing in 2005). Over the 50-year term of the program, the total cost to Metropolitan will be about $88.5 million (in 2003 dollars), and annual costs will range between $0.8 million and $4.7 million (in 2003 dollars).

Invasive Species - Mussel Control Programs

Zebra and quagga mussels are established in many regions of the United States. Mussels can reproduce quickly and, if left unmanaged, can clog intakes and raw water conveyance systems, alter or destroy fish habitats and affect lakes and beaches. Quagga mussels were introduced in the Great Lakes in the late 1980s. These organisms infest much of the Great Lakes basin, the St. Lawrence Seaway, and much of the Mississippi River drainage system. In January 2007 quagga mussels were discovered in Lake Mead. The

most likely source of the quagga mussel infestation in the Colorado River was recreational boats with exposure to water bodies around the Great Lakes. Metropolitan developed a program in 2007 to address the long term introduction of mussel larvae into the CRA from the Lower Colorado River, which is now heavily colonized from Lake Mead through Lake Havasu. The quagga mussel control program consists of surveillance activities and control measures. Surveillance activities are conducted annually in conjunction with regularly scheduled two- to three-week long CRA shutdowns, which have the added benefit of desiccating exposed quagga mussels. Control activities consist of continuous chlorination at Copper Basin, Lake Skinner outlet conduit, and Lake Mathews Forebay, quarterly chlorination of the outlet towers at Lake Skinner and Mathews, and physical removal of mussels from the trash racks in Lake Havasu. Recent shutdown inspections have demonstrated that the combined use of chlorine and regular cleaning during scheduled shutdowns effectively control mussel infestation in the CRA. Metropolitan's costs for controlling quagga mussels in the CRA are between $4 million and $5 million per year.

Quagga and zebra mussel populations are located within 16 miles of the State Water Project. An isolated population of zebra mussels is established in San Justo Reservoir in Central California and Lake Piru in Southern California has been infested with quagga mussels since 2013. To prevent the further spread of the mussels into the State Water Project, the Bay-Delta and other bodies of water and water systems, DWR has joined the California Department of Fish and Wildlife, as the lead agency, and other state and federal agencies on a number of activities. These include boat inspections, monitoring of water bodies and water systems and education of the public. In addition, DWR has developed a Rapid Response Plan, Vector Management Plan, and Long-Term Mussel Management and Control Plan as mandated by the California Fish and Game Code.

In December 2016, DWR found dead adult mussels in the Angeles Tunnel, which connects Pyramid Lake to Castaic Lake. Through DNA testing, they were confirmed to be quagga mussels. As a result of such findings, the California Department of Fish and Wildlife has deemed the State Water Project West Branch (including Pyramid and Castaic Lakes) to be infested with quagga mussels and has implemented boat inspection requirements on boats leaving Pyramid Lake and Castaic Lake to help prevent the spreading of the invasive species.

In February 2017, DWR detected mussel veligers (microscopic, free-floating larval lifestage) in water samples collected on the State Water Project East Branch at the North Park valve of the Santa Ana Valley Pipeline, which transports water from Silverwood Lake located in San Bernardino County to Lake Perris located in Riverside County. Extensive sampling has occurred upstream and downstream of the North Park valve and no mussels have been detected. Currently, there is no evidence of mussels in Silverwood Lake or Lake Perris.

There are no impacts on State Water Project allocation or deliveries at this time and the future level of mussel impacts is unknown. Metropolitan will coordinate with other agencies to increase the monitoring of mussels and adapt the existing quagga mussel control program for the State Water Project as required.

Water Transfer, Storage and Exchange Programs

General

To supplement its State Water Project and Colorado River water supplies, Metropolitan has developed and actively manages a portfolio of water supply programs, including water transfer, storage and exchange agreements, the supplies created by which are conveyed through the California Aqueduct of the State Water Project, utilizing Metropolitan's rights under its State Water Contract to use the portion of the State Water Project conveyance system necessary to deliver water to it, or through available CRA capacity. Consistent with its IRP, Metropolitan will continue to pursue voluntary water transfer and exchange programs with State, federal, public and private water districts and individuals to help mitigate supply/demand imbalances and provide additional dry-year supply sources. A summary description of certain of Metropolitan's supply programs are set forth below. In addition to the arrangements described

below, Metropolitan is entitled to storage and access to stored water in connection with various other storage programs and facilities. See "–Colorado River Aqueduct" above in this Appendix A, as well as the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage."

State Water Project

In addition to the basic State Water Project contract provisions, Metropolitan has other contract rights that accrue to the overall value of the State Water Project. Because each contractor is paying for physical facilities, they also have the right to use the facilities to move water supplies associated with agreements, water transfers and water exchanges. Metropolitan has entered into agreements and exchanges that provide additional water supplies.

Castaic Lake and Lake Perris. Metropolitan has contractual rights to store up to 65,000 acre-feet of water in Lake Perris (East Branch terminal reservoir) and 153,940 acre-feet of water in Castaic Lake (West Branch terminal reservoir). This storage provides Metropolitan with additional options for managing State Water Project deliveries to maximize yield from the project. Any water used must be returned to the State Water Project within five years or it is deducted from allocated amounts in the sixth year.

Metropolitan Article 56 Carryover. Metropolitan has the right to store its allocated contract amount for delivery in the following year. Metropolitan can store between 100,000 and 200,000 acre-feet, depending on the final water supply allocation percentage.

California's agricultural activities consume approximately 34 million acre-feet of water annually, which is approximately 80 percent of the total water used in the State for agricultural and urban uses and 40 percent of the water used for all consumptive uses, including environmental demands. Voluntary water transfers and exchanges can make a portion of this agricultural water supply available to support the State's urban areas. Such existing and potential water transfers and exchanges are an important element for improving the water supply reliability within Metropolitan's service area and accomplishing the reliability goal set by Metropolitan's Board. The portfolio of supplemental supplies that Metropolitan has developed to be conveyed through the State Water Project California Aqueduct extend from north of the Bay-Delta to Southern California. Certain of these arrangements are described below.

Yuba River Accord. Metropolitan entered into an agreement with DWR in December 2007 to purchase a portion of the water released by the Yuba County Water Agency ("YCWA"). YCWA was involved in a SWRCB proceeding in which it was required to increase Yuba River fishery flows. Within the framework of agreements known as the Yuba River Accord, DWR entered into an agreement for the long-term purchase of water from YCWA. The agreement permits YCWA to transfer additional supplies at its discretion. Metropolitan, other State Water Contractors, and the San Luis Delta Mendota Water Authority entered into separate agreements with DWR for the purchase of portions of the water made available. Metropolitan's agreement allows Metropolitan to purchase, in dry years through 2025, available water supplies which have ranged from approximately 6,555 acre-feet to 67,068 acre-feet per year.

In addition to water made available under the Yuba River Accord, Metropolitan has developed groundwater storage agreements that allow Metropolitan to store available supplies in the Central Valley for return later. Metropolitan has also developed exchanges and transfers with other State Water Contractors.

Arvin-Edison/Metropolitan Water Management Program. In December 1997, Metropolitan entered into an agreement with the Arvin-Edison Water Storage District ("Arvin-Edison"), an irrigation agency located southeast of Bakersfield, California. Under the program, Arvin-Edison stores water on behalf of Metropolitan. In January 2008, Metropolitan and Arvin-Edison amended the agreement to enhance the program's capabilities and to increase the delivery of water to the California Aqueduct. Up to 350,000 acre-feet of Metropolitan's water may be stored and Arvin-Edison is obligated to return up to 75,000 acre-feet of stored water in any year to Metropolitan, upon request. The agreement will terminate in 2035 unless

extended. To facilitate the program, new wells, spreading basins and a return conveyance facility connecting Arvin-Edison's existing facilities to the California Aqueduct have been constructed. The agreement also provides Metropolitan priority use of Arvin-Edison's facilities to convey high quality water available on the east side of the San Joaquin Valley to the California Aqueduct. Metropolitan's current storage account under the Arvin-Edison/Metropolitan Water Management Program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage."

Semitropic/Metropolitan Groundwater Storage and Exchange Program. In 1994, Metropolitan entered into an agreement with the Semitropic Water Storage District ("Semitropic"), located adjacent to the California Aqueduct north of Bakersfield, to store water in the groundwater basin underlying land within Semitropic. The minimum annual yield available to Metropolitan from the program is 39,700 acre-feet of water and the maximum annual yield is 231,200 acre-feet of water depending on the available unused capacity and the State Water Project allocation. Metropolitan's current storage account under the Semitropic program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage."

Kern Delta Storage Program. Metropolitan entered into an agreement with Kern Delta Water District ("Kern Delta") in May 2003, for a groundwater banking and exchange transfer program to allow Metropolitan to store up to 250,000 acre-feet of State Water Contract water in wet years and to permit Metropolitan, at Metropolitan's option, a return of up to 50,000 acre-feet of water annually during hydrologic and regulatory droughts.

Mojave Storage Program. Metropolitan entered into a groundwater banking and exchange transfer agreement with Mojave Water Agency ("Mojave") in October 2003. This agreement was amended in 2011 to allow for the cumulative storage of up to 390,000 acre-feet. The agreement allows for Metropolitan to store water in an exchange account for later return. Through 2021, and when the State Water Project allocation is 60 percent or less, Metropolitan can annually withdraw Mojave's State Water Project contractual amounts in excess of a 10 percent reserve. When the State Water Project allocation is over 60 percent, the reserved amount for Mojave's local needs increases to 20 percent. Under a 100 percent allocation, the State Water Contract provides Mojave 82,800 acre-feet of water. Metropolitan's current storage account under this program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage."

Antelope Valley East Kern Storage and Exchange Program. In 2016, Metropolitan entered into an agreement with the Antelope Valley-East Kern Water Agency ("AVEK"), the third largest State Water Project Contractor, to both exchange supplies and store water in the Antelope Valley groundwater basin. Under this agreement, AVEK would provide at least 30,000 acre-feet over ten years of its unused Table A State Water Project water to Metropolitan. For every two acre-feet provided to Metropolitan as part of the exchange, AVEK would receive back one acre-foot in the future. For the one acre-foot that is retained by Metropolitan, Metropolitan would pay AVEK under a set price schedule based on the State Water Project allocation at the time. The payment would range from $587/acre-foot under a 5 percent State Water Project allocation to $38/acre-foot under an 86 percent State Water Project allocation.

San Bernardino Valley Municipal Water District Coordinated Operating Agreement. Metropolitan entered into an agreement with the San Bernardino Valley Municipal Water District ("SBVMWD") in April 2001 to coordinate the use of facilities and State Water Project water supplies. The agreement allows Metropolitan a minimum purchase of 20,000 acre-feet on an annual basis with the option to purchase additional water when available. The program includes 50,000 acre-feet of storage capacity for the carryover of water purchased from SBVMWD. In addition to water being supplied using the State Water Project, the previously stored water can be returned using an interconnection between the San Bernardino Central Feeder and Metropolitan's Inland Feeder.

San Gabriel Valley Municipal Water District and Other Exchange Programs. In 2013, Metropolitan entered into an agreement with the San Gabriel Valley Municipal Water District ("SGVMWD"). Under this agreement, Metropolitan delivers treated water to a SGVMWD subagency in exchange for twice as much untreated State Water Project supplies delivered into the groundwater basin that supplies this agency and metropolitan subagencies. Metropolitan can purchase at least 5,000 acre-feet per year, in excess of the unbalanced exchange amount. This program has the potential to increase Metropolitan's reliability by providing 115,000 acre-feet through 2035.

Metropolitan has been negotiating, and will continue to pursue, water purchase, storage and exchange programs with other agencies in the Sacramento and San Joaquin Valleys. These programs involve the storage of both State Water Project supplies and water purchased from other sources to enhance Metropolitan's dry-year supplies and the exchange of normal year supplies to enhance Metropolitan's water reliability and water quality, in view of dry conditions and potential impacts from the ESA cases discussed above under the heading "–Endangered Species Act and Other Environmental Considerations–Endangered Species Act Considerations - State Water Project." In 2016, Metropolitan entered into an agreement with the State Water Contractors, Inc. to pursue water transfer supplies. These purchases were not completed, however due to the 60 percent State Water Project allocation, which resulted in no conveyance capacity to move the transfer supplies to Metropolitan.

Metropolitan has also entered into an agreement with certain State Water Contractors for the exchange of a portion of its Colorado River supply for their State Water Project contracted amounts. One benefit of the agreement is reducing Metropolitan's State Water Project fixed costs in wetter years when there are more than sufficient supplies to meet Metropolitan's water management goals, while preserving its dry-year State Water Project Supply.

Metropolitan/CVWD/Desert Water Agency Exchange and Advance Delivery Agreement. Metropolitan has agreements with the CVWD and the Desert Water Agency ("DWA") in which Metropolitan exchanges its Colorado River water for those agencies' State Water Project contractual water on an annual basis. Because CVWD and DWA do not have a physical connection to the State Water Project, Metropolitan takes delivery of CVWD's and DWA's State Water Project supplies and delivers a like amount of Colorado River water to the agencies. In accordance with an advance delivery agreement executed by Metropolitan, CVWD and DWA, Metropolitan has delivered Colorado River water in advance to these agencies for storage in the Upper Coachella Valley groundwater basin. In years when it is necessary to augment available supplies to meet local demands, Metropolitan has the option to meet the exchange delivery obligation through drawdowns of the advance delivery account, rather than deliver its Colorado River supply. Metropolitan's current storage account under the CVWD/DWA program is shown in the table "Metropolitan's Water Storage Capacity and Water in Storage" under the heading "–Storage Capacity and Water in Storage." In addition to the CVWD/DWA exchange agreements, Metropolitan has entered into separate agreements with CVWD and DWA for delivery of non-State Water Project supplies acquired by CVWD or DWA. Similarly, Metropolitan takes delivery of these supplies from State Water Project facilities and incurs an exchange obligation to CVWD or DWA. From 2008 through 2016, Metropolitan has received a net additional supply of 88,527 acre-feet of water acquired by CVWD and DWA.

Colorado River Aqueduct

Metropolitan has taken steps to augment its share of Colorado River water through agreements with other agencies that have rights to use such water, including through cooperative programs with other water agencies to conserve and develop supplies and through programs to exchange water with other agencies. These supplies are conveyed through the CRA. Metropolitan determines the delivery schedule of these supplies throughout the year based on changes in the availability of State Water Project and Colorado River water. Under certain of these programs, water may be delivered to Metropolitan's service area in the year made available or in a subsequent year as ICS water from Lake Mead storage. See "–Colorado River

Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead."

IID/Metropolitan Conservation Agreement. Under a 1988 water conservation agreement, as amended in 2003 and 2007 (the "1988 Conservation Agreement") between Metropolitan and IID, Metropolitan provided funding for IID to construct and operate a number of conservation projects that have conserved up to 109,460 acre-feet of water per year that has been provided to Metropolitan. As amended, the agreement's initial term has been extended to at least 2041 or 270 days after the termination of the QSA. In 2016, 105,000 acre-feet of conserved water was made available by IID to Metropolitan. Under the QSA and related agreements, Metropolitan, at the request of CVWD, forgoes up to 20,000 acre-feet of this water each year for diversion by CVWD. In 2015 and 2016, CVWD's requests were for 6,715 and an estimated 15,942 acre-feet, respectively, leaving 101,105 acre-feet in 2015 and an estimated 89,058 acre-feet in 2016 for Metropolitan. See "–Colorado River Aqueduct – Quantification Settlement Agreement."

Palo Verde Land Management, Crop Rotation and Water Supply Program. In August 2004, Metropolitan and the Palo Verde Irrigation District ("PVID") signed the program agreement for a Land Management, Crop Rotation and Water Supply Program. Under this program, participating landowners in the PVID service area are compensated for reducing water use by not irrigating a portion of their land. This program provides up to 133,000 acre-feet of water to be available to Metropolitan in certain years. The term of the program is 35 years. Fallowing began on January 1, 2005. In March 2009, Metropolitan and PVID entered into a supplemental fallowing program within PVID that provided for the fallowing of additional acreage in 2009 and 2010. In calendar years 2009 and 2010, an additional 24,100 acre-feet and 32,300 acre-feet of water, respectively, were saved and made available to Metropolitan under the supplemental program. The following table shows annual volumes of water saved and made available to Metropolitan under the Land Management, Crop Rotation and Water Supply Program with PVID:

WATER AVAILABLE FROM PVID LAND MANAGEMENT, CROP ROTATION AND WATER SUPPLY PROGRAM

Calendar Year	Volume (acre-feet)
2006	105,000
2007	72,300
2008	94,300
2009[(1)]	144,300
2010[(1)]	148,600
2011	122,200
2012	73,700
2013	32,750
2014	43,010
2015	94,480
2016[(2)]	125,000

Source: Metropolitan.

(1) Includes water from the supplemental fallowing program that provided for fallowing of additional acreage in 2009 and 2010.
(2) Estimate.

Lake Mead Storage Program. As described under "–Colorado River Aqueduct–Colorado River Operations: Surplus and Shortage Guidelines–Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead," in December 2007, Metropolitan entered into agreements to set forth the guidelines under which ICS water is developed, and stored in and delivered from Lake Mead. The amount of water stored in Lake Mead must be created through extraordinary conservation,

system efficiency, or tributary conservation methods. Metropolitan has participated in projects to create ICS as described below:

Drop 2 (Warren H. Brock) Reservoir. In May 2008, Metropolitan provided $28.7 million to join the CAWCD and the SNWA in funding the Bureau of Reclamation's construction of an 8,000 acre-foot off-stream regulating reservoir near Drop 2 of the All-American Canal in Imperial County (officially named the Warren H. Brock Reservoir). Construction was completed in October 2010 and the Bureau of Reclamation refunded approximately $3.71 million in unused contingency funds to Metropolitan. The Warren H. Brock Reservoir conserves about 70,000 acre-feet of water per year by capturing and storing water that would otherwise be lost from the system. In return for its funding, Metropolitan received 100,000 acre-feet of water that was stored in Lake Mead for its future use, and has the ability to receive up to 25,000 acre-feet of water in any single year. Besides the additional water supply, the addition of the Warren H. Brock reservoir adds to the flexibility of Colorado River operations by storing underutilized Colorado River water orders caused by unexpected canal outages, changes in weather conditions, and high runoff into the Colorado River. As of January 1, 2016, Metropolitan had taken delivery of 43,992 acre-feet of this water, and had 56,008 acre-feet remaining in storage.

Yuma Desalting Plant. In September 2009, Metropolitan authorized participation with SNWA, the Colorado River Commission of Nevada, the CAWCD and the Bureau of Reclamation in the pilot operation of the Yuma Desalting Plant. The Bureau of Reclamation concluded the pilot operation of the Yuma Desalting Plant in March 2011. Metropolitan's contribution for the funding agreement was approximately $8.4 million, of which approximately $1.1 million was refunded to Metropolitan. Metropolitan's yield from the pilot run of the project was 24,397 acre-feet. As of January 1, 2016, that water was stored in Lake Mead for Metropolitan's future use.

Mexico Pilot Project. In November 2012, Metropolitan executed agreements in support of a program to augment Metropolitan's Colorado River supply from 2013 through 2017 through an international pilot project in Mexico. Metropolitan's total share of costs was $5 million for 47,500 acre-feet of project supplies. In December 2013, Metropolitan and IID executed an agreement under which IID has paid half of Metropolitan's program costs, or $2.5 million, in return for half of the project supplies, or 23,750 acre-feet. In addition, 23,750 acre-feet of conserved water will be credited to Metropolitan's binational ICS water account no later than December 31, 2017. See "–Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – Lower Basin Shortage Guidelines and Coordinated Management Strategies for Lake Powell and Lake Mead."

Storage Capacity and Water in Storage

Metropolitan's storage capacity, which includes reservoirs, conjunctive use and other groundwater storage programs within Metropolitan's service area and groundwater and surface storage accounts delivered through the State Water Project or CRA, is approximately 5.83 million acre-feet. In 2016, approximately 626,000 acre-feet of stored water was emergency storage that was reserved for use in the event of supply interruptions from earthquakes or similar emergencies (see "METROPOLITAN'S WATER DELIVERY SYSTEM–Seismic Considerations" in this Appendix A), as well as extended drought. Metropolitan's emergency storage requirement is established periodically to provide a six-month water supply at 75 percent of member agencies' retail demand under normal hydrologic conditions. Metropolitan's ability to replenish water storage, both in the local groundwater basins and in surface storage and banking programs, has been limited by Bay-Delta pumping restrictions under the biological opinions issued for listed species. See "–Endangered Species Act and Other Environmental Considerations – Endangered Species Act Considerations – State Water Project – Delta Smelt and Salmon Federal ESAs Biological Opinions." Metropolitan replenishes its storage accounts when available imported supplies exceed demands. Effective storage management is dependent on having sufficient years of excess supplies to store water so that it can be used during times of shortage. Historically, excess supplies have been available in about seven of every ten years. Metropolitan forecasts that, with anticipated supply reductions from the State Water Project due to pumping

restrictions, it will need to draw down on storage in about seven of ten years and will be able to replenish storage in about three years out of ten. This reduction in available supplies extends the time required for storage to recover from drawdowns and could require Metropolitan to implement its Water Supply Allocation Plan during extended dry periods. See "CONSERVATION AND WATER SHORTAGE MEASURES--Water Supply Allocation Plan." As a result of increased State Water Project supplies and reduced demands from 2010 to 2012, Metropolitan rebuilt its storage after several years of withdrawals to approximately 3.375 million acre-feet, including emergency storage. This was the highest end-of-year total water reserves in Metropolitan's history. In 2014, Metropolitan withdrew approximately 1.2 million acre-feet from storage, reducing overall storage to approximately 1.8 million acre-feet. Approximately 300,000 acre-feet were withdrawn from storage reserves in 2015, leaving approximately 1.5 million acre-feet in storage reserves as of January 1, 2016. Approximately 350,000 acre-feet were returned to storage reserves in 2016, providing for nearly 1.9 million acre-feet in reserves as of January 1, 2017. The following table shows three years of Metropolitan's water in storage as of January 1, including emergency storage.

METROPOLITAN'S WATER STORAGE CAPACITY AND WATER IN STORAGE[1]
(in Acre-Feet)

Water Storage Resource	Storage Capacity	Water in Storage January 1, 2017	Water in Storage January 1, 2016	Water in Storage January 1, 2015
Colorado River Aqueduct				
Desert / CVWD Advance Delivery Account	800,000	38,000	200,000	249,000
Lake Mead ICS	1,500,000	71,000	80,000	151,000
Subtotal	**2,300,000**	**109,000**	**280,000**	**400,000**
State Water Project				
Arvin-Edison Storage Program	350,000	108,000	124,000	166,000
Semitropic Storage Program	350,000	125,000	137,000	194,000
Kern Delta Storage Program	250,000	99,000	119,000	150,000
San Bernardino Valley MWD Coordinated Operating Agreement	50,000	-0-	-0-	-0-
Mojave Storage Program	390,000[5]	27,000	31,000	39,000
Castaic Lake and Lake Perris[2]	219,000	154,000	30,000	-0-
Metropolitan Article 56 Carryover[3]	200,000[6]	210,000	3,000	36,000
Other State Water Project Carryover[4]	n/a	-0-	-0-	-0-
Emergency Storage	334,000	328,000	328,000	328,000
Subtotal	**2,143,000**	**1,051,000**	**772,000**	**913,000**
Within Metropolitan's Service Area				
Diamond Valley Lake	810,000	566,000	315,000	394,000
Lake Mathews	182,000	135,000	141,000	78,000
Lake Skinner	44,000	37,000	34,000	30,000
Subtotal[7]	**1,036,000**	**738,000**	**490,000**	**502,000**
Member Agency Storage Programs				
Cyclic Storage and Conjunctive Use	352,000	1,000	7,000	28,000
Total	**5,831,000**	**1,899,000**	**1,549,000**	**1,843,000**

Source: Metropolitan.

(footnotes on next page)

(footnotes to table on prior page)

(1) Water storage capacity and water in storage are measured based on engineering estimates and are subject to change.
(2) Flexible storage allocated to Metropolitan under its State Water Contract. Withdrawals must be returned within 5 years.
(3) Article 56 Carryover storage capacity is dependent on the annual State Water Project allocation, which varies from year to year. Article 56 supplies represent water that is allocated to a State Water Project contractor in a given year and carried over to the next year pursuant to the State Water Contract. The January 1, 2017 value includes 42,000 acre-feet of Article 56 carried over by Metropolitan on behalf of Desert Water Agency and Coachella Valley Water District.
(4) Includes Article 56 Carryover from prior years, non-project carryover, and carryover of curtailed deliveries pursuant to Article 14(b) of Metropolitan's State Water Contract.
(5) The Mojave Storage Program agreement was amended in 2011 to allow for cumulative storage of up to 390,000 acre-feet.
(6) Metropolitan's State Water Project carryover capacity ranges from 100,000 to 200,000 acre-feet, on a sliding scale that depends on the final State Water Project allocation. At allocations of 50 percent or less, Metropolitan may store 100,000 acre-feet, and at allocations of 75 percent or greater, Metropolitan may store up to 200,000 acre-feet. For the purposes of this table, the highest possible carryover capacity is displayed.
(7) Includes 298,000 acre-feet of emergency storage in Metropolitan's reservoirs in 2015, 2016, and 2017.

CONSERVATION AND WATER SHORTAGE MEASURES

General

The central objective of Metropolitan's water conservation program is to help ensure adequate, reliable and affordable water supplies for Southern California by actively promoting efficient water use. The importance of conservation to the region has increased in recent years because of drought conditions in the State Water Project watershed and court-ordered restrictions on Bay-Delta pumping, as described under "METROPOLITAN'S WATER SUPPLY–State Water Project – Bay-Delta Proceedings Affecting Water Supply" and "–Endangered Species Act and Other Environmental Considerations – Endangered Species Act Considerations – State Water Project – Delta Smelt and Salmon Federal ESAs Biological Opinions." Conservation reduces the need to import water to deliver to member agencies through Metropolitan's system. Water conservation is an integral component of Metropolitan's IRP, WSDM Plan and Water Supply Allocation Plan.

Metropolitan's conservation program has largely been developed to assist its member agencies in meeting the "best management practices" ("BMPs") of the California Urban Water Conservation Council's Memorandum of Understanding Regarding Urban Water Conservation in California ("CUWCC MOU") and to meet the conservation goals of the most recent IRP Update. See "METROPOLITAN'S WATER SUPPLY–Integrated Water Resources Plan." Under the terms of the CUWCC MOU and Metropolitan's Conservation Credits Program, Metropolitan administers regional conservation programs and also co-funds member agency conservation programs designed to achieve greater water use efficiency in residential, commercial, industrial, institutional and landscape uses. Metropolitan uses its Water Stewardship Rate, which is charged for every acre-foot of water conveyed by Metropolitan, together with available grant funds, to fund conservation incentives and other water management programs. All users of Metropolitan's system benefit from the system capacity made available by investments in demand management programs like the Conservation Credits Program. See "METROPOLITAN REVENUES–Rate Structure – Water Stewardship Rate" in this Appendix A. Direct spending by Metropolitan on active conservation incentives, including rebates for water-saving plumbing fixtures, appliances and equipment, from fiscal year 1989-90 through fiscal year 2015-16 was about $731 million. The 2015 IRP Update estimates that 1,197,000 acre-feet of water will be conserved annually in southern California by 2025. See also "METROPOLITAN'S WATER SUPPLY–Integrated Water Resources Plan" in this Appendix A and "–Drought Response Actions" below.

In addition to ongoing conservation, Metropolitan has developed a WSDM Plan, which splits resource actions into two major categories: Surplus Actions and Shortage Actions. See "–Water Surplus and Drought Management Plan." Conservation and water efficiency programs are part of Metropolitan's resource management strategy which makes up these Surplus and Shortage actions.

Metropolitan's Water Supply Allocation Plan allocates Metropolitan's water supplies among its member agencies, based on the principles contained in the WSDM Plan, to reduce water use and drawdowns from water storage reserves. See "–Water Supply Allocation Plan." Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also have the ability to implement water conservation and allocation programs, and some of the retail suppliers in Metropolitan's service area have initiated conservation measures. The success of conservation measures in conjunction with the Water Supply Allocation Plan is evidenced as a contributing factor in the lower than budgeted water sales during fiscal years 2009-10, 2010-11, 2011-12 and 2015-16.

Legislation approved in November 2009 sets a statewide conservation target for urban per capita water use of 20 percent reductions by 2020 (with credits for existing conservation) at the retail level, providing an additional catalyst for conservation by member agencies and retail suppliers. Metropolitan's water sales projections incorporate an estimate of conservation savings that will reduce retail demands. Current projections include an estimate of additional water use efficiency savings that would result from local agencies reducing their per capita water use in response to the 20 percent by 2020 conservation savings goals required by the 2009 legislation, as well as an estimate of additional conservation that would have to occur to reach Metropolitan's IRP goal of reducing overall regional per capita water use by 20 percent by 2020.

Water Surplus and Drought Management Plan

In addition to the long-term planning guidelines and strategy provided by its IRP, Metropolitan has developed its WSDM Plan for the on-going management of its resources and water supplies in response to hydrologic conditions. The WSDM Plan, which was adopted by Metropolitan's Board in April 1999, evolved from Metropolitan's experiences during the droughts of 1976-77 and 1987-92. The WSDM Plan is a planning document that Metropolitan uses to guide inter-year and intra-year storage operations, and splits resource actions into two major categories: surplus actions and shortage actions. The surplus actions emphasize storage of surplus water inside the region, followed by storage of surplus water outside the region. The shortage actions emphasize critical storage programs and facilities and conservation programs that make up part of Metropolitan's response to shortages. Implementation of the plan is directed by a WSDM team, made up of Metropolitan staff, that meets regularly throughout the year and more frequently between November and April as hydrologic conditions develop. The WSDM team develops and recommends storage actions to senior management on a regular basis and provides updates to the Board on hydrological conditions, storage levels and planned storage actions through detailed reports.

Water Supply Allocation Plan

In times of prolonged or severe water shortages, Metropolitan manages its water supplies through the implementation of its Water Supply Allocation Plan. The Water Supply Allocation Plan was originally approved by Metropolitan's Board in February 2008, and has been implemented three times since its adoption, including most recently in April 2015. The Water Supply Allocation Plan provides a formula for equitable distribution of available water supplies in case of extreme water shortages within Metropolitan's service area. In December 2014, the Board approved certain adjustments to the formula for calculating member agency supply allocations during subsequent periods of implementation of the Water Supply Allocation Plan. Although the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan (see "METROPOLITAN REVENUES–Preferential Rights"), historically, these rights have not been used in allocating Metropolitan's water. Metropolitan's member agencies and retail water suppliers in Metropolitan's service area also may implement water conservation and allocation programs within their respective service territories in times of shortage. See also "–Drought Response Actions."

On April 14, 2015, the Board declared a Water Supply Condition 3 and the implementation of the Water Supply Allocation Plan at a Level 3 Regional Shortage Level, effective July 1, 2015 through June 30, 2016. Implementation of the Water Supply Allocation Plan at a Level 3 Regional Shortage Level, and

response to the Governor's Order and related implementing regulations (described under "–Drought Response Actions"), reduced supplies delivered by Metropolitan to Metropolitan's member agencies to approximately 1.6 million acre-feet in fiscal year 2015-16. See also "CONSERVATION AND WATER SHORTAGE MEASURES–General." Due to improved hydrologic conditions, on May 10, 2016, the Board rescinded the Water Supply Allocation Plan, declared a Condition 2 Water Supply Alert, and decided not to implement the Water Supply Allocation Plan for fiscal year 2016-17. In April 2017, the Board will evaluate current water supply conditions and determine if implementation of the Water Supply Allocation Plan is needed for fiscal year 2017-18. In light of current hydrologic conditions and current DWR State Water Project allocation estimates, implementation of the Water Supply Allocation Plan for fiscal year 2017-18 is not currently expected.

Drought Response Actions

The most recent drought of 2012-2015 represents one of the driest periods in the hydrologic record since 1931-1934. In calendar years 2012-2015, to offset reductions in State Water Project supplies and mitigate impacts of the California drought, in addition to utilizing the limited available supplies from the Colorado River and State Water Project deliveries, Metropolitan met water demands in its service area by supplemental water transfers and purchases, and drawing on storage reserves, while also encouraging responsible and efficient water use to lower demands.

As noted under "–Water Supply Allocation Plan" above, actions taken in response to the drought by the State, Metropolitan's Board, and Metropolitan member agencies have contributed to reduced demands in Metropolitan's service area. Following the declaration by Governor Brown on January 17, 2014 of a drought state of emergency for California, on April 1, 2015 Governor Brown issued an Executive Order ("Order") calling for a 25 percent reduction in consumer water use in response to the historically dry conditions. The Governor's Order was implemented through emergency regulation adopted by the SWRCB. On May 18, 2016, the SWRCB adopted modifications to the emergency regulation which replace the state-mandated conservation targets with a supply-based approach that mandates urban water suppliers take actions to ensure at least a three year supply of water to their customers under drought conditions. As a wholesale water agency providing a supplemental water supply to its member agencies, Metropolitan is not subject to the requirements of the Order, which applies to retail water agencies. However, water sales of Metropolitan's member agencies have declined as a result of conservation efforts and other actions taken to comply with the Order and implementing regulation. In addition, since Governor Brown's initial drought emergency proclamation in January 2014, Metropolitan has worked proactively with its member agencies to conserve water supplies in its service area, and significantly expanded its water conservation and outreach programs and increased funding for conservation incentive programs. See "CONSERVATION AND WATER SHORTAGE MEASURES–General." In calendar year 2016, Metropolitan returned approximately 350,000 acre-feet of water to storage and continued to encourage responsible and efficient water use.

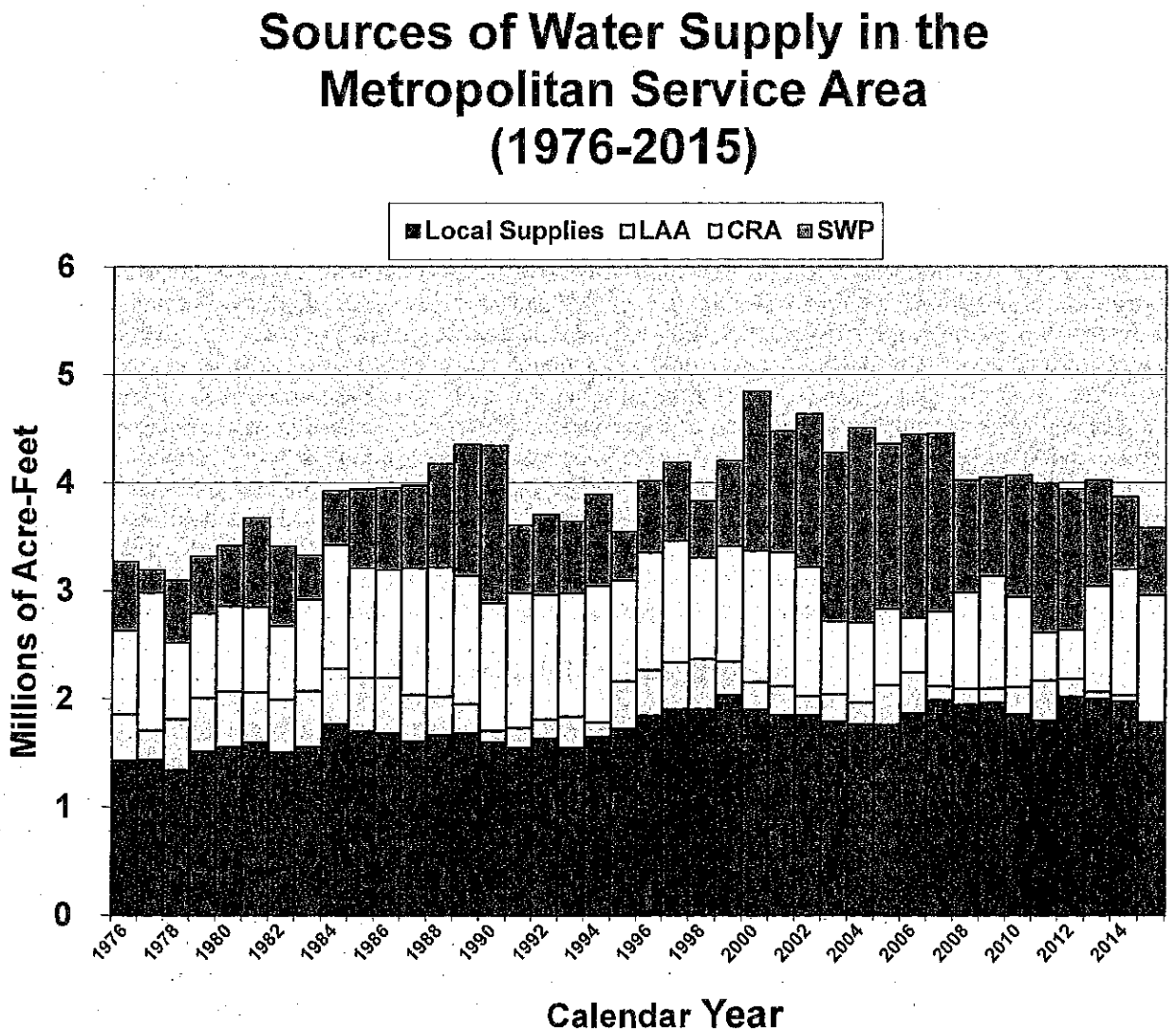
REGIONAL WATER RESOURCES

The water supply for Metropolitan's service area is provided in part by Metropolitan and in part by non-Metropolitan sources available to members. Approximately 60 percent of the water supply for Metropolitan's service area is imported water received by Metropolitan from the CRA and the State Water Project and by the City of Los Angeles (the "City") from the Los Angeles Aqueduct. While the City is one of the largest water customers of Metropolitan, it receives a substantial portion of its water from the Los Angeles Aqueduct and local groundwater supply. The balance of water within the region is produced locally, primarily from groundwater supplies and runoff.

Metropolitan's member agencies are not required to purchase or use any of the water available from Metropolitan. Some agencies depend on Metropolitan to supply nearly all of their water needs, regardless of the weather. Other agencies, with local surface reservoirs or aqueducts that capture rain or snowfall, rely on Metropolitan more in dry years than in years with heavy rainfall, while others, with ample groundwater supplies, purchase Metropolitan water only to supplement local supplies and to recharge groundwater basins.

The demand for supplemental supplies provided by Metropolitan is dependent on water use at the retail consumer level and the amount of locally supplied and conserved water. See "CONSERVATION AND WATER SHORTAGE MEASURES" in this Appendix A and "–Local Water Supplies" below. Consumer demand and locally supplied water vary from year to year, resulting in variability in water sales. Future reliance on Metropolitan supplies will depend on, among other things, local projects and the amount of water, if any, that may be derived from sources other than Metropolitan. In recent years, supplies and demands have been affected by drought, water use restrictions, economic conditions, weather conditions and environmental laws, regulations and judicial decisions, as described in this Appendix A under "METROPOLITAN'S WATER SUPPLY." For information on Metropolitan's water sales revenues, see "METROPOLITAN REVENUES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

The following graph shows a summary of the regional sources of water supply for the years 1976 to 2015. Local supplies available within Metropolitan's service area are augmented by water imported by the City through the Los Angeles Aqueduct and Metropolitan supplies provided through the CRA and State Water Project.



Source: Metropolitan.

The major sources of water available to some or all of Metropolitan's member agencies in addition to supplies provided by Metropolitan are described below.

Los Angeles Aqueduct

The City, through its Department of Water and Power ("LADWP"), operates its Los Angeles Aqueduct system to import water from the Owens Valley and the Mono Basin on the eastern slopes of the Sierra Nevada in eastern California. Prior to the 1990-1991 drought, the City had imported an average of 440,000 acre-feet of water annually from the combined Owens Valley/Mono Basin system, of which about 90,000 acre-feet came from the Mono Basin. Under the Mono Lake Basin Water Right Decision (Decision 1631) issued in September 1994, which revised LADWP's water rights licenses in the Mono Basin, the City is limited to export 4,500 acre-feet annually when Mono Lake elevation is between 6,377 to 6,380 feet above mean sea level, and 16,000 acre-feet annually when the elevation is between 6,380 to 6,391 feet above mean sea level, on April 1 of the runoff year. On April 1, 2016, the water level of Mono Lake was 6,378.1 feet above mean sea level. Therefore, Mono Basin water exports for runoff year 2016 were limited to 4,500 acre-feet. The 4,500 acre-feet export limit will remain until the water level in Mono Lake reaches 6,380 feet above mean sea level. Once the elevation of Mono Lake reaches 6,391 feet above mean sea level, a moderate increase in water exports from the Mono Basin above the 16,000 acre-feet limit will be permitted pursuant to Decision 1631.

Pursuant to the City's turnout agreement with DWR, AVEK and Metropolitan, LADWP commenced construction in 2010 of the turnout facilities along the California Aqueduct within AVEK's service area. Upon completion, which is expected in 2017, the turnout will enable delivery of water from the California Aqueduct to the Los Angeles Aqueduct. Conditions precedent to such delivery of water include obtaining agreements for the transfer of non-State Water Project water directly from farmers, water districts or others in Northern and Central California, available capacity in the California Aqueduct and compliance with State Water Project water quality requirements. The agreement allows for use of the turnout for delivery of non-State Water Project water to the City in amounts not to exceed the supplies lost to the City as a result of its Eastern Sierra environmental obligations.

Historically, the Los Angeles Aqueduct and local groundwater supplies have been nearly sufficient to meet the City's water demands during normal water supply years. As a result, prior to the 1990-1991 drought, only about 13 percent of the City's water needs (approximately 82,000 acre-feet) were supplied by Metropolitan. From fiscal year 2000-01 to fiscal year 2015-16, approximately 31 to 75 percent of the City's total water requirements were met by Metropolitan. For the five fiscal years ended June 30, 2016, the City's water deliveries from Metropolitan averaged approximately 348,680 acre-feet per year, which constituted approximately 64 percent of the City's total water supply. Deliveries from Metropolitan to the City during this period varied between approximately 166,000 acre-feet per year and approximately 442,000 acre-feet per year. See "METROPOLITAN REVENUES–Principal Customers" in this Appendix A. According to LADWP's 2015 Urban Water Management Plan, the City is planning to increase locally-developed supplies including recycled water, new conservation, stormwater capture and local groundwater from the average for the five-year period ending June 30, 2015 of 14 percent to 47 percent of its normal year supplies by fiscal year 2039-40. Accordingly, the City's reliance on Metropolitan supplies is expected to decrease from the five year average ending June 30, 2016 of 64 percent to 11 percent of its normal year supplies by fiscal year 2039-40. However, the City may still purchase up to 311,000 acre-feet per year or 44 percent of its dry year supplies from Metropolitan until 2040. This corresponds to an increase from normal to dry years of approximately 237,000 acre-feet in potential demand for supplies from Metropolitan.

LADWP analyzed the additional impacts to the Los Angeles Aqueduct's water supply deliveries for various environmental projects aimed at improving air quality and fish and riparian habitat in the Owens Valley. In November 2014, LADWP reached an agreement over implementation of dust control measures on Owens Lake which saved approximately 12,000 to 14,000 acre-feet of water in 2015 and is expected to expand water savings in the future. LADWP reports that in 2016, 71,400 acre-feet of water was devoted to

dust and environmental mitigation projects in the Owens Valley and Eastern Sierra, resulting in the need to purchase an equivalent amount of Metropolitan supply.

Local Water Supplies

Local water supplies are made up of groundwater, groundwater recovery, surface runoff, recycled water, and seawater desalination. Metropolitan supports local resources development through its Local Resources Program ("LRP"), which provides financial incentives up to $340 per acre-foot of water production from local water recycling, groundwater recovery and seawater desalination projects. Metropolitan utilizes conjunctive use of groundwater to encourage storage in groundwater basins. Member agencies and other local agencies have also independently funded and developed additional local supplies, including groundwater clean-up, recycled water and desalination of brackish or high salt content water.

Metropolitan's water sales projections are based in part on projections of locally-supplied water. Projections of future local supplies are based on estimated yields from sources and projects that are currently producing water or are under construction at the time a water sales projection is made. Additional reductions in Metropolitan's water sales projections are made to account for future local supply augmentation projects, based on the IRP Update goals. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES–Water Sales Projections" and "METROPOLITAN'S WATER SUPPLY–Integrated Water Resources Plan" in this Appendix A.

Groundwater. Demands for about 1.35 million acre-feet per year, about one-third of the annual water demands for approximately 18.8 million residents of Metropolitan's service area, are met from groundwater production. Local groundwater supplies are supported by recycled water, which is blended with imported water and recharged into groundwater basins, and also used for creating seawater barriers that protect coastal aquifers from seawater intrusion.

Member Agency Storage Programs. Metropolitan has developed a number of local programs to work with its member agencies to increase storage in groundwater basins. Metropolitan has encouraged storage through its cyclic and conjunctive use storage programs. These programs allow Metropolitan to deliver water into a groundwater basin in advance of agency demands. Metropolitan has drawn on dry-year supply from cyclic storage accounts and nine contractual conjunctive use storage programs to address shortages from the State Water Project and the CRA.

Cyclic storage agreements allow pre-delivery of imported water for recharge into groundwater basins in excess of an agency's planned and budgeted deliveries making best use of available capacity in conveyance pipelines, use of storm channels for delivery to spreading basins, and spreading basins. This water is then purchased at a later time when the agency has a need for groundwater replenishment deliveries.

Conjunctive use agreements provide for storage of imported water that can be called for use by Metropolitan during dry, drought, or emergency conditions. During a dry period, Metropolitan has the option to call water stored in the groundwater basins pursuant to its contractual conjunctive use agreements. At the time of the call, the member agency pays Metropolitan the prevailing rate for that water. Nine conjunctive use projects provide about 210,000 acre-feet of groundwater storage and have a combined extraction capacity of about 70,000 acre-feet per year. As of January 2017, the balance in the nine accounts was approximately 1,000 acre-feet. See table "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY–Storage Capacity and Water in Storage" in this Appendix A.

Recovered Groundwater. Contamination of groundwater supplies is a growing threat to local groundwater production. Metropolitan has been supporting increased groundwater production and improved regional supply reliability by offering financial incentives to agencies for production and treatment of degraded groundwater since 1991. Metropolitan has executed agreements with local agencies to provide financial incentives to 25 projects that recover contaminated groundwater with total contract yields of about

118,000 acre-feet per year. During fiscal year 2015-16, Metropolitan provided incentives for approximately 49,000 acre-feet of recovered water under these agreements. Total groundwater recovery use under executed agreements is expected to grow to 79,000 acre-feet in 2020.

Surface Runoff. Local surface water resources consist of runoff captured in storage reservoirs and diversions from streams. Since 1980, agencies have used an average of 116,000 acre-feet per calendar year of local surface water. Local surface water supplies are heavily influenced by year to year local weather conditions, varying from a high of 188,000 acre-feet in calendar year 1998 to a low of 65,000 acre-feet in calendar year 2003.

Recycled Water. Metropolitan has supported recycled water use to offset water demands and improve regional supply reliability by offering financial incentives to agencies for production and sales of recycled water since 1982. Metropolitan has executed agreements with local agencies to provide financial incentives to 82 recycled water projects with total contract yields of about 323,000 acre-feet per year. During fiscal year 2015-16, Metropolitan provided incentives for approximately 179,000 acre-feet of reclaimed water under these agreements. Total recycled water use under executed agreements is expected to be approximately 193,000 acre-feet by 2020.

Seawater Desalination. Metropolitan's IRP includes seawater desalination as a part of the region's local supply that could help increase supply reliability in Metropolitan's service area. The IRP also supports foundational actions to lay the groundwork for accelerating seawater desalination development as needed in the future. To encourage local development, Metropolitan has signed Seawater Desalination Program ("SDP") incentive agreements with three of its member agencies: Long Beach, Municipal Water District of Orange County ("MWDOC") and West Basin Municipal Water District. The SDP agreements provide incentives to the member agencies of up to $250 per acre-foot when the desalinated supplies are produced. Agreement terms are for the earlier of 25 years or through 2040 and are designed to phase out if Metropolitan's rates surpass the unit cost of producing desalinated seawater. SDP agreements are subject to final approval by Metropolitan's Board after review of the complete project description and environmental documentation. These projects are currently in the development phase and collectively, if completed, are anticipated to produce up to 46,000 acre-feet annually. Each agreement automatically terminates in 2020 if the related project is not operational by that time. In October 2014, seawater desalination projects became eligible for funding under Metropolitan's Local Resources Program.

In late 2015, Poseidon Resources LLC ("Poseidon") completed and began operating the 56,000 acre-foot capacity Carlsbad Desalination Project ("Carlsbad Project") and associated pipeline. The SDCWA has a purchase agreement with Poseidon for a minimum of 48,000 acre-feet per year with an option to purchase an additional 8,000 acre-feet per year. Other seawater desalination projects that could provide supplies to Metropolitan's service area are under development or consideration. In partnership with the Orange County Water District, Poseidon is also developing a 56,000 acre-feet per year plant in Huntington Beach which is currently in the permitting phase. SDCWA is also studying the potential for a seawater desalination plant in Camp Pendleton which would initially produce up to 56,000 acre-feet per year and potentially up to 168,000 acre-feet per year with a phased build out. Calleguas Municipal Water District is studying the potential for a 20,000 to 80,000 acre-feet per year project in Ventura County. Otay Water District, located in San Diego County along the Mexico border, is considering the feasibility of purchasing water from a seawater desalination project in Rosarito Beach, Mexico. The 56,000 to 112,000 acre-feet per year project is in the pre-construction phase, and could also supply Metropolitan's service area through exchange agreements. Approvals from a number of U.S. and Mexican federal agencies, along with State and local approvals, would be needed for the cross-border project to proceed.

METROPOLITAN'S WATER DELIVERY SYSTEM

Primary Facilities and Method of Delivery

Metropolitan's water delivery system is made up of three basic components: the CRA, the California Aqueduct of the State Water Project and Metropolitan's internal water distribution system. Metropolitan's delivery system is integrated and designed to meet the differing needs of its member agencies. Metropolitan seeks redundancy in its delivery system to assure reliability in the event of an outage. Improvements are designed to increase the flexibility of the system. Since local sources of water are generally used to their maximum each year, growth in the demand for water is partially met by Metropolitan. Accordingly, the operation of Metropolitan's water system is being made more reliable through the rehabilitation of key facilities as needed, improved preventive maintenance programs and the upgrading of Metropolitan's operational control systems. See "CAPITAL INVESTMENT PLAN" in this Appendix A.

Colorado River Aqueduct. Work on the CRA commenced in 1933 and water deliveries started in 1941. Additional facilities were completed by 1961 to meet additional requirements of Metropolitan's member agencies. The CRA is 242 miles long, starting at the Lake Havasu intake and ending at the Lake Mathews terminal reservoir. Metropolitan owns all of the components of the CRA, which include five pumping plants, 64 miles of canal, 92 miles of tunnels, 55 miles of concrete conduits and 144 underground siphons totaling 29 miles in length. The pumping plants lift the water approximately 1,617 feet over several mountain ranges to Metropolitan's service area. See "METROPOLITAN'S WATER SUPPLY–Colorado River Aqueduct" in this Appendix A.

State Water Project. The initial portions of the State Water Project serving Metropolitan were completed in 1973. The State Water Project, managed and operated by DWR, is one of the largest water supply projects undertaken in the history of water development. The State Water Project facilities dedicated to water delivery consist of a complex system of dams, reservoirs, power plants, pumping plants, canals and aqueducts to deliver water. Water from rainfall and snowmelt runoff is captured and stored in State Water Project conservation facilities and then delivered through State Water Project transportation facilities to water agencies and districts located throughout the Upper Feather River, Bay Area, Central Valley, Central Coast, and Southern California. Metropolitan receives water from the State Water Project through the main stem of the aqueduct system, the California Aqueduct, which is 444 miles long and includes 381 miles of canals and siphons, 49 miles of pipelines or tunnels and 13 miles of channels and reservoirs.

As described herein, Metropolitan is the largest (in terms of number of people it serves, share of State Water Project water it has contracted to receive, and percentage of total annual payments made to DWR therefor) of twenty-nine agencies and districts that have entered into contracts with DWR to receive a water entitlement from the State Water Project. Contractors pay all costs of the facilities in exchange for participation rights in the system. Thus, Contractors also have the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. See "METROPOLITAN'S WATER SUPPLY–State Water Project" in this Appendix A.

Internal Distribution System. Metropolitan's internal water distribution system includes components that were built beginning in the 1930s and through the present. Metropolitan owns all of these components, including 14 dams and reservoirs, five regional treatment plants, over 800 miles of transmission pipelines, feeders and canals, and 16 hydroelectric plants with an aggregate capacity of 131 megawatts.

Diamond Valley Lake. Diamond Valley Lake, a man-made reservoir, built, owned and operated by Metropolitan, is located southwest of the city of Hemet, California. It covers approximately 4,410 acres and has capacity to hold approximately 810,000 acre-feet or 265 billion gallons of water. Diamond Valley Lake was constructed to serve approximately 90 percent of Metropolitan's service area by gravity flow. Imported water is delivered to Diamond Valley Lake during surplus periods. The reservoir provides more reliable delivery of imported water from the State Water Project and the CRA during summer months, droughts and emergencies. In addition, Diamond Valley Lake is capable of providing more than one-third of Southern

California's water needs from storage for approximately six months after a major earthquake (assuming that there has been no impairment of Metropolitan's internal distribution network). See the table "Metropolitan's Water Storage Capacity and Water in Storage" under "METROPOLITAN'S WATER SUPPLY–Storage Capacity and Water in Storage" in this Appendix A for the amount of water in storage at Diamond Valley Lake. Excavation at the project site began in May 1995. Diamond Valley Lake was completed in March 2000, at a total cost of $2 billion, and was in full operation in December 2001.

Inland Feeder. Metropolitan's Inland Feeder is a 44-mile-long conveyance system that connects the State Water Project to Diamond Valley Lake and the CRA. The Inland Feeder provides greater flexibility in managing Metropolitan's major water supplies and allows greater amounts of State Water Project water to be accepted during wet seasons for storage in Diamond Valley Lake. In addition, the Inland Feeder increases the conveyance capacity from the East Branch of the State Water Project by 1,000 cubic feet per second, allowing the East Branch to operate up to its full capacity. Construction of the Inland Feeder was completed in September 2009 at a total cost of $1.14 billion.

Operations Control Center. Metropolitan's water conveyance and distribution system operations are coordinated from the Operations Control Center ("OCC") located in the Eagle Rock area of Los Angeles. The OCC plans, balances and schedules daily water and power operations to meet member agencies' demands, taking into consideration the operational limits of the entire system.

Water Treatment

Metropolitan filters and disinfects water at five water treatment plants: the F.E. Weymouth Treatment Plant, the Joseph Jensen Treatment Plant, the Henry J. Mills Treatment Plant, the Robert B. Diemer Treatment Plant, and the Robert A. Skinner Treatment Plant. In recent years, the plants typically treat between 0.8 billion and 1.0 billion gallons of water per day, and have a maximum capacity of approximately 2.6 billion gallons per day. Approximately 50 percent of Metropolitan's water deliveries are treated water.

Federal and state regulatory agencies continually monitor and establish new water quality standards. New water quality standards could affect availability of water and impose significant compliance costs on Metropolitan. The federal Safe Drinking Water Act ("SDWA") establishes drinking water quality standards, monitoring, and public notification and enforcement requirements for public water systems. To achieve these objectives, the USEPA, as the lead regulatory authority, promulgates national drinking water regulations and develops the mechanism for individual states to assume primary enforcement responsibilities. The SWRCB Division of Drinking Water ("DDW"), formerly the Drinking Water Program under the California Department of Public Health ("CDPH"), has primary responsibility for the regulation of public water supply systems in the State. Drinking water delivered to customers must comply with statutory and regulatory water quality standards designed to protect public health and safety that are now administered by DDW. Metropolitan operates its five water treatment plants under a domestic water supply permit issued by DDW which is amended, as necessary, such as when significant facility modifications occur. Metropolitan operates and maintains water storage, treatment and conveyance facilities, implements watershed management and protection activities, performs inspections, monitors drinking water quality, and submits monthly and annual compliance reports. In addition, public water system discharges to state and federal waters are regulated under general National Pollutant Discharge Elimination System ("NPDES") permits. The SWRCB issued these NPDES permits to Metropolitan which contain numerical effluent limitations, monitoring, reporting, and notification requirements for water discharges from the facilities and pipelines of Metropolitan's water supply and distribution system.

Metropolitan continually monitors new water quality laws and regulations and frequently comments on new legislative proposals and regulatory rules. Metropolitan is currently operating in compliance with all state and federal drinking water regulations and permit requirements.

Seismic Considerations

General. Although the magnitude of damages resulting from a significant seismic event are impossible to predict, Metropolitan's water conveyance and distribution facilities are designed either to withstand a maximum probable seismic event or to minimize the potential repair time in the event of damage. The five pumping plants on the CRA have been buttressed to better withstand seismic events. Other components of the CRA are monitored for any necessary rehabilitation and repair. Metropolitan personnel and independent consultants periodically reevaluate the internal water distribution system's vulnerability to earthquakes. As facilities are evaluated and identified for seismic retrofitting, they are prioritized, with those facilities necessary for delivering or treating water scheduled for upgrade before non-critical facilities. However, major portions of the California Aqueduct and the CRA are located near major earthquake faults, including the San Andreas Fault. A significant earthquake could damage structures and interrupt the supply of water, adversely affecting Metropolitan's revenues and its ability to pay its obligations. Therefore, emergency supplies are stored for use throughout Metropolitan's service area, and a six-month reserve supply of water normally held in local storage (including emergency storage in Diamond Valley Lake) provides reasonable assurance of continuing water supplies during and after such events (assuming there has been no impairment of Metropolitan's internal distribution network).

Metropolitan has an ongoing surveillance program that monitors the safety and structural performance of its 14 dams and reservoirs. Operating personnel perform regular inspections that include monitoring and analyzing seepage flows and pressures. Engineers responsible for dam safety review the inspection data and monitor the horizontal and vertical movements for each dam. Major on-site inspections are performed at least twice each year. Instruments that transmit seismic acceleration time histories for analysis any time a dam is subjected to strong motion during an earthquake are located at a number of selected sites.

In addition, Metropolitan has developed an emergency plan that calls for specific levels of response appropriate to an earthquake's magnitude and location. Included in this plan are various communication tools, as well as a structured plan of management that varies with the severity of the event. Pre-designated personnel follow detailed steps for field facility inspection and distribution system patrol. Approximately 40 employees are designated to respond immediately under certain identifiable seismic events. An emergency operations center is maintained at the OCC. The OCC, which is specifically designed to be earthquake resistant, contains communication equipment, including a radio transmitter, microwave capability and a response line linking Metropolitan with its member agencies, DWR, other utilities and the State's Office of Emergency Services.

Metropolitan also maintains machine, fabrication and coating shops at its facility in La Verne, California. Several construction projects have been completed to upgrade and expand these shops. A total of nearly $40 million has been invested to enhance Metropolitan's capacity not only to provide fabrication and coating services for planned rehabilitation work, maintenance activities, and capital projects, but also to perform emergency fabrication support to Metropolitan and its member agencies. Metropolitan has also maintained reimbursable agreements with DWR to perform machining, fabrication, and coating services for critical repair and rehabilitation of State Water Project facilities. These agreements have enhanced timely and cost-effective emergency response capabilities. Materials to fabricate pipe and other appurtenant fittings are kept in inventory at the La Verne site. In the event of earthquake damage, Metropolitan has taken measures to provide the design and fabrication capacity to fabricate pipe and related fittings. Metropolitan is also staffed to perform emergency repairs and has pre-qualified contractors for emergency repair needs at various locations throughout Metropolitan's service area.

State Water Project Facilities- California Aqueduct. The California Aqueduct crosses all major faults either by canal at ground level or by pipeline at very shallow depths to ease repair in case of damage from movement along a fault. State Water Project facilities are designed to withstand major earthquakes along a local fault or magnitude 8.1 earthquakes along the San Andreas Fault without major damage. Dams, for example, are designed to accommodate movement along their foundations and to resist earthquake forces

on their embankments. Earthquake loads have been taken into consideration in the design of project structures such as pumping and power plants. The location of check structures on the canal allows for hydraulic isolation of the fault-crossing repair.

While the dams, canals, pump stations and other constructed State Water Project facilities have been designed to withstand earthquake forces, the critical supply of water from Northern California must traverse the Bay-Delta through hundreds of miles of varying levels of engineered levees that are susceptible to major failures due to flood and seismic risk. In the event of a failure of the Bay-Delta levees, the quality of the Bay-Delta's water could be severely compromised as salt water comes in from the San Francisco Bay. Metropolitan's supply of State Water Project water would be adversely impacted if pumps that move Bay-Delta water southward to the Central Valley and Southern California are shut down to contain the salt water intrusion. Metropolitan estimates that stored water supplies, CRA supplies and local water resources that would be available in case of a levee breach or other interruption in State Water Project supplies would meet demands in Metropolitan's service area for approximately twelve months. See "METROPOLITAN'S WATER SUPPLY–Storage Capacity and Water in Storage" in this Appendix A. Since the State and federal governments control the Bay-Delta levees, repair of any levee failures would be the responsibility of and controlled by the State and federal governments.

Metropolitan, in cooperation with the State Water Contractors, developed recommendations to DWR for emergency preparedness measures to maintain continuity in export water supplies and water quality during emergency events. These measures include improvements to emergency construction materials stockpiles in the Bay-Delta, improved emergency contracting capabilities, strategic levee improvements and other structural measures of importance to Bay-Delta water export interests, including development of an emergency freshwater pathway to export facilities in a severe earthquake. DWR utilized $12 million in fiscal year 2007-08 for initial stockpiling of rock for emergency levee repairs and development of Bay-Delta land and marine loading facilities and has identified future funding for expanded stockpiles.

State Water Project-Perris Dam. Perris Dam forms Lake Perris, the southernmost terminal reservoir for the State Water Project in Riverside County, with maximum capacity of approximately 130,000 acre-feet of water. Metropolitan uses water from Lake Perris for delivery to customers in Riverside and San Diego counties. Deliveries from the lake are used as a redundant source for the Mills Water Treatment Plant, drought supply from a flexible storage account, and for consumptive use by Metropolitan's customers. DWR reported in July 2005 that seismic studies indicate that DWR's Perris Dam facility could sustain damage from moderate earthquakes along the San Jacinto or San Andreas faults due to potential weaknesses in the dam's foundation. In late 2005, DWR lowered the water level in the reservoir by about 25 feet and reduced the amount of water stored in the reservoir to about 75,000 acre-feet as DWR evaluated alternatives for repair of the dam. In December 2006, DWR completed a study identifying various repair options, began additional geologic exploration along the base of Perris Dam and started preliminary design. DWR's preferred alternative is to repair the dam to restore the reservoir to its historical level. On November 11, 2011, DWR certified the final EIR and filed a Notice of Determination stating its intent to proceed with the preferred alternative. DWR estimates that repairs will cost approximately $141 million to be completed in mid-2017. Under the original allocation of joint costs for this facility, the State would have paid approximately six percent of the repair costs. However, because of the recreational benefit this facility provides to the public, the Legislature has approved a recommendation from DWR that the State assume 32.2 percent of these repair costs. The remaining 67.8 percent of repairs costs will be paid for by the three agencies that use the water stored in Lake Perris: Metropolitan (42.9 percent), DWA (3.0 percent) and CVWD (21.9 percent). DWR recovers the cost of repairs through its annual statement of charges sent to each agency. See "METROPOLITAN EXPENSES–State Water Contract Obligations" in this Appendix A.

Security Measures

Metropolitan conducts ground and air patrols of the CRA and monitoring and testing at all treatment plants and along the CRA. Similarly, DWR has in place security measures reasonably designed to protect critical facilities of the State Water Project, including both ground and air patrols of the State Water Project.

Although Metropolitan has constructed redundant systems and other safeguards to ensure its ability to continually deliver water to its customers, and DWR has made similar efforts, a terrorist attack or other security breach against water facilities could materially impair Metropolitan's ability to deliver water to its customers, its operations, and revenues and its ability to pay its obligations.

CAPITAL INVESTMENT PLAN

General Description

Metropolitan's current Capital Investment Plan (the "Capital Investment Plan" or "CIP") involves expansion and rehabilitation of existing facilities and construction of new facilities to meet future water demands, ensure system reliability as well as enhance operational efficiency and flexibility, and comply with water quality regulations. Metropolitan's CIP is regularly reviewed and updated. Metropolitan's biennial budget process includes a review of the projected long-term capital needs and the development of a capital expenditure forecast for the ten-year financial forecast, as well as the identification of the capital priorities of Metropolitan over the biennial budget term. Implementation and construction of specific elements of the program are subject to Board approval, and the amount and timing of borrowings will depend upon, among other factors, status of construction activity and water demands within Metropolitan's service area. From time to time, projects that have been undertaken are delayed, redesigned or deferred by Metropolitan for various reasons, and no assurance can be given that a project in the CIP will be completed in accordance with its original schedule or that any project will be completed as currently planned. In addition, from time to time, when circumstances warrant, Metropolitan's Board may approve capital expenditures other than or in addition to those contemplated by the CIP at the time of the then current biennial budget.

Projection of Capital Investment Plan Expenditures

The table below sets forth the projected CIP expenditures in the adopted biennial budget for fiscal years 2016-17 and 2017-18, including replacement and refurbishment expenditures, by project type for the fiscal years ending June 30, 2017 through 2021. This estimate is updated every two years as a result of the periodic review and adoption of the capital budget by Metropolitan's Board of Directors. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

CAPITAL INVESTMENT PLAN
PROJECTION OF EXPENDITURES[1] [2]
(Fiscal Years Ended June 30 - Dollars in Thousands)

Cost of Service	2017	2018	2019	2020	2021	Total
Conveyance & Aqueduct	$ 19,772	$ 32,934	$ 32,433	$ 30,396	$ 29,042	$ 144,578
Storage	1,455	--	--	--	--	1,455
Distribution	50,818	80,197	95,411	107,446	126,015	459,887
Treatment	88,345	67,691	55,746	50,292	37,678	299,753
Administrative and General	36,649	18,846	16,325	11,398	7,229	90,448
Hydroelectric	2,960	332	84	468	36	3,880
Total[2]	$200,000[3]	$200,000	$200,000	$200,000	$200,000	$1,000,000

Source: Metropolitan.

(1) Fiscal years 2016-17 and 2017-18 based on the adopted biennial budget for fiscal years 2016-17 and 2017-18. Fiscal years 2018-19 through 2020-21 based on the ten-year financial forecast provided in the adopted biennial budget. Totals are rounded.

(2) Annual totals include replacement and refurbishment expenditures for fiscal years 2016-17 through 2020-21 of $115 million, $159 million, $176 million, $182 million, and $192 million, respectively, for a total of $823 million for fiscal years 2016-17 through 2020-21.

(3) Fiscal year 2016-17 capital expenditures are currently estimated to be approximately $212 million.

The above projections do not include amounts for contingencies, but include escalation at 2.77 percent per year for projects for which formal construction contracts have not been awarded. Additional

capital costs may arise in the future as a result of, among other things, federal and State water quality regulations, project changes and mitigation measures necessary to satisfy environmental and regulatory requirements, and for additional facilities. See "METROPOLITAN'S WATER DELIVERY SYSTEM–Water Treatment" in this Appendix A.

Capital Investment Plan Financing

The CIP requires funding from debt financing (see "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A) as well as from pay-as-you-go funding. The Board has adopted an internal funding objective to fund 60 percent of capital program expenditures from current revenues. The remainder of capital program expenditures will be funded through the issuance from time to time of water revenue bonds, which are payable from Net Operating Revenues. However, as in prior years, pay-as-you-go funding may be reduced or increased by the Board during the fiscal year.

On April 8, 2014, Metropolitan's Board approved a total of $466 million for pay-as-you-go expenditures as part of the biennial budget for fiscal year 2014-15 and fiscal year 2015-16. These pay-as-you-go funds, together with funds available in the Replacement and Refurbishment Fund, were expected to fund $513 million in capital expenditures for fiscal year 2014-15 and fiscal year 2015-16. On October 13, 2015, Metropolitan's Board adopted an ordinance finding that the interests of the district require the use of new revenue bonds in an amount not to exceed $500 million. On December 17, 2015, Metropolitan issued its $208,255,000 Water Revenue Bonds, 2015 Authorization Series A to reimburse certain pay-as-you-go capital expenditures and to fund a portion of fiscal year 2016-17 capital expenditures.

Metropolitan's budget assumptions for the adopted biennial budget for fiscal years 2016-17 and 2017-18 and projections for later years provide for the issuance of approximately $80 million of additional water revenue bonds to fund or to reimburse prior capital expenditures in each of fiscal years 2016-17 through 2020-21. These revenue bonds could be issued either as Senior Revenue Bonds under the Senior Debt Resolutions or as Subordinate Revenue Bonds under the Subordinate Debt Resolutions (each as defined under "METROPOLITAN EXPENSES–Limitations on Additional Revenue Bonds" in this Appendix A). The cost of these projected bond issues are reflected in the financial projections under, "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. Metropolitan expects to issue its $80,000,000 Water Revenue Bonds, 2017 Authorization Series A in March 2017 for the purposes of financing a portion of its capital expenditures through fiscal year 2017-18.

Other Capital Expenses

On July 14, 2015, Metropolitan's Board approved $264 million to acquire various properties in Riverside and Imperial Counties, with $160 million funded from the Replacement and Refurbishment Fund and the remaining amount from unrestricted reserves.

On March 8, 2016, Metropolitan's Board authorized the General Manager to enter into an agreement to purchase certain property from Delta Wetlands Properties, LLC in Contra Costa, San Joaquin, and Solano Counties (the "Delta Islands"). Although no determination has been made, potential applications for these properties include: (1) tidal wetlands; (2) water quality; (3) studies and research; (4) re-creation of food web; (5) subsidence studies or prevention; (6) habitat restoration; (7) mitigation credits; (8) carbon sequestration; (9) emergency preparedness, including seismic preparation and study; (10) water transfers; and (11) using portions for access or staging of a future Delta fix, like the proposed California Water Fix project. On July 18, 2016, escrow closed and purchase of these properties was completed. On December 21, 2016, Metropolitan issued its $175,000,000 Subordinate Water Revenue Bonds, 2016 Authorization Series A (Taxable) to reimburse itself for the purchase. See "METROPOLITAN EXPENSES–Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations" in this Appendix A.

Major Projects of Metropolitan's Capital Investment Plan

Oxidation Retrofit Facilities. The oxidation retrofit facilities program includes the design and construction of oxidation facilities and appurtenances at all five of Metropolitan's treatment plants. This program is intended to allow Metropolitan to meet drinking water standards for disinfection by-products and reduce taste and odor incidents. The oxidation retrofit improvements have been completed at three treatment plants: the Henry J. Mills Treatment Plant, the Joseph Jensen Treatment Plant and the Robert B. Diemer Treatment Plant. Completion of the improvements at the F.E. Weymouth plant is expected in 2017. Total oxidation program costs at the F.E. Weymouth plant are estimated to be $270.0 million. Oxidation retrofit at the Robert A. Skinner plant was substantially completed in December 2009 and operational in 2010, with additional follow-up work planned for completion in June 2018. The total estimated cost for all prior and projected oxidation retrofit facilities program improvements at the five treatment plants is approximately $1.12 billion, with $1.07 billion spent through September 2016. Budgeted aggregate capital expenditures for improvements remaining to be completed at the F.E. Weymouth and Robert A. Skinner plants for fiscal years 2016-17 and 2017-18 are $25 million.

F.E. Weymouth Treatment Plant Improvements. The F.E. Weymouth Treatment Plant, built in 1938, is Metropolitan's oldest water treatment facility. It has been subsequently expanded several times since its original construction. Metropolitan has completed several upgrades and refurbishment/replacement projects to maintain the plant's reliability and improve its efficiency. These include power systems upgrades, a residual solids dewatering facility, refurbishment/replacement of the mechanical equipment in two of the eight flocculation and settling basins, a new plant maintenance facility, new chemical feed systems and storage tanks, replacement of the plant domestic/fire water system, seismic upgrades to the plant inlet structure and filter buildings, and a new chlorine handling and containment facility. Planned projects over the next several years include refurbishment of the plant's filters and settling basins, seismic retrofits to the administration building, and replacement of the valves used to control filter operation. The cost estimate for all prior and projected improvements at the Weymouth plant, not including the ozone facilities, is approximately $407.1 million, with $243 million spent through September 2016. Budgeted aggregate capital expenditures for improvements at the Weymouth plant for fiscal years 2016-17 and 2017-18 are $31.5 million.

Robert B. Diemer Treatment Plant Improvements. The Robert B. Diemer Treatment Plant, built in in 1963 and subsequently expanded in 1968, is Metropolitan's second oldest water treatment facility. Several upgrades and refurbishment/replacement projects have been completed at the Diemer plant, including power system upgrades, a new residual solids dewatering facility, new vehicle and plant maintenance facilities, new chemical feed systems and storage tanks, a new chlorine handling and containment facility, construction of a roller-compacted concrete slope stabilization system and a new secondary access road. Planned projects over the next several years include refurbishment of the plant's settling basins, seismic retrofits to the filter buildings and administration building, and replacement of the valves used to control filter operation. The current cost estimate for all prior and projected improvements at the Diemer Treatment Plant, not including the ozone facilities, is approximately $381.1 million, with $234.5 million spent through September 2016. Budgeted aggregate capital expenditures for improvements at the Diemer plant for fiscal years 2016-17 and 2017-18 are $42.3 million.

Colorado River Aqueduct Facilities. As previously noted, deliveries through the CRA began in 1941. Through annual inspections and maintenance activities, the performance and reliability of the various components of the CRA are regularly evaluated. Projects under the CRA facilities program are designed to replace or refurbish facilities and components on the CRA system in order to reliably convey water from the Colorado River to Southern California. A variety of projects have been completed over the past 10 years, including, among other things, replacement of high voltage circuit breakers and transformers at the five pumping plant switchyards, refurbishment of operators and power centers on the head gates downstream of the pumping plants, replacement of several miles of deteriorated concrete canal liner, new wastewater systems at the Hinds and Eagle Mountain Pumping Plants, and replacement of the outlet gates and appurtenant electrical, mechanical, and control systems at the Copper Basin Reservoir. Refurbishment or

replacement of many of the electrical system components, including the transformers, circuit breakers and motor control centers, is currently under way. Additionally, many of the mechanical and electrical components at all five pumping plants will be evaluated and replaced or refurbished over the next several years. The currently projected cost estimate for all prior and planned refurbishment or replacement projects is $650.2 million. Costs through September 2016 were $208.2 million. Budgeted aggregate capital expenditures for improvements on the CRA for fiscal years 2016-17 and 2017-18 are $87.9 million.

Distribution System – Prestressed Concrete Cylinder Pipe. Metropolitan's distribution system is comprised of approximately 830 miles of pipelines ranging in diameter from 30 inches to over 200 inches. (See "METROPOLITAN'S WATER DELIVERY SYSTEM" in this Appendix A.) 163 miles of the distribution system is made up of prestressed concrete cylinder pipe ("PCCP"). In response to PCCP failures experienced by several water agencies, Metropolitan initiated the PCCP Assessment Program in December 1996 to evaluate the condition of Metropolitan's PCCP lines and investigate inspection and refurbishment methods. As a result, Metropolitan has identified and made repairs to several sections of PCCP. The costs for these repairs through September 2016 were $90.3 million. Rather than continue to make spot repairs to pipe segments, Metropolitan has initiated a long-term capital program to rehabilitate approximately 100 miles of PCCP in five pipelines. The estimated cost to reline all 100 miles of PCCP is approximately $2.6 billion and is expected to be undertaken over a period of approximately 20 years. Budgeted aggregate capital expenditures for PCCP rehabilitation for fiscal years 2016-17 and 2017-18 are $39.3 million.

Distribution System – Refurbishments and Improvements. In addition to the long-term program to rehabilitate Metropolitan's PCCP lines, several other components of the distribution system are being refurbished and/or improved. Ongoing projects to ensure the reliability of the distribution system, primarily due to age, include multiple replacements or refurbishments of isolation and control valves and gates, lining replacement on the Etiwanda Pipeline and portions of the Orange County Feeder, a new steel liner for the Bernasconi Tunnel, seismic upgrades to the Santa Ana River Bridge, refurbishment to pressure control and hydroelectric power facilities, system improvements to provide drought relief, and various other upgrades totaling approximately $228.2 million through September 2016. The currently projected cost estimate for the prior and planned refurbishment or replacement projects, other than the PCCP relining, is $749.3 million. For fiscal years 2016-17 and 2017-18, budgeted aggregate capital expenditures for improvements on the distribution system, other than PCCP rehabilitation, are $74.2 million.

METROPOLITAN REVENUES

General

Until water deliveries began in 1941, Metropolitan's activities were, by necessity, supported entirely through the collection of *ad valorem* property taxes. Since the mid-1980s, water sales revenues have provided approximately 75 to 85 percent of total revenues and *ad valorem* property taxes have accounted for about 10 percent of revenues, declining to seven percent of revenues in fiscal year 2015-16. See "–Revenue Allocation Policy and Tax Revenues." The remaining revenues have been derived principally from the sale of hydroelectric power, interest on investments and additional revenue sources (water standby charges and availability of service charges) beginning in 1992. *Ad valorem* taxes do not constitute a part of Operating Revenues and are not available to make payments with respect to the water revenue bonds issued by Metropolitan.

The basic rate for untreated water service for domestic and municipal uses is $666 per acre-foot at the Tier 1 level, which became effective January 1, 2017. This rate will increase to $695 effective January 1, 2018. See "–Rate Structure" and "–Water Rates." The *ad valorem* tax rate for Metropolitan purposes has gradually been reduced from a peak equivalent rate of 0.1250 percent of full assessed valuation in fiscal year 1945-46 to 0.0035 percent of full assessed valuation for fiscal year 2016-17. The rates charged by Metropolitan represent the cost of Metropolitan wholesale water service to its member agencies, and not the cost of water to the ultimate consumer. Metropolitan does not exercise control over the rates charged by its member agencies or their subagencies to their customers.

Summary of Revenues by Source

The following table sets forth Metropolitan's sources of revenues for the five fiscal years ended June 30, 2016. The table provides cash basis information for fiscal year 2012, and modified accrual basis information for fiscal years 2013-2016. All information is unaudited. Audited financial statements for the fiscal years ended June 30, 2016 and June 30, 2015 and unaudited financial statements for the six months ended December 31, 2016 and December 31, 2015 are provided in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

SUMMARY OF REVENUES BY SOURCE[1]
Fiscal Years Ended June 30
(Dollars in Millions)

	2012	2013	2014	2015	2016
Water Sales[2]	$1,062	$1,283	$1,485	$1,383	$1,166
Net Tax Collections[3]	90	95	95	104	108
Additional Revenue Sources[4]	167	173	182	199	200
Interest on Investments	18	(2)	19	16	17
Hydroelectric Power Sales	31	25	15	8	7
Other Revenues [5]	54	23	19	163	246
Total Receipts	$1,422	$1,597	$1,815	$1,873	$1,744

Source: Metropolitan.

(1) Does not include any proceeds from the sale of bonded indebtedness.
(2) Gross revenues in each year are for sales in the twelve months ended June 30 of such year. Water sales revenues include revenues from water wheeling and exchanges.
(3) *Ad valorem* taxes levied by Metropolitan are applied solely to the payment of outstanding general obligation bonds of Metropolitan and to State Water Contract obligations.
(4) Includes receipts derived from water standby charges, readiness-to-serve, and capacity charges.
(5) Includes miscellaneous revenues and Build America Bonds (BABs) subsidy payment of $13.3 million, $12.7 million, $12.3 million, $12.3 million, and $12.3 million, in fiscal years 2011-12 through 2015-16, respectively. In fiscal years 2014-15 and 2015-16, includes $142 million and $222 million of water conservation and water purchase expenditures, funded from a like amount of funds transferred from the Water Management Fund.

Revenue Allocation Policy and Tax Revenues

The Board determines the water revenue requirement for each fiscal year after first projecting the *ad valorem* tax levy for that year. The tax levy for any year is subject to limits imposed by the State Constitution, the Act and Board policy and to the requirement under the State Water Contract that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. From fiscal year 1990-91 through 2012-13, and pursuant to the Act, the tax levy was set to not exceed the amount needed to pay debt service on Metropolitan's general obligation bonds and to satisfy a portion of Metropolitan's State Water Contract obligation. However, Metropolitan has authority to impose a greater tax levy to pay debt service on Metropolitan's general obligation bonds and to satisfy Metropolitan's State Water Contract obligations in full if, following a public hearing, the Board finds that such revenue is essential Metropolitan's fiscal integrity. For each fiscal year since 2013-14, the Board has exercised that authority and voted to suspend the tax limit clause in the Act, maintaining the fiscal year 2012-13 *ad valorem* tax rate for fiscal years 2013-14 through 2016-17. Any deficiency between tax levy receipts and Metropolitan's share of debt service obligations on general obligation bonded debt issued by the State is expected to be paid from Operating Revenues, as defined in the Senior Debt Resolutions (defined herein under "METROPOLITAN EXPENSES–Limitations on Additional Revenue Bonds").

Water Sales Revenues

General; Authority. Water rates are established by the Board and are not subject to regulation or approval by the Public Utilities Commission of California or by any other local, State or federal agency. In accordance with the Act, water rates must be uniform for like classes of service. Metropolitan currently provides two classes of water service (1) full service treated and untreated, and (2) wheeling service. See "–Classes of Water Service."

No member agency of Metropolitan is obligated to purchase water from Metropolitan. However, 21 of Metropolitan's 26 member agencies have entered into 10-year voluntary water supply purchase orders ("Purchase Orders") effective through December 31, 2024. See "–Member Agency Purchase Orders." Consumer demand and locally supplied water vary from year to year, resulting in variability in water sales revenues. Metropolitan uses its financial reserves and budgetary tools to manage the financial impact of the variability in revenues due to fluctuations in annual water sales. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

Payment Procedure. Water is delivered to the member agencies on demand and is metered at the point of delivery. Member agencies are billed monthly and a late charge of one percent of the delinquent payment is assessed for a payment that is delinquent for no more than five business days. A late charge of two percent of the amount of the delinquent payment is charged for a payment that is delinquent for more than five business days for each month or portion of a month that the payment remains delinquent. Metropolitan has the authority to suspend service to any member agency delinquent for more than 30 days. Delinquencies have been rare; in such instances late charges have been collected. No service has been suspended because of delinquencies.

Water Sales. The following table sets forth the acre-feet of water sold and water sales (including sales from water wheeling and exchanges) for the five fiscal years ended June 30, 2016. Water sales revenues of Metropolitan for the four fiscal years ended June 30, 2013 through June 30, 2016, respectively, on an accrual basis, are shown in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

SUMMARY OF WATER SOLD AND WATER SALES
Fiscal Years Ended June 30

Year	Acre-Feet[1] Sold	Water Sales[2] (in millions)	Dollars Per Acre-Foot[3]	Average Dollars Per 1,000 Gallons
2012	1,676,855	$1,062.5	$634	$1.94
2013	1,856,685	1,282.5	691	2.12
2014	2,043,720	1,484.6	726	2.23
2015	1,905,502	1,383.0	726	2.23
2016	1,623,052	1,166.0	718	2.20

Source: Metropolitan.

(1) Year ended April 30 for fiscal year 2011-12, water sales recorded on a cash-basis. Beginning fiscal year 2012-13, water sales recorded on an accrual basis, with water sales for the fiscal year ended June 30.

(2) Water Sales in fiscal year 2011-12 are recorded on a cash basis for sales in the twelve months ended April 30 of such year, with rates and charges invoiced in May and payable by the last business day of June of each year. Water sales for fiscal years 2012-13 through 2015-16 are recorded on a modified accrual basis for sales in the twelve months ended June 30 of such year, with rates and charges recorded as revenues in the same months as invoiced. Includes revenues from water wheeling and exchanges.

(3) Gross water sales divided by acre-feet sold. An acre-foot is approximately 326,000 gallons. See table entitled "SUMMARY OF WATER RATES" under "–Water Rates" for a description of water rates and classes of service.

Principal Customers

Total water sales accrued for the fiscal year ended June 30, 2016 were 1.62 million acre-feet, generating $1.17 billion in water sales revenues for such period. Metropolitan's ten largest water customers in the year ended June 30, 2016 are shown in the following table, on an accrual basis. The SDCWA has filed litigation challenging Metropolitan's rates. See "–Litigation Challenging Rate Structure."

TEN LARGEST WATER CUSTOMERS
Year Ended June 30, 2016
Accrual Basis (Dollars in Millions)

Agency	Water Sales Revenues[1]	Percent of Total	Water Sales in Acre-Feet[1]	Percent of Total
San Diego County Water Authority	$ 270.9	23.2%	465,568	28.7%
City of Los Angeles	224.3	19.2	332,527	20.5
MWD of Orange County	140.3	12.0	171,666	10.6
West Basin MWD	100.0	8.6	107,319	6.6
Calleguas MWD	77.7	6.7	83,346	5.1
Eastern MWD	53.1	4.6	62,631	3.9
Western MWD	51.6	4.4	65,532	4.0
Three Valleys MWD	42.5	3.6	54,356	3.3
Central Basin MWD	35.5	3.0	46,745	2.9
City of Long Beach	24.3	2.1	27,684	1.7
Total	$1,020.2	87.5%	1,417,374	87.3%
Total Water Sales Revenues	$1,166.0	**Total Acre-Feet**	1,623,052	

Source: Metropolitan.

(1) Includes wheeling and exchange water sales, revenues and deliveries.

Rate Structure

The following rates and charges are elements of Metropolitan's rate structure for full service water deliveries:

Tier 1 and Tier 2 Water Supply Rates. The rate structure recovers supply costs through a two-tiered price structure. The Tier 1 Supply Rate supports a regional approach through the uniform, postage stamp rate. The Tier 1 Supply Rate is calculated as the amount of the total supply revenue requirement that is not covered by the Tier 2 Supply Rate divided by the estimated amount of Tier 1 water sales. The Tier 2 Supply Rate is a volumetric rate that reflects Metropolitan's cost of purchasing water transfers north of the Delta. Member agencies are charged the Tier 1 or Tier 2 Water Supply Rate for water purchases, as described under "–Member Agency Purchase Orders."

System Access Rate. The System Access Rate (SAR) recovers the cost of the Conveyance and Distribution System that is used on an average annual basis through a uniform, volumetric rate. The SAR is charged for each acre-foot of water transported by Metropolitan, regardless of the ownership of the water being transported. All users (including member agencies and third-party wheelers) using the Metropolitan system to transport water pay the same SAR for the use of the system conveyance and distribution capacity to meet average annual demands.

Water Stewardship Rate. The Water Stewardship Rate (WSR) provides a dedicated source of funding for conservation and local resources development through a uniform, volumetric rate. The WSR is

charged to each acre-foot of water delivered by Metropolitan, regardless of the water being transported. All users (member agencies and third-party wheelers) benefit from the system capacity made available by investments in Demand Management Programs like Metropolitan's Conservation Credits Program and Local Resources Program. Therefore, all users pay the WSR.

System Power Rate. The System Power Rate (SPR) recovers the cost of energy required to pump water to Southern California through the State Water Project and CRA. The cost of power is recovered through a uniform, volumetric rate. The SPR is applied to all deliveries of Metropolitan water to member agencies. Wheeling parties pay for actual cost (not system average) of power needed to move the water. Member agencies engaging in wheeling transaction of up to one year pay the wheeling rate (consisting of the actual cost of power, SAR, WSR, and an administrative fee). Other wheeling transactions are pursuant to individual contracts.

Treatment Surcharge. The Treatment Surcharge recovers all of the costs of providing treatment capacity and operations through a uniform, volumetric rate per acre-foot of treated water sales. The Treatment Surcharge is charged to all treated water sales.

The amount of each of these rates since January 1, 2012, is shown in the table entitled "SUMMARY OF WATER RATES" under "–Water Rates."

Member Agency Purchase Orders

The current rate structure allows member agencies to choose to purchase water from Metropolitan by means of a Purchase Order. Purchase Orders are voluntary agreements that determine the amount of water that a member agency can purchase at the Tier 1 Supply Rate. They allow member agencies to purchase a greater amount of water at the lower Tier 1 Supply Rate than would otherwise be authorized by the Administrative Code. In exchange for the higher Tier 1 Maximum, the member agency commits to purchase a specific amount of water (based on past purchase levels) over the term of the agreement. Such agreements allow member agencies to manage costs and provide Metropolitan with a measure of secure revenue.

In November 2014, the Metropolitan Board approved new Purchase Orders effective January 1, 2015 through December 31, 2024 (the "Purchase Order Term"). Twenty-one of the twenty-six member agencies have Purchase Orders, which commit the member agencies to purchase a minimum amount of supply from Metropolitan (the "Purchase Order Commitment").

The key terms of the Purchase Orders include:

- A ten-year term, effective January 1, 2015 through December 31, 2024;
- A higher Tier 1 limit based on the Base Period Demand, determined by the member agency's choice between (1) the Revised Base Firm Demand, which is the highest fiscal year purchases during the 13-year period of fiscal year 1989-90 through fiscal year 2001-02, or (2) the highest year purchases in the most recent 12-year period of fiscal year 2002-03 through 2013-14. The demand base is unique for each member agency, reflecting its use of Metropolitan's system water over time;
- An overall purchase commitment by the member agency based on the Demand Base period chosen, times ten to reflect the ten-year Purchase Order term. Those agencies choosing the more recent 12-year period may have a higher Tier 1 Maximum and commitment. The commitment is also unique for each member agency;
- The opportunity to reset the Base Period Demand using a five-year rolling average;

- Any obligation to pay the Tier 2 Supply Rate will be calculated over the ten-year period, consistent with the calculation of any Purchase Order commitment obligation; and

- An appeals process for agencies with unmet purchase commitments that will allow each acre-foot of unmet commitment to be reduced by the amount of production from a local resource project that commences operation on or after January 1, 2014.

Member agencies that do not have Purchase Orders in effect are subject to Tier 2 Supply Rates for amounts exceeding 60 percent of their base amount (equal to the member agency's highest fiscal year demand between 1989-90 and 2001-02) annually.

Other Charges

The following paragraphs describe the additional charges for the availability of Metropolitan's water:

Readiness-to-Serve Charge. The Readiness-to-Serve Charge ("RTS") recovers the cost of the portion of the system that is available to provide emergency service and available capacity during outages and hydrologic variability. The RTS is a fixed charge that is allocated among the member agencies based on a ten-fiscal year rolling average of firm demands. Water transfers and exchanges are included for purposes of calculating the ten-fiscal-year rolling average. The Standby Charge, described below, will continue to be collected at the request of member agency and applied as a direct offset to the member agency's RTS obligation. The RTS generated $154.0 million in fiscal year 2013-14, $162.0 million in 2014-15, and $155.5 million in 2015-16. Based on the adopted rates and charges, the RTS is projected to generate $144 million in fiscal year 2016-17 and $137.5 million in fiscal year 2017-18.

Water Standby Charges. The Standby Charge is authorized by the State Legislature and has been levied by Metropolitan since fiscal year 1992-93. Metropolitan will continue to levy the Standby Charge only within the service areas of the member agencies that request that the Standby Charge be utilized to help fund a member agency's RTS obligation. See "– Readiness-to-Serve Charge" above. The Standby Charge for each acre or parcel of less than an acre will vary from member agency to member agency, reflecting current rates, which have remained the same since fiscal year 1993-94, and range from $6.94 to $15 for each acre or parcel less than an acre within Metropolitan's service area, subject to specified exempt categories. Standby charges are assessments under the terms of Proposition 218, a State constitutional ballot initiative approved by the voters on November 5, 1996, but Metropolitan's current standby charges are exempt from Proposition 218's procedural requirements. See "–California Ballot Initiatives."

Twenty-two member agencies collect their RTS charges through standby charges. For fiscal years 2013-14, 2014-15, and 2015-16, RTS charges collected by means of such standby charges were $41.7 million, $41.7 million, and $42.8 million, respectively.

Capacity Charge. The Capacity Charge recovers costs incurred to provide peaking capacity within Metropolitan's distribution system. The Capacity Charge provides a price signal to encourage agencies to reduce peak demands on the distribution system and to shift demands that occur during the May 1 through September 30 period into the October 1 through April 30 period. This results in more efficient utilization of Metropolitan's existing infrastructure and deferring capacity expansion costs. Each member agency will pay the Capacity Charge per cubic feet per second based on a three-year trailing maximum peak day demand. Effective January 1, 2014, the Capacity Charge was $8,600 per cubic feet per second. The Capacity Charge was $11,100 per cubic feet per second on January 1, 2015, and $10,900 per cubic feet per second on January 1, 2016, and will be $8,000 per cubic feet per second on January 1, 2017, and $8,700 per cubic feet per second on January 1, 2018. The Capacity Charge is projected to generate $39.7 million in fiscal year 2016-17 and $35.2 million in fiscal year 2017-18.

Classes of Water Service

Metropolitan offers two classes of water service:

(1) *Full Service Water* - Full service water service, formerly known as non-interruptible water service, includes water sold to member agencies for domestic and municipal uses; and

(2) Wheeling Service - Wheeling Service refers to the use of Metropolitan's facilities, including its rights to use State Water Project facilities, to transport water not owned or controlled by Metropolitan to its member public agencies, in transactions entered into by Metropolitan for a period of up to one year.

The applicable rate components and fixed charges for each class of water service are shown in the chart below.

Current Services and Rate Components

	Rates & Charges That Apply					
Service	System Access	Water Stewardship	System Power	Tier 1/ Tier 2	Readiness to Serve	Capacity Charge
Full Service (Treated or Untreated)	Yes	Yes	Yes	Yes	Yes	Yes
Wheeling Service	Yes	Yes	No	No	Yes	Yes

Metropolitan offers two programs that encourage the member agencies to increase groundwater and emergency storage and for which certain Metropolitan charges are inapplicable.

(1) Conjunctive Use Program. The Conjunctive Use Program is operated through individual agreements with member and retail agencies for groundwater storage within Metropolitan's service area. Wet-year imported supplies are stored to enhance reliability during dry, drought, and emergency conditions. Metropolitan has the option to call water stored in the groundwater basins for the participating member agency pursuant to its contractual conjunctive use agreement. At the time of the call, the member agency pays the prevailing rate for that water, but the deliveries are excluded from the calculation of the Capacity Charge because Conjunctive Use Program deliveries are made at Metropolitan's Discretion. See "REGIONAL WATER RESOURCES–Local Water Supplies."

(2) Emergency Storage Program. The Emergency Storage Program is used for delivering water for emergency storage in surface water reservoirs and storage tanks. Emergency Storage Program purposes include initially filling a newly constructed reservoir or storage tank and replacing water used during an emergency.

The applicable rate components and fixed charges applicable for each such program are shown in the following chart.

Current Programs and Rate Components

	Rates & Charges That Apply					
Full Service Program	System Access	Water Stewardship	System Power	Tier 1/ Tier 2	Readiness to Serve	Capacity Charge
Conjunctive Use Program	Yes	Yes	Yes	Yes	Yes	No
Emergency Storage Program	Yes	Yes	Yes	No*	No	No

*Emergency Storage Program pays the Tier 1 Supply Rate; purchases under Emergency Storage program do not count towards a member agency's Tier 1 Maximum.

Water Rates

The following table sets forth Metropolitan's water rates by category beginning January 1, 2012. See also "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES–Water Sales Revenues" in this Appendix A. In addition to the base rates for untreated water sold in the different classes of service, the columns labeled "Treated" include the surcharge that Metropolitan charges for water treated at its water treatment plants. See "–Rate Structure" and "–Classes of Water Service" above for a description of current rates. See also "–Litigation Challenging Rate Structure" for a description of litigation challenging Metropolitan's water rates.

SUMMARY OF WATER RATES
(Dollars per Acre-Foot)

	SUPPLY RATE		SYSTEM ACCESS RATE	WATER STEWARDSHIP RATE	SYSTEM POWER RATE	TREATMENT SURCHARGE
	Tier 1	Tier 2				
January 1, 2012	$164[1]	$290	$217	$43	$136	$234
January 1, 2013	$140	$290	$223	$41	$189	$254
January 1, 2014	$148	$290	$243	$41	$161	$297
January 1, 2015	$158	$290	$257	$41	$126	$341
January 1, 2016	$156	$290	$259	$41	$138	$348
January 1, 2017*	$201	$295	$289	$52	$124	$313
January 1, 2018*	$209	$295	$299	$55	$132	$320

	FULL SERVICE TREATED[2]		FULL SERVICE UNTREATED[3]		INTERIM AGRICULTURAL PROGRAM		REPLENISHMENT RATE	
	Tier 1	Tier 2	Tier 1	Tier 2	Treated	Untreated	Treated	Untreated
January 1, 2012	$794	$920	$560	$686	$765	$537	$651	$442
January 1, 2013	$847	$997	$593	$743	**	**	**	**
January 1, 2014	$890	$1,032	$593	$735	**	**	**	**
January 1, 2015	$923	$1,055	$582	$714	**	**	**	**
January 1, 2016	$942	$1,076	$594	$728	**	**	**	**
January 1, 2017*	$979	$1,073	$666	$760	**	**	**	**
January 1, 2018*	$1,015	$1,101	$695	$781	**	**	**	**

Source: Metropolitan.

* Rates effective January 1, 2017 and January 1, 2018 were adopted by Metropolitan's Board on April 12, 2016.

** The Interim Agricultural Water Program and Replenishment Service Program were discontinued after 2012. The Interim Agricultural Water Program provided a discounted rate for agricultural water users that, pursuant to the Act, were permitted to receive only surplus water not needed for domestic or municipal purposes. Under the Replenishment Service Program, water was sold at a discounted rate to member agencies, subject to interruption upon notice by Metropolitan. The program allowed Metropolitan to deliver surplus imported water to local groundwater basins and surface storage facilities when supplies were available, with the intent that member agencies could reduce imported water deliveries from Metropolitan during periods of high demand, emergencies or times of shortage.

(1) Includes $58 per acre-foot Delta Supply Surcharge for January 1, 2012.

(2) Full service treated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate, System Power Rate and Treatment Surcharge.

(3) Full service untreated water rates are the sum of the applicable Supply Rate, System Access Rate, Water Stewardship Rate and System Power Rate.

Financial Reserve Policy

Metropolitan's reserve policy currently provides for a minimum unrestricted reserve balance at June 30 of each year that is based on probability studies of the wet periods that affect Metropolitan's water sales. The policy establishes a minimum targeted unrestricted reserve level based on an 18-month revenue shortfall estimate and a target level based on an additional two years revenue shortfall estimate. Funds representing the minimum reserve level are held in the Revenue Remainder Fund, and any funds in excess of the minimum reserve level are held in the Water Rate Stabilization Fund. Metropolitan established the Water Rate Stabilization Fund for the principal purpose of maintaining stable and predictable water rates and charges. If Metropolitan's fixed charge coverage ratio, which measures the total coverage of all fixed obligations (which includes all revenue bond debt service obligations, State Water Contract capital payments paid from current year operations and subordinate obligations) after payment of operating expenditures, is less than 1.2 times, funds above the target reserve level may be utilized for funding of capital expenditures or for the redemption, defeasance or purchase of outstanding bonds or commercial paper, as determined by the Board. If Metropolitan's fixed charge coverage ratio, is at or above 1.2 times, funds above the target may be used for any lawful purpose of Metropolitan, as determined by the Board. See "CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing" in this Appendix A.

At June 30, 2016, unrestricted reserves, which consist of the Water Rate Stabilization Fund and the Revenue Remainder Fund, totaled $475 million on a modified accrual basis. As of June 30, 2016, the minimum reserve requirement was $205 million and the target reserve level was $490 million.

From time to time, Metropolitan's Board approves the use of unrestricted reserves. On May 26, 2015, Metropolitan's Board approved the use of $160 million of unrestricted reserves, above the target reserve level, for conservation incentives. In addition, $50 million from the Water Stewardship Fund and $140 million from the Water Management Fund funded conservation incentives. On July 14, 2015, Metropolitan's Board approved $264 million to acquire various properties in Riverside and Imperial Counties, with $160 million funded from the Replacement and Refurbishment Fund and the remaining amount from unrestricted reserves. On September 22, 2015, Metropolitan's Board approved $44.4 million to pay SNWA to store 150,000 acre-feet of water with Metropolitan. Metropolitan took delivery of this water in 2015. When SNWA requests the return of any of the stored water, SNWA will reimburse Metropolitan for an equivalent proportion of the $44.4 million, based on the amount of water returned plus inflation. See "METROPOLITAN'S WATER SUPPLY–Colorado River Aqueduct – Colorado River Operations: Surplus and Shortage Guidelines – Interim Surplus Guidelines" in this Appendix A.

Due to SDCWA's litigation challenging Metropolitan's rates and pursuant to the exchange agreement between Metropolitan and SDCWA, Metropolitan is required to set aside funds based on the quantities of exchange water that Metropolitan provides to SDCWA and the amount of charges disputed by SDCWA. This amount included disputed payments and interest earned thereon, which is based on the rate earned by Metropolitan's investment portfolio. In April 2016, Metropolitan transferred these funds from unrestricted financial reserves to a new designated fund, the Exchange Agreement Set-Aside Fund. As of December 31, 2016, Metropolitan had set aside $278.7 million in the Exchange Agreement Set-Aside Fund. This amount includes disputed payments and interest earned thereon based on the rate earned by Metropolitan's investment portfolio. The amounts held do not include the statutory prejudgment interest, post-judgment interest, attorneys' fees, or costs awards, none of which the exchange agreement requires to be held. Amounts held pursuant to the exchange agreement will continue to accumulate based on the quantities of exchange water that Metropolitan provides to SDCWA and the payments disputed by SDCWA, until the litigation, including all appeals, is concluded. See "METROPOLITAN'S WATER SUPPLY–Colorado River Aqueduct – Sale of Water by the Imperial Irrigation District to San Diego County Water Authority" and "METROPOLITAN REVENUES–Litigation Challenging Rate Structure" in this Appendix A.

As described below, Metropolitan has executed two $200 million Short-Term Revolving Credit Facilities (as defined below), under which Metropolitan may borrow from time-to-time. Funds drawn under

the Short-Term Revolving Credit Facilities may be used for any lawful purpose. In April 2016, Metropolitan drew $125 million from each Short-Term Revolving Credit Facility (as defined below), for a total of $250 million, and deposited these amounts in Metropolitan's unrestricted financial reserves. An additional draw of approximately $50 million is expected by the end of June 2017, with such amount to be deposited in Metropolitan's unrestricted financial reserves. See "METROPOLITAN EXPENSES–Outstanding Senior Revenue Bonds and Senior Parity Obligations – Senior Parity Obligations – Short-Term Revolving Credit Facilities" in this Appendix A.

Metropolitan projects that its unrestricted reserves as of June 30, 2017 will be approximately $378 million. This amount does not include funds held in the Exchange Agreement Set-Aside Fund. This projection is based on the assumptions set forth in the table entitled "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" under "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A. In addition, this projection is based on the assumption that Metropolitan's Board will not authorize the use of any additional amounts in the unrestricted reserves.

California Ballot Initiatives

Proposition 218, a State ballot initiative known as the "Right to Vote on Taxes Act," was approved by the voters on November 5, 1996 adding Articles XIIIC and XIIID to the California Constitution. Article XIIID provides substantive and procedural requirements on the imposition, extension or increase of any "fee" or "charge" levied by a local government upon a parcel of real property or upon a person as an incident of property ownership. As a wholesaler, Metropolitan serves water to its member agencies, not to persons or properties as an incident of property ownership. Thus, water rates charged by Metropolitan to its member agencies are not property related fees and charges and therefore are exempt from the requirements of Article XIIID. Fees for retail water service by Metropolitan's member agencies or their agencies are subject to the requirements of Article XIIID.

Article XIIID also imposes certain procedures with respect to assessments. Under Article XIIID, "standby charges" are considered "assessments" and must follow the procedures required for "assessments," unless they were in existence on the effective date of Article XIIID. Metropolitan has imposed its water standby charges since 1992 and therefore its current standby charges are exempt from the Article XIIID procedures. Changes to Metropolitan's current standby charges could require notice to property owners and approval by a majority of such owners returning mail-in ballots approving or rejecting any imposition or increase of such standby charge. Twenty-two member agencies have elected to collect all or a portion of their readiness-to-serve charges through standby charges. See "–Other Charges – Readiness-to-Serve Charge" and "– Water Standby Charges" above. Even if Article XIIID is construed to limit the ability of Metropolitan and its member agencies to impose or collect standby charges, the member agencies will continue to be obligated to pay the readiness-to-serve charges.

Article XIIIC makes all taxes general or special taxes and imposes voting requirements for each kind of tax. It also extends the people's initiative power to reduce or repeal previously authorized local taxes, assessments, fees and charges. This extension of the initiative power is not limited by the terms of Article XIIIC to fees imposed after November 6, 1996 or to property-related fees and charges and absent other authority could result in retroactive reduction in existing taxes, assessments or fees and charges.

Proposition 26, a State ballot initiative aimed at restricting regulatory fees and charges, was approved by the California voters on November 2, 2010. Proposition 26 broadens the definition of "tax" in Article XIIIC of the California Constitution to include levies, charges and exactions imposed by local governments, except for charges imposed for benefits or privileges or for services or products granted to the payor (and not provided to those not charged) that do not exceed their reasonable cost; regulatory fees that do not exceed the cost of regulation and are allocated in a fair or reasonable manner; fees for the use of local governmental property; fines and penalties imposed for violations of law; real property development fees; and assessments and property-related fees imposed under Article XIIID of the California Constitution.

Special taxes imposed by a special district such as Metropolitan are subject to approval by two-thirds of the electorate voting on the ballot measure for authorization. Proposition 26 applies to charges imposed or increased by local governments after the date of its approval. Metropolitan believes its water rates and charges are not taxes under Proposition 26. SDCWA's lawsuit challenging the rates adopted by Metropolitan in April 2012, part of which became effective January 1, 2013 and part of which became effective January 1, 2014, alleged that such rates violate Proposition 26. On April 24, 2014, a trial court decision stated such rates, effective in 2013 and 2014, violate Proposition 26. The trial court's rulings, including the decision that specific rates violate certain laws, are on appeal. (See "–Litigation Challenging Rate Structure.")

Propositions 218 and 26 were adopted as measures that qualified for the ballot pursuant to the State's initiative process. From time to time, other initiative measures could be adopted or legislative measures could be approved by the Legislature, which may place limitations on the ability of Metropolitan or its member agencies to increase revenues or to increase appropriations. Such measures may further affect Metropolitan's ability to collect taxes, assessments or fees and charges, which could have an effect on Metropolitan's revenues.

Preferential Rights

Section 135 of the Act gives each of Metropolitan's member agencies a preferential entitlement to purchase a portion of the water served by Metropolitan, based upon a ratio of all payments on tax assessments and otherwise, except purchases of water, made to Metropolitan by the member agency compared to total payments made by all member agencies on tax assessments and otherwise since Metropolitan was formed, except purchases of water. Historically, these rights have not been used in allocating Metropolitan's water. The California Court of Appeal has upheld Metropolitan's methodology for calculation of the respective member agencies' preferential rights under Section 135 of the Act. SDCWA's litigation challenging Metropolitan's water rates also challenges Metropolitan's exclusion of payments for exchange water from the calculation of SDCWA's preferential right. On August 28, 2015, the trial court ruled that SDCWA "is entitled to a judicial declaration (a) that Metropolitan's current methodology for calculating San Diego's preferential rights violates Section 135 of the Metropolitan Water District Act; and (b) directing Metropolitan to include San Diego's payments for the transportation of water under the Exchange Agreement in Metropolitan's calculation of San Diego's preferential rights." This ruling is subject to appeal. See "–Litigation Challenging Rate Structure."

Litigation Challenging Rate Structure

SDCWA filed *San Diego County Water Authority v. Metropolitan Water District of Southern California, et al.* on June 11, 2010. The complaint alleges that the rates adopted by the Board on April 13, 2010, which became effective January 1, 2011 and January 1, 2012, misallocate certain State Water Contract costs to the System Access Rate and the System Power Rate, and thus to charges for transportation of water, and that this results in an overcharge to SDCWA by at least $24.5 million per year. The complaint alleges that all State Water Project costs should be allocated instead to Metropolitan's Supply Rate, even though under the State Water Contract Metropolitan is billed separately for transportation, power and supply costs. It states additionally that Metropolitan will overcharge SDCWA by another $5.4 million per year by including the Water Stewardship Rate in transportation charges. Eight of Metropolitan's member agencies (the Cities of Glendale, Los Angeles and Torrance, MWDOC and Foothill, Las Virgenes, Three Valleys and West Basin Municipal Water Districts) answered the complaint in support of Metropolitan. IID joined the litigation in support of SDCWA's challenge to Metropolitan's charges for transportation of water, but withdrew and dismissed all claims against Metropolitan with prejudice on October 30, 2013.

The complaint requested a court order invalidating the rates adopted April 13, 2010, and that Metropolitan be mandated to allocate costs associated with the State Water Contract and the Water Stewardship Rate to water supply rates and not to transportation rates. Rates in effect in prior years are not

challenged in this lawsuit. Metropolitan contends that its rates are reasonable, equitably apportioned among its member agencies and lawful, and were adopted under a valid rate structure and cost of service approach developed in a multi-year collaborative process with its member agencies that was adopted in 2001 and has been in place since 2003. Nevertheless, to the extent that a final court ruling invalidates Metropolitan's adopted rates, Metropolitan will be obligated to reconsider and modify rates to comply with any final court rulings related to Metropolitan's rates. While components of the rate structure and costs may change as a result of any final ruling, Metropolitan expects that aggregate rates and charges would still recover Metropolitan's cost of service. As such, revenues would not be affected. If Metropolitan's rates are revised in the manner proposed by SDCWA in the complaint, other member agencies may pay higher rates unless other actions are taken by the Board.

SDCWA filed its First Amended Petition for Writ of Mandate and Complaint on October 27, 2011, adding five new claims to this litigation, two of which were eliminated from the case on January 4, 2012. The three remaining new claims are for breach of the water exchange agreement between Metropolitan and SDCWA (described herein under "METROPOLITAN'S WATER SUPPLY–Colorado River Aqueduct–Sale of Water by the Imperial Irrigation District to San Diego County Water Authority") based on allegedly illegal rates; improper exclusion of SDCWA's payments under this exchange agreement from calculation of SDCWA's preferential rights to purchase Metropolitan supplies (see "–Preferential Rights"); and illegality of the "rate structure integrity" provision in conservation and local resources incentive agreements between Metropolitan and SDCWA. The "rate structure integrity" provision permits the Board to terminate incentives payable under conservation and local resources incentive agreements between Metropolitan and a member agency due to certain actions by the member agency to challenge the rates that are the source of incentive payments. In June 2011, Metropolitan's Board authorized termination of two incentive agreements with SDCWA under the "rate structure integrity" provision in such agreements after SDCWA filed its initial complaint challenging Metropolitan's rates. SDCWA filed a Second Amended Petition for Writ of Mandate and Complaint on April 17, 2012, which contains additional allegations but no new causes of action.

On June 8, 2012, SDCWA filed a new lawsuit challenging the rates adopted by Metropolitan on April 10, 2012 and effective on January 1, 2013 and January 1, 2014. See "–Rate Structure" above and "–Water Rates" for a description of Metropolitan's water rate structure and the rates and charges adopted on April 10, 2012. The complaint contains allegations similar to those in the Second Amended Petition for Writ of Mandate and Complaint and new allegations asserting that Metropolitan's rates, adopted in April 2012, violate Proposition 26. See "–California Ballot Initiatives" for a description of Proposition 26. Metropolitan contends that its rates adopted on April 10, 2012 are reasonable, equitably apportioned among its member agencies and lawful and were adopted under a valid rate structure and cost of service approach. Ten of Metropolitan's member agencies (the eight member agency parties to SDCWA's first lawsuit, Eastern Municipal Water District and Western Municipal Water District of Riverside County) answered the complaint in support of Metropolitan and IID joined the litigation in support of SDCWA. Subsequently, IID dismissed all claims with prejudice in this second case too, and the City of Glendale withdrew from both cases.

SDCWA filed a Third Amended Petition for Writ of Mandate and Complaint on January 23, 2013, to add new allegations that Metropolitan's rates adopted in April 2010 did not meet the requirements of Proposition 26, approved by California voters in November 2010. The court granted Metropolitan's motion to strike allegations relating to Proposition 26 on March 29, 2013, expressly ruling that SDCWA may not allege a violation of Proposition 26 in its challenge to the rates adopted in April 2010. This ruling does not affect SDCWA's separate challenge to Metropolitan's rates adopted in April 2012, which also includes Proposition 26 allegations. On December 4, 2013, the court granted Metropolitan's motion for summary adjudication of the cause of action alleging illegality of the "rate structure integrity" provision in conservation and local resources incentive agreements, dismissing this claim in the first lawsuit.

Trial of the first phase of both lawsuits before the Superior Court of California, County of San Francisco (Case Nos. CPF-10-510830 and CPF-12-512466) concluded January 23, 2014. This phase concerned the challenges to Metropolitan's rates. On April 24, 2014, the trial court issued its "Statement of Decision on Rate Setting Challenges," determining that SDCWA prevailed on two of its claims and that Metropolitan prevailed on the third claim. The trial court found that there was not sufficient evidence in the administrative record to support Metropolitan's inclusion in its transportation rates, and hence in its wheeling rate, of 100 percent of (1) payments it makes to the California Department of Water Resources for the State Water Project, or (2) the costs incurred by Metropolitan for conservation and local water supply development programs recovered through the Water Stewardship Rate. The trial court decision stated that the System Access Rate, System Power Rate, Water Stewardship Rate and wheeling rate violate specified statutes and the common law and such rates effective in 2013 and 2014 violate Proposition 26. The trial court's decision was based on its conclusion that these rates are unfair to wheelers. The trial court found that SDCWA failed to prove its "dry-year peaking" claim that Metropolitan's rates do not adequately account for variations in member agency purchases.

SDCWA's claims asserting breach of the exchange agreement and miscalculation of preferential rights were tried in a second phase of the case which concluded April 30, 2015. On August 28, 2015, the trial court issued a final statement of decision for the second phase. The decision found in favor of SDCWA on both claims and that SDCWA is entitled to contract damages in the amount of $188,295,602 plus interest. On October 9 and 30, 2015, the trial court granted SDCWA's motion for prejudgment interest at the statutory rate of 10 percent on these damages. The prejudgment interest award through entry of judgment is $46,637,180. After entry of judgment, post-judgment interest began accruing at the statutory rate of 7 percent. On November 18, 2015, the court issued the Final Judgment and a Peremptory Writ of Mandate in the 2010 and 2012 SDCWA v. Metropolitan cases. On January 21, 2016, the trial court awarded $320,084 in costs to SDCWA, after deducting amounts based on Metropolitan's motion. On March 24, 2016, the trial court awarded $8,910,354 in attorneys' fees to SDCWA, rejecting its demand for over $17.0 million. Metropolitan filed a Notice of Appeal of the Judgment and Writ in each case, and SDCWA filed a Notice of Cross-Appeal of the court's ruling on the rate structure integrity provision claim and the attorneys' fees order. Appellate briefing by the parties was completed on October 28, 2016. No date for oral argument has been set. Metropolitan is unable to assess at this time the likelihood of success of this litigation, including the appeal, or any future claims.

Due to SDCWA's litigation challenging Metropolitan's rates, and pursuant to the exchange agreement between Metropolitan and SDCWA, as of December 31, 2016, Metropolitan held $278.7 million in a designated fund, the Exchange Agreement Set-Aside Fund. See "–Financial Reserve Policy." This amount includes both SDCWA's disputed payments and interest earned thereon, which is based on the rate earned by Metropolitan's investment portfolio. Amounts held pursuant to the exchange agreement will continue to accumulate based on the quantities of exchange water that Metropolitan provides to SDCWA and the payments disputed by SDCWA, until the litigation, including all appeals, is concluded. The amounts held do not include the statutory prejudgment interest, post-judgment interest, attorneys' fees, or costs awards, none of which the exchange agreement requires to be held.

In May 2014, SDCWA filed a new lawsuit asserting essentially the same rate claims and breach of contract claim in connection with the Board's April 2014 rate adoption. Metropolitan filed its answer on June 30, 2014. On February 9, 2015, pursuant to stipulation by the parties, the San Francisco Superior Court ordered that the case be stayed. The stay may be lifted upon motion by any party. On November 20, 2015, SDCWA filed a motion to partially lift the stay. On December 21, 2015, the trial court decided that motion and the case remains stayed. Metropolitan is unable to assess at this time the likelihood of success of this case, any possible appeal or any future claims.

On April 13, 2016, SDCWA filed a new lawsuit that alleges all rates and charges for 2017 and 2018 adopted by Metropolitan's Board on April 12, 2016 violate the California Constitution, statutes, and common

law. The Petition for Writ of Mandate and Complaint asserts misallocation of costs as alleged in the previous cases listed above and additional claims of over-collection and misallocation of costs and procedural violations, and states SDCWA intends to amend to allege further claims including breach of contract. In a claim letter dated May 2, 2016, SDCWA asserted three breaches of the exchange agreement: the same breach alleged in the previous cases listed above, breach of the set-aside provision noted above, and breach of a provision concerning characterizing exchange water for certain purposes in the same manner as local water of other member agencies. On June 30, 2016, the nine member agencies that are interested parties to the 2010, 2012, and 2014 cases filed answers to also join the 2016 case as interested parties in support of Metropolitan. On October 27, 2016, SDCWA filed a Motion for Leave to File Amended Complaint alleging the same exchange agreement breach alleged in the previous cases listed above and breach of the set-aside provision noted above relating to the manner in which Metropolitan has set aside the amounts. The proposed amended petition/complaint also requests a judicial declaration that, if a judgment is owed to SDCWA under the exchange agreement, SDCWA will not be required to pay any portion of that judgment, and requests a refund to SDCWA of any amount Metropolitan has collected in excess of the reasonable costs of services provided or, alternatively, a reduction in SDCWA's future fees. On September 27, 2016, the case was transferred to San Francisco Superior Court. On November 10, 2016, pursuant to stipulation by the parties, the court ordered that the case be stayed pending final resolution of the appeals of the 2010 and 2012 SDCWA v. Metropolitan cases. Metropolitan is unable to assess at this time the likelihood of success of this case, any possible appeal or any future claims.

Other Revenue Sources

Hydroelectric Power Recovery Revenues. Metropolitan has constructed 16 small hydroelectric plants on its distribution system. The plants are located in Los Angeles, Orange, Riverside and San Diego Counties at existing pressure control structures and other locations. The combined generating capacity of these plants is approximately 131 megawatts. The total capital cost of the 16 facilities is approximately $176.1 million. Since 2000, annual energy generation sales revenues have ranged between $7.5 million and nearly $29.6 million. Energy generation sales revenues were $8.5 million in fiscal year 2014-15 and $7.5 million in fiscal year 2015-16. Low State Water Project supplies and reduced demands due to mandatory conservation resulted in diminished flows thorough Metropolitan's pipelines and hydroelectric power plants and decreased revenues.

Investment Income. In fiscal years 2013-14, 2014-15, and 2015-16, Metropolitan's earnings on investments, including adjustments for gains and losses and premiums and discounts, including construction account and trust fund earnings, excluding gains and losses on swap terminations, on an accrual basis (audited) were $21.2 million, $22.3 million, and $19.4 million, respectively.

Investment of Moneys in Funds and Accounts

All moneys in any of the funds and accounts established pursuant to Metropolitan's water revenue or general obligation bond resolutions are invested by the Treasurer in accordance with Metropolitan's Statement of Investment Policy. All Metropolitan funds available for investment are currently invested in United States Treasury and agency securities, commercial paper, negotiable certificates of deposit, banker's acceptances, corporate notes, municipal bonds, asset-backed securities, mortgage-backed securities and the California Local Agency Investment Fund ("LAIF"). The LAIF is a voluntary program created by statute as an investment alternative for California's local governments and special districts. LAIF permits such local agencies to participate in an investment portfolio, which invests billions of dollars, using the investment expertise of the State Treasurer's Office.

The Statement of Investment Policy provides that in managing Metropolitan's investments, the primary objective shall be to safeguard the principal of the invested funds. The secondary objective shall be to meet all liquidity requirements and the third objective shall be to achieve a return on the invested funds. Although the Statement of Investment Policy permits investments in some asset-backed securities, the

portfolio does not include any of the special investment vehicles related to sub-prime mortgages. The Statement of Investment Policy allows Metropolitan to exceed the portfolio and single issuer limits for purchases of California local agency securities when purchasing Metropolitan tendered bonds in conjunction with its self-liquidity program. See "METROPOLITAN EXPENSES–Outstanding Senior Revenue Bonds and Senior Parity Obligations – Variable Rate and Swap Obligations" in this Appendix A. Metropolitan's current investments comply with the Statement of Investment Policy.

As of December 31, 2016, the total market value (cash-basis) of all Metropolitan funds was $1.37 billion, including bond reserves of $53.9 million. The market value of Metropolitan's investment portfolio is subject to market fluctuation and volatility and general economic conditions. Over the three years ended December 31, 2016, the market value of the month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) averaged approximately $1.23 billion. The minimum month-end balance of Metropolitan's investment portfolio (excluding bond reserve funds) during such period was approximately $936.3 million on August 31, 2016. See Footnote 3 to Metropolitan's audited financial statements in Appendix B for additional information on the investment portfolio.

Metropolitan's administrative code requires that (1) the Treasurer provide an annual Statement of Investment Policy for approval by Metropolitan's Board, (2) the Treasurer provide a monthly investment report to the Board and the General Manager showing by fund the description, maturity date, yield, par, cost and current market value of each security, and (3) the General Counsel review as to eligibility the securities invested in by the Treasurer for that month and report his or her determinations to the Board. The Board approved the Statement of Investment Policy for fiscal year 2016-17 on June 14, 2016.

Subject to the provisions of Metropolitan's water revenue or general obligation bond resolutions, obligations purchased by the investment of bond proceeds in the various funds and accounts established pursuant to a bond resolution are deemed at all times to be a part of such funds and accounts and any income realized from investment of amounts on deposit in any fund or account therein will be credited to such fund or account. The Treasurer is required to sell or present for redemption any investments whenever it may be necessary to do so in order to provide moneys to meet required payments or transfers from such funds and accounts. For the purpose of determining at any given time the balance in any such funds, any such investments constituting a part of such funds and accounts will be valued at the then estimated or appraised market value of such investments.

All investments, including those authorized by law from time to time for investments by public agencies, contain certain risks. Such risks include, but are not limited to, a lower rate of return than expected and loss or delayed receipt of principal. The occurrence of these events with respect to amounts held under Metropolitan's water revenue or general obligation revenue bond resolutions, or other amounts held by Metropolitan, could have a material adverse effect on Metropolitan's finances. These risks may be mitigated, but are not eliminated, by limitations imposed on the portfolio management process by Metropolitan's Statement of Investment Policy.

The Statement of Investment Policy requires that investments have a minimum credit rating of "A1/P1/F1" for short-term securities and "A" for longer-term securities at the time of purchase. If immediate liquidation of a security downgraded below these levels is not in the best interests of Metropolitan, the Treasurer or investment manager, in consultation with an ad hoc committee made up of the Chairman of the Board, the Chairman of the Finance and Insurance Committee and the General Manager, and with the concurrence of the General Counsel, may dispose of the security in an orderly and prudent manner considering the circumstances, under terms and conditions approved by a majority of the members of such ad hoc committee. The Treasurer is required to include a description of any securities that have been downgraded below investment grade and the status of their disposition in the Treasurer's monthly report.

The Statement of Investment Policy also limits the amount of securities that can be purchased by category, as well as by issuer, and prohibits investments that can result in zero interest income. Metropolitan's securities are settled on a delivery versus payment basis and are held by an independent third-party custodian. See APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)" for a description of Metropolitan's investments at September 30, 2016.

Metropolitan retains two outside investment firms to manage the long-term portion of Metropolitan's portfolio. The outside managers are required to adhere to Metropolitan's Statement of Investment Policy. As of December 31, 2016, such managers were managing approximately $342.3 million in investments on behalf of Metropolitan. Metropolitan's Statement of Investment Policy may be changed at any time by the Board (subject to State law provisions relating to authorized investments). There can be no assurance that the State law and/or the Statement of Investment Policy will not be amended in the future to allow for investments that are currently not permitted under State law or the Statement of Investment Policy, or that the objectives of Metropolitan with respect to investments or its investment holdings at any point in time will not change.

METROPOLITAN EXPENSES

General

The following table sets forth a summary of Metropolitan's expenses, by major function, for the five years ended June 30, 2016. The table provides cash basis information for fiscal year 2012, and modified accrual basis information for fiscal years 2013-2016. All information is unaudited. Expenses of Metropolitan for the fiscal years ended June 30, 2016 and June 30, 2015, on an accrual basis, are shown in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

SUMMARY OF EXPENSES
Fiscal Years Ended June 30
(Dollars in Millions)

	2012	2013	2014	2015	2016
Operation and Maintenance Costs[1]	$ 425	$ 456	$ 512	$ 697	$ 799
Total State Water Project[2]	536	480	465	436	512
Total Debt Service	323	339	384	303	332
Construction Disbursements from Revenues[3]	44	55	117	210	273
Other[4]	3	5	6	7	6
Total Disbursements (net of reimbursements)	$1,331	$1,335	$1,484	$1,653	$1,922

Source: Metropolitan.

(1) Includes operation and maintenance, debt administration, conservation and local resource programs, CRA power, and water supply expenses. For fiscal years 2014-15 and 2015-16, includes $142 million, and $222 million, respectively, of conservation projects funded from transfers from the Water Management Fund.

(2) Includes both operating and capital expense portions.

(3) At the discretion of the Board, in any given year, Metropolitan may increase or decrease funding available for construction disbursements to be paid from revenues. Includes $160 million for acquiring properties in Riverside and Imperial Counties, funded by $160 million from the Replacement and Refurbishment Fund Reserves. Does not include expenditures of bond proceeds.

(4) Includes operating equipment.

Revenue Bond Indebtedness and Other Obligations

As of February 1, 2017, Metropolitan had total outstanding indebtedness, secured by a lien on Net Operating Revenues, of $4.49 billion. This indebtedness is comprised of $4.06 billion water revenue bonds, issued under the Senior Debt Resolutions (defined below), which includes $3.01 billion fixed rate revenue bonds, and $1.04 billion variable rate revenue bonds; $250.0 million Short-Term Revolving Credit Facilities, which pay a variable rate, and are on parity with the senior lien water revenue bonds; $175.0 million subordinate water revenue bonds issued under the Subordinate Debt Resolutions (defined below), which pay a variable rate; and $8.6 million State of California Revolving Fund Loan, on parity with the subordinate water revenue bonds. In addition, Metropolitan has $493.6 million of fixed-payor interest rate swaps which provides a fixed interest rate hedge to an equivalent amount of variable rate debt. Metropolitan's revenue bonds and other revenue obligations are more fully described in this section below.

Limitations on Additional Revenue Bonds

Resolution 8329, adopted by Metropolitan's Board on July 9, 1991, as amended and supplemented (collectively with all such supplemental resolutions, the "Senior Debt Resolutions"), provides for the issuance of Metropolitan's senior lien water revenue bonds. The Senior Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Senior Debt Resolutions, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any water revenue bonds authorized by the Senior Debt Resolutions ("Senior Revenue Bonds") or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with such Senior Revenue Bonds ("Senior Parity Obligations"). No additional Senior Revenue Bonds or Senior Parity Obligations may be issued or incurred unless the conditions of the Senior Debt Resolutions have been satisfied.

Resolution 9199, adopted by Metropolitan's Board on March 8, 2016, as amended and supplemented (collectively with all such supplemental resolutions, the "Subordinate Debt Resolutions," and together with the Senior Debt Resolutions, the "Revenue Bond Resolutions"), provides for the issuance of Metropolitan's subordinate water revenue bonds and other obligations secured by a pledge of Net Operating Revenues that is subordinate to the pledge securing Senior Revenue Bonds and Senior Parity Obligations. The Subordinate Debt Resolutions establish limitations on the issuance of additional obligations payable from Net Operating Revenues. Under the Subordinate Debt Resolutions, with the exception of Senior Revenue Bonds and Senior Parity Obligations, no additional bonds, notes or other evidences of indebtedness payable out of Operating Revenues may be issued having any priority in payment of principal, redemption premium, if any, or interest over any subordinate water revenue bonds authorized by the Subordinate Debt Resolutions ("Subordinate Revenue Bonds" and, together with Senior Revenue Bonds, "Revenue Bonds") or other obligations of Metropolitan having a lien and charge upon, or being payable from, the Net Operating Revenues on parity with the Subordinate Revenue Bonds ("Subordinate Parity Obligations"). No additional Subordinate Revenue Bonds or Subordinate Parity Obligations may be issued or incurred unless the conditions of the Subordinate Debt Resolutions have been satisfied.

The laws governing Metropolitan's ability to issue water revenue bonds currently provide two additional limitations on indebtedness that may be incurred by Metropolitan. The Act provides for a limit on general obligation bonds, water revenue bonds and other evidences of indebtedness at 15 percent of the assessed value of all taxable property within Metropolitan's service area. As of February 1, 2017, outstanding general obligation bonds, water revenue bonds and other evidences of indebtedness in the amount of $4.58 billion represented approximately 0.18 percent of the fiscal year 2016-17 taxable assessed valuation of $2,583 billion. The second limitation under the Act specifies that no revenue bonds may be issued, except for the purpose of refunding, unless the amount of net assets of Metropolitan as shown on its balance sheet as of the end of the last fiscal year prior to the issuance of such bonds, equals at least 100 percent of the aggregate amount of revenue bonds outstanding following the issuance of such bonds. The net

assets of Metropolitan at June 30, 2016 were $6.68 billion. The aggregate amount of revenue bonds outstanding as of February 1, 2017 was $4.23 billion. The limitation does not apply to other forms of financing available to Metropolitan. Audited financial statements including the net assets of Metropolitan as of June 30, 2016 and June 30, 2015, respectively, are shown in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

Metropolitan provides no assurance that the Act's limitations on indebtedness will not be revised or removed by future legislation. Limitations under the Revenue Bond Resolutions respecting the issuance of additional obligations payable from Net Operating Revenues on parity with the Senior Revenue Bonds and Subordinate Revenue Bonds of Metropolitan will remain in effect so long as any Senior Revenue Bonds and Subordinate Revenue Bonds authorized pursuant to the Revenue Bond Resolutions are outstanding, provided however, that the Revenue Bond Resolutions are subject to amendment and supplement in accordance with their terms.

Variable Rate Exposure Policy

As of February 1, 2017, Metropolitan had outstanding $1.30 billion of variable rate obligations issued under the Senior Debt Resolutions, including variable rate Senior Revenue Bonds (described under "–Outstanding Senior Revenue Bonds and Senior Parity Obligations– Variable Rate and Swap Obligations") and Senior Parity Obligations incurred pursuant to Short-Term Revolving Credit Facilities (described under "–Outstanding Senior Revenue Bonds and Senior Parity Obligations–Senior Parity Obligations–Short-Term Revolving Credit Facilities" below). In addition, as of February 1, 2017, all of Metropolitan's $175 million of outstanding Subordinate Revenue Bonds issued under the Subordinate Debt Resolutions were variable rate obligations (described under "–Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations–Subordinate Revenue Bonds" below.

As of February 1, 2017, of Metropolitan's $1.47 billion of variable rate obligations, $493.6 million of such variable rate demand obligations are treated by Metropolitan as fixed rate debt, by virtue of interest rate swap agreements (described under "–Outstanding Senior Revenue Bonds and Senior Parity Obligations–Variable Rate and Swap Obligations–Interest Rate Swap Transactions"), for the purpose of calculating debt service requirements. The remaining $974.7 million of variable rate obligations represent approximately 21.7 percent of total outstanding water revenue secured indebtedness (including Senior Revenue Bonds and Senior Parity Debt and Subordinate Revenue Bonds and Subordinate Debt), as of February 1, 2017.

Metropolitan's variable rate exposure policy requires that variable rate debt be managed to limit net interest cost increases within a fiscal year as a result of interest rate changes to no more than $5 million. In addition, the maximum amount of variable interest rate exposure (excluding variable rate bonds associated with interest rate swap agreements) is limited to 40 percent of total outstanding water revenue bond debt. Variable rate debt capacity will be reevaluated as interest rates change and managed within these parameters.

Outstanding Senior Revenue Bonds and Senior Parity Obligations

Senior Revenue Bonds

The water revenue bonds issued under the Senior Debt Resolutions outstanding as of February 1, 2017, are set forth below:

Name of Issue	Principal Outstanding
Water Revenue Refunding Bonds, 1993 Series A	$ 70,340,000
Water Revenue Bonds, 2000 Authorization, Series B-3[1]	88,800,000
Water Revenue Bonds, 2006 Authorization, Series A	302,245,000
Water Revenue Refunding Bonds, 2008 Series B	119,830,000
Water Revenue Refunding Bonds, 2008 Series C	27,255,000
Water Revenue Bonds, 2008 Authorization, Series A	174,530,000
Water Revenue Refunding Bonds, 2009 Series A-2[1]	104,180,000
Water Revenue Refunding Bonds, 2009 Series B	106,690,000
Water Revenue Refunding Bonds, 2009 Series C	91,165,000
Water Revenue Bonds, 2008 Authorization, Series B	10,360,000
Water Revenue Bonds, 2008 Authorization, Series C[2]	78,385,000
Water Revenue Bonds, 2008 Authorization, Series D[2]	250,000,000
Water Revenue Refunding Bonds, 2009 Series D	50,005,000
Water Revenue Refunding Bonds, 2009 Series E	12,715,000
Water Revenue Bonds, 2010 Authorization, Series A[2]	250,000,000
Water Revenue Refunding Bonds, 2010 Series B	74,325,000
Water Revenue Refunding Bonds, 2011 Series A-1[1]	64,305,000
Water Revenue Refunding Bonds, 2011 Series A-2[1]	49,920,000
Water Revenue Refunding Bonds, 2011 Series A-3[1]	64,300,000
Water Revenue Refunding Bonds, 2011 Series A-4[1]	49,920,000
Water Revenue Refunding Bonds, 2011 Series B	5,080,000
Water Revenue Refunding Bonds, 2011 Series C	147,435,000
Water Revenue Refunding Bonds, 2012 Series A	181,180,000
Water Revenue Refunding Bonds, 2012 Series B-1 and B-2[1]	98,585,000
Water Revenue Refunding Bonds, 2012 Series C	175,635,000
Water Revenue Refunding Bonds, 2012 Series F	59,335,000
Water Revenue Refunding Bonds, 2012 Series G	111,890,000
Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D[1]	87,445,000
Special Variable Rate Water Revenue Refunding Bonds, 2013 Series E[1]	104,820,000
Water Revenue Refunding Bonds, 2014 Series A	95,935,000
Water Revenue Refunding Bonds, 2014 Series B	10,575,000
Water Revenue Refunding Bonds, 2014 Series C-1–C-3	30,335,000
Special Variable Rate Water Revenue Refunding Bonds, 2014 Series D[1]	38,465,000
Water Revenue Refunding Bonds, 2014 Series E	86,060,000
Water Revenue Refunding Bonds, 2014 Series G-2–G-5	43,275,000
Special Variable Rate Water Revenue Refunding Bonds, 2015 Series A-1 and A-2[1]	188,900,000
Water Revenue Bonds, 2015 Authorization, Series A	208,255,000
Water Revenue Refunding Bonds, 2016 Series A	239,455,000
Special Variable Rate Water Revenue Refunding Bonds, 2016 Series B-1 and B-2[1]	103,670,000
Total	**$4,055,600,000**

Source: Metropolitan.

(1) Outstanding variable rate obligation.

(2) Designated as "Build America Bonds" pursuant to the American Recovery and Reinvestment Act of 2009.

Variable Rate and Swap Obligations

As of February 1, 2017, Metropolitan had outstanding $1.30 billion of variable rate obligations issued under the Senior Debt Resolutions, including variable rate Senior Revenue Bonds (described under this caption "–Variable Rate and Swap Obligations") and Senior Parity Obligations incurred pursuant to Short-Term Revolving Credit Facilities (described under "–Short-Term Revolving Credit Facilities" below).

The outstanding variable rate Senior Revenue Bonds include bonds bearing interest in the Index Mode or Flexible Index Mode (the "Index Tender Bonds"), special variable rate bonds initially designated as self-liquidity bonds (the "Self-Liquidity Bonds") and variable rate demand obligations supported by standby bond purchase agreements between Metropolitan and various liquidity providers.

Index Tender Bonds. The Index Tender Bonds have substantially similar terms and conditions; however, the mandatory tender dates and related tender periods for the Index Tender Bonds may differ. The

Index Tender Bonds bear interest at a rate that fluctuates weekly based on the SIFMA Municipal Swap Index published weekly by Municipal Market Data plus a spread. The Index Tender Bonds outstanding as of February 1, 2017, are summarized in the following table:

Index Tender Bonds

Series	Date of Issuance	Original Principal Amount Issued	Next Scheduled Mandatory Tender Date	Maturity Date
2009 A-2	May 20, 2009	$104,180,000	July 10, 2017	July 1, 2030
2011 A-1	June 2, 2011	64,305,000	July 10, 2017	July 1, 2036
2011 A-2	June 2, 2011	49,920,000	March 27, 2018	July 1, 2036
2011 A-3	June 2, 2011	64,300,000	July 10, 2017	July 1, 2036
2011 A-4	June 2, 2011	49,920,000	March 27, 2018	July 1, 2036
2012 B-1	April 27, 2012	49,295,000	March 27, 2018	July 1, 2027
2012 B-2	April 27, 2012	49,290,000	March 27, 2018	July 1, 2027
2013 E[(1)]	July 2, 2013	104,820,000	June 5, 2017	July 1, 2030
Total		**$536,030,000**		

Source: Metropolitan.

(1) Flexible Index Mode Bonds. The terms and conditions of Flexible Index Mode Bonds are substantially similar to Index Mode Bonds except that each tender period may not exceed 270 days.

The Index Tender Bonds are subject to mandatory tender under certain circumstances, including on certain scheduled mandatory tender dates (unless earlier remarketed or otherwise retired). Metropolitan anticipates that it will pay the purchase price of tendered Index Tender Bonds from the proceeds of remarketing such Index Tender Bonds or from other available funds. Metropolitan's obligation to pay the purchase price of any tendered Index Tender Bonds is an unsecured, special limited obligation of Metropolitan payable from Net Operating Revenues. Purchase price payments of Index Tender Bonds are subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to the Subordinate Revenue Bonds and Subordinate Parity Obligations. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Index Tender Bonds in connection with a scheduled mandatory tender. If the purchase price of the Index Tender Bonds of any Series is not paid from the proceeds of remarketing or other funds following a scheduled mandatory tender, such Index Tender Bonds then will bear interest at a default rate of up to 12 percent per annum until purchased by Metropolitan or redeemed. Failure to pay the purchase price of a series of Index Tender Bonds on a scheduled mandatory tender date is a default under the related paying agent agreement, upon the occurrence and continuance of which a majority in aggregate principal amount of the owners of such series of Index Tender Bonds may elect a bondholders' committee to exercise rights and powers of such owners under such paying agent agreement. Failure to pay the purchase price of a series of Index Tender Bonds on a scheduled mandatory tender date is not a default under the Senior Debt Resolutions. If the purchase price of the Index Tender Bonds of any series is not paid on a scheduled mandatory tender date, such Index Tender Bonds will also be subject to special mandatory redemption, in part, 18, 36 and 54 months following the purchase default. Any such special mandatory redemption payment will constitute an obligation payable on parity with the Senior Revenue Bonds and Senior Parity Obligations and senior to the Subordinate Revenue Bonds and Subordinate Parity Obligations.

Self-Liquidity Bonds. As of February 1, 2017, Metropolitan had $314.8 million of outstanding Self-Liquidity Bonds issued under the Senior Debt Resolutions. The Self-Liquidity Bonds are subject to optional tender upon seven days' notice by the owners thereof and mandatory tender upon specified events. Metropolitan is irrevocably committed to purchase all Self-Liquidity Bonds tendered pursuant to any optional or mandatory tender to the extent that remarketing proceeds are insufficient therefor and no standby bond purchase agreement or other liquidity facility is in effect. Metropolitan's obligation to pay the purchase

price of any tendered Self-Liquidity Bonds is an unsecured, special limited obligation of Metropolitan payable from Net Operating Revenues. Purchase price payments of Self-Liquidity Bonds are subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to the Subordinate Revenue Bonds and Subordinate Parity Obligations. In addition, Metropolitan's investment policy permits it to purchase tendered Self-Liquidity Bonds as an investment for its investment portfolio (other than from amounts in its investment portfolio consisting of bond reserve funds). Thus, while Metropolitan is only obligated to purchase tendered Self-Liquidity Bonds from Net Operating Revenues, it may use the cash and investments in its investment portfolio (other than amounts in its investment portfolio consisting of bond reserve funds and amounts posted as collateral with interest rate swap counterparties as described below) to purchase tendered Self-Liquidity Bonds. Metropolitan has not secured any liquidity facility or letter of credit to pay the purchase price of any tendered Self-Liquidity Bonds; however, Metropolitan has entered into a Revolving Credit Agreement (as described below) pursuant to which it may make borrowings for the purpose of paying the purchase price of Self-Liquidity Bonds. See "–Senior Parity Obligations – Wells Fargo Revolving Credit Agreement." Failure to pay the purchase price of Self-Liquidity Bonds upon optional or mandatory tender is not a default under the related paying agent agreement or a default under the Senior Debt Resolutions.

The following table lists the outstanding Self-Liquidity Bonds as of February 1, 2017.

Self-Liquidity Bonds

Name of Issue	Principal Outstanding
Special Variable Rate Water Revenue Refunding Bonds, 2013 Series D	$ 87,445,000
Special Variable Rate Water Revenue Refunding Bonds, 2014 Series D	38,465,000
Special Variable Rate Water Revenue Refunding Bonds, 2015 Series A-1 and A-2	188,900,000
Total	$314,810,000

Source: Metropolitan.

Liquidity Supported Bonds. The interest rates for Metropolitan's other variable rate demand obligations issued under the Senior Debt Resolutions, totaling $192.5 million as of February 1, 2017, are reset on a daily basis. Such variable rate demand obligations are supported by Standby Bond Purchase Agreements between Metropolitan and liquidity providers that provide for purchase of variable rate bonds by the applicable liquidity provider upon tender of such variable rate bonds and a failed remarketing. Metropolitan has secured its obligation to repay principal and interest advanced under the Standby Bond Purchase Agreements as Senior Parity Obligations. A decline in the creditworthiness of a liquidity provider will likely result in an increase in the interest rate of the applicable variable rate bonds, as well as an increase in the risk of a failed remarketing of such tendered variable rate bonds. Variable rate bonds purchased by a liquidity provider bear interest at a significantly higher interest rate and Metropolitan's obligation to reimburse the liquidity provider may convert the term of the variable rate bonds purchased by the liquidity provider into a term loan amortizable under the terms of the current liquidity facilities over a period of up to three years, depending on the applicable liquidity facility.

The following table lists the liquidity providers, the expiration date of each facility and the principal amount of outstanding variable rate demand obligations covered under each facility as of February 1, 2017.

Liquidity Facilities and Expiration Dates

Liquidity Provider	Bond Issue	Principal Outstanding	Facility Expiration
Wells Fargo Bank, N.A.	2000 Authorization Series B-3	$ 88,800,000	April 2017[1]
Landesbank Hessen-Thuringen Girozentrale (Helaba)	2016 Series B-1 and Series B-2	$103,670,000	September 2019
Total		$192,470,000	

Source: Metropolitan.

(1) Metropolitan expects to replace such liquidity facility prior to its expiration date.

Interest Rate Swap Transactions. By resolution adopted on September 11, 2001, Metropolitan's Board authorized the execution of interest rate swap transactions and related agreements in accordance with a master swap policy, which was subsequently amended by resolutions adopted on July 14, 2009 and May 11, 2010. Metropolitan may execute interest rate swaps if the transaction can be expected to reduce exposure to changes in interest rates on a particular financial transaction or in the management of interest rate risk derived from Metropolitan's overall asset/liability balance, result in a lower net cost of borrowing or achieve a higher net rate of return on investments made in connection with or incidental to the issuance, incurring or carrying of Metropolitan's obligations or investments, or manage variable interest rate exposure consistent with prudent debt practices and Board-approved guidelines. The Chief Financial Officer reports to the Finance and Insurance Committee of Metropolitan's Board each quarter on outstanding swap transactions, including notional amounts outstanding, counterparty exposures and termination values based on then-existing market conditions.

Metropolitan currently has one type of interest rate swap, referred to in the table below as "Fixed Payor Swaps." Under this type of swap, Metropolitan receives payments that are calculated by reference to a floating interest rate and makes payments that are calculated by reference to a fixed interest rate.

Metropolitan's obligations to make regularly scheduled net payments under the terms of the interest rate swap agreements are payable on a parity with the Senior Parity Obligations. Termination payments under the 2002A and 2002B interest rate swap agreements would be payable on a parity with the Senior Parity Obligations. Termination payments under all other interest rate swap agreements would be on parity with the Subordinate Parity Obligations.

The following swap transactions were outstanding as of February 1, 2017:

FIXED PAYOR SWAPS:

Designation	Notional Amount Outstanding	Swap Counterparty	Fixed Payor Rate	MWD Receives	Maturity Date
2002 A	$75,838,400	Morgan Stanley Capital Services, Inc.	3.300%	57.74% of one-month LIBOR	7/1/2025
2002 B	28,371,600	JPMorgan Chase Bank	3.300	57.74% of one-month LIBOR	7/1/2025
2003	158,597,500	Wells Fargo Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2003	158,597,500	JPMorgan Chase Bank	3.257	61.20% of one-month LIBOR	7/1/2030
2004 C	7,760,500	Morgan Stanley Capital Services, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2004 C	6,349,500	Citigroup Financial Products, Inc.	2.980	61.55% of one-month LIBOR	10/1/2029
2005	29,057,500	JPMorgan Chase Bank	3.360	70% of 3-month LIBOR	7/1/2030
2005	29,057,500	Citigroup Financial Products, Inc.	3.360	70% of 3-month LIBOR	7/1/2030
Total	$493,630,000				

Source: Metropolitan.

These interest rate swap agreements entail risk to Metropolitan. The counterparty may fail or be unable to perform, interest rates may vary from assumptions, Metropolitan may be required to post collateral in favor of its counterparties and Metropolitan may be required to make significant payments in the event of an early termination of an interest rate swap. Metropolitan believes that if such an event were to occur, it would not have a material adverse impact on its financial position. Metropolitan seeks to manage counterparty risk by diversifying its swap counterparties, limiting exposure to any one counterparty, requiring collateralization or other credit enhancement to secure swap payment obligations, and by requiring minimum credit rating levels. Initially swap counterparties must be rated at least "Aa3" or "AA-", or equivalent by any two of the nationally recognized credit rating agencies; or use a "AAA" subsidiary as rated by at least one nationally recognized credit rating agency. Should the credit rating of an existing swap counterparty drop below the required levels, Metropolitan may enter into additional swaps if those swaps are "offsetting" and risk-reducing swaps. Each counterparty is initially required to have minimum capitalization of at least $150 million. See Note 5(f) in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

Early termination of an interest rate swap agreement could occur due to a default by either party or the occurrence of a termination event. As of December 31, 2016, Metropolitan would have been required to pay to its counterparties termination payments if some of its swaps were terminated on that date. Metropolitan's net exposure to its counterparties for all such termination payments on that date was approximately $75.3 million. Metropolitan does not presently anticipate early termination of any of its interest rate swap agreements due to default by either party or the occurrence of a termination event. However, effective June 28, 2012, Metropolitan exercised optional early termination provisions to terminate all or a portion of certain interest rate swap agreements totaling a notional amount of $322 million. Effective February 12, 2014, Metropolitan exercised optional early termination provisions to terminate a portion of certain interest rate swap agreements, totaling a notional amount of $147 million. Effective July 29, 2014,

Metropolitan optionally terminated portions of certain interest rate swap agreements totaling a notional amount of $163 million.

Metropolitan is required to post collateral in favor of a counterparty to the extent that Metropolitan's total exposure for termination payments to that counterparty exceeds the threshold specified in the applicable swap agreement. Conversely, the counterparties are required to release collateral to Metropolitan or post collateral for the benefit of Metropolitan as market conditions become favorable to Metropolitan. As of December 31, 2016, Metropolitan had no collateral posted with any counterparty. The highest, month-end, amount of collateral posted was $36.8 million, on June 30, 2012, which was based on an outstanding swap notional amount of $1.4 billion. The amount of required collateral varies from time to time due primarily to interest rate movements and can change significantly over a short period of time. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A. In the future, Metropolitan may be required to post additional collateral, or may be entitled to a reduction or return of the required collateral amount. Collateral deposited by Metropolitan is held by the counterparties; a bankruptcy of any counterparty holding collateral posted by Metropolitan could adversely affect the return of the collateral to Metropolitan. Moreover, posting collateral limits Metropolitan's liquidity. If collateral requirements increase significantly, Metropolitan's liquidity may be materially adversely affected. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A.

Term Mode Bonds

As of February 1, 2017, Metropolitan had outstanding $73.6 million of Senior Revenue Bonds bearing interest in a term mode, comprised of $30.3 million of 2014 Series C Bonds in three series, and $43.3 million of 2014 Series G in four series (collectively, the "Term Mode Bonds"). The Term Mode Bonds initially bear interest at a fixed rate for a specified period from their date of issuance, after which there shall be determined a new interest mode for each series (which may be another term mode, a daily mode, a weekly mode, a short-term mode or an index mode) or the Term Mode Bonds may be converted to bear fixed interest rates through the maturity date thereof. The owners of the Term Mode Bonds of a series must tender for purchase, and Metropolitan must purchase, all of the Term Mode Bonds of such series on the specified scheduled mandatory tender date of each term period for such series. The Term Mode Bonds outstanding as of February 1, 2017, are summarized in the following table:

Term Mode Bonds

Series	Original Principal Amount Issued	Next Scheduled Mandatory Tender Date
2014 C-1	$13,505,000	October 1, 2019
2014 C-2	14,020,000	October 1, 2020
2014 C-3	2,810,000	October 1, 2021
2014 G-2	14,300,000	October 1, 2017
2011 G-3	11,165,000	October 1, 2018
2012 G-4	11,605,000	October 1, 2019
2012 G-5	6,205,000	October 1, 2020
Total	**$73,610,000**	

Source: Metropolitan.

Metropolitan will pay the principal of, and interest on, the Term Mode Bonds on parity with its other Senior Revenue Bonds. Metropolitan anticipates that it will pay the purchase price of tendered Term Mode Bonds from the proceeds of remarketing such Term Mode Bonds or from other available funds. Metropolitan's obligation to pay the purchase price of any tendered Term Mode Bonds is an unsecured, special limited obligation of Metropolitan payable from Net Operating Revenues. Purchase price payments of Term Mode Bonds are subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to

the Subordinate Revenue Bonds and Subordinate Parity Obligations. Metropolitan has not secured any liquidity facility or letter of credit to support the payment of the purchase price of Term Mode Bonds in connection with any scheduled mandatory tender. If the purchase price of the Term Mode Bonds of any series is not paid from the proceeds of remarketing or other funds following a scheduled mandatory tender, such Term Mode Bonds will then bear interest at a default rate of up to 12 percent per annum until purchased by Metropolitan or redeemed. Failure to pay the purchase price of a series of Term Mode Bonds on a scheduled mandatory tender date is a default under the related paying agent agreement, upon the occurrence and continuance of which a majority in aggregate principal amount of the owners of such series of Term Mode Bonds may elect a bondholders' committee to exercise rights and powers of such owners under such paying agent agreement. Failure to pay the purchase price of a series of Term Mode Bonds on a scheduled mandatory tender date is not a default under the Senior Debt Resolutions. If the purchase price of the Term Mode Bonds of any series is not paid on a scheduled mandatory tender date, such Term Mode Bonds will also be subject to special mandatory redemption, in part, 18, 36 and 54 months following the purchase default. Any such special mandatory redemption payment will constitute an obligation payable on parity with the Senior Revenue Bonds and Senior Parity Obligations.

Build America Bonds

Metropolitan previously issued and designated three series of Senior Revenue Bonds in the aggregate principal amount of $578,385,000 as "Build America Bonds" under the provisions of the American Recovery and Reinvestment Act of 2009 (the "Build America Bonds"). Metropolitan currently expects to receive cash subsidies from the United States Treasury (the "Interest Subsidy Payments") equal to 35 percent of the interest payable on all such outstanding Build America Bonds less any federal budget sequestration offsets as described in the following paragraph. The Interest Subsidy Payments in connection with the Build America Bonds do not constitute Operating Revenues under the Senior Debt Resolutions or the Subordinate Debt Resolutions. Such Interest Subsidy Payments will constitute Additional Revenues, which Metropolitan may take into consideration when establishing its rates and charges and will be available to Metropolitan to pay principal of and interest on Metropolitan's Bonds.

The Budget Control Act of 2011 (the "Budget Control Act") provided for increases in the federal debt limit and established procedures designed to reduce the federal budget deficit. The Budget Control Act provided that a failure to reduce the deficit would result in sequestration, which are automatic, generally across-the-board, spending reductions. These reductions began on March 1, 2013 pursuant to an executive order that reduced budgetary authority for expenditures subject to sequestration, including subsidies for Build America Bonds. Pursuant to this executive order, the approximately $6.64 million Interest Subsidy Payment that Metropolitan was to receive on or about July 1, 2013 was reduced by 8.7 percent, or $578,000, to $6.06 million. Interest Subsidy Payments processed in the federal fiscal year ended September 30, 2014 were reduced by the federal fiscal year 2014 sequestration rate of 7.2 percent and Interest Subsidy Payments processed in the federal fiscal year ended September 30, 2015 were reduced by the federal fiscal year 2015 sequestration rate of 7.3 percent. Interest Subsidy Payments processed in the federal fiscal year ended September 30, 2016 were reduced by the federal fiscal year 2016 sequestration rate of 6.8 percent, and Interest Subsidy Payments processed on or after October 1, 2016 and on or before September 30, 2017 are anticipated to be reduced by the federal fiscal year 2017 sequestration rate of 6.9 percent. The sequestration reduction rate will be applied unless and until a law is enacted that cancels or otherwise impacts the sequester, at which time the sequestration reduction rate is subject to change. Metropolitan can offer no assurances as to future subsidy payments and expects that once it receives less than any full 35 percent subsidy payment, the United States Treasury will not thereafter reimburse Metropolitan for payments not made.

Senior Parity Obligations

Short-Term Revolving Credit Facilities. In April 2016, Metropolitan entered into a noteholder's agreement with RBC Municipal Products, LLC ("RBC") for the purchase by RBC and sale by Metropolitan of Metropolitan's Index Notes, Series 2016 ("RBC Facility"). Also in April 2016, Metropolitan entered into

a note purchase and continuing covenant agreement with U.S. Bank National Association ("US Bank"), for the purchase by US Bank and sale by Metropolitan of Metropolitan's Flexible Rate Revolving Notes, Series 2016 ("US Bank Facility," and together with the RBC Facility, the "Short-Term Revolving Credit Facilities"). Metropolitan is permitted to sell up to $200 million of notes (including, subject to certain terms and conditions, notes to refund maturing notes) under each of the Short-Term Revolving Credit Facilities during the term of the respective bank's commitment to purchase notes thereunder, which currently extends to April 5, 2019, for an aggregate amount of available borrowings of $400 million. Metropolitan may borrow, pay down and re-borrow amounts under each of the Short-Term Revolving Credit Facilities. Currently, Metropolitan has sold approximately $250 million of notes under the Short-Term Revolving Credit Facilities ($125 million under the RBC Facility and approximately $125 million under the US Bank Facility). Of that amount, Metropolitan has deposited $250 million in its unrestricted financial reserves. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A. An additional draw of approximately $50 million is expected by the end of June 2017. Subject to the satisfaction of certain terms and conditions, unpaid principal remaining outstanding at the April 5, 2019 commitment end date may be amortizable over a period of approximately one to three years, depending on the applicable facility.

Each of the Short-Term Revolving Credit Facilities bears interest at a variable rate of interest. The US Bank Facility bears interest at a spread to one-month London interbank offering rate ("LIBOR") for taxable borrowings or to 70 percent of one-month LIBOR for tax-exempt borrowings, while the RBC Facility bears interest at a spread to one-month LIBOR for taxable borrowings or to the SIFMA Municipal Swap Index for tax-exempt borrowings. Under the Short-Term Revolving Credit Facilities, upon a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, or other specified events of default, each bank could terminate its commitments and declare all amounts then outstanding to be immediately due and payable. Metropolitan has secured its obligation to pay principal and interest under the Short-Term Credit Facilities as Senior Parity Obligations.

In the Short-Term Revolving Credit Facilities agreements, Metropolitan designated the principal and interest payable as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable under the Short-Term Revolving Credit Facilities on a schedule of Assumed Debt Service. This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal under the Short-Term Revolving Credit Facilities over a period of 30 years at a fixed interest rate of approximately 3.3 percent.

Wells Fargo Revolving Credit Agreement. On July 1, 2015, Metropolitan executed a revolving credit agreement with Wells Fargo Bank, N.A. (the "Wells Fargo Revolving Credit Agreement"). Under the terms and conditions of the Wells Fargo Revolving Credit Agreement, Metropolitan will be able to borrow up to $180 million for purposes of paying the purchase price of any Self-Liquidity Bonds. The scheduled expiration date of the Wells Fargo Revolving Credit Agreement is July 1, 2018. On November 4, 2015, Wells Fargo Bank assigned $100 million of its share of the Wells Fargo Revolving Credit Agreement to the Industrial and Commercial Bank of China ("ICBC"). Wells Fargo will retain the remaining $80 million commitment. ICBC assumed all of Wells Fargo's obligations with respect to its $100 million share under the Wells Fargo Revolving Credit Agreement.

Under the Wells Fargo Revolving Credit Agreement, a failure by Metropolitan to perform or observe certain covenants could result in a termination of Wells Fargo Bank and ICBC's commitments and entitle them to declare all amounts then outstanding to be immediately due and payable. Metropolitan has secured its obligation to pay principal and interest under the Wells Fargo Revolving Credit Agreement as Senior Parity Obligations. Metropolitan has no obligation to make borrowings under, maintain, or renew the Wells Fargo Revolving Credit Agreement. See "–Limitations on Additional Revenue Bonds" above.

In the Wells Fargo Revolving Credit Agreement, Metropolitan designated the principal and interest payable as Excluded Principal Payments under the Senior Debt Resolutions and thus, for purposes of calculating Maximum Annual Debt Service, included the amount of principal and interest due and payable

under the Revolving Credit Agreements on a schedule of Assumed Debt Service. This schedule of Assumed Debt Service assumes that Metropolitan will pay the principal under the Revolving Credit Agreements over a period of 30 years at a fixed interest rate of 3.75 percent. Pursuant to the terms of the Senior Debt Resolutions, while the Wells Fargo Revolving Credit Agreement is in force and effect, when Metropolitan calculates its covenant relating to the creation or incurrence of additional indebtedness, it will add an amount to its Net Operating Revenues relating to an assumed annual debt service payment that Metropolitan would receive if it were to use the proceeds of the Wells Fargo Revolving Credit Agreement to purchase Self-Liquidity Bonds.

Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations

Subordinate Revenue Bonds

In December 2016, Metropolitan entered into a Continuing Covenant Agreement with Bank of America, N.A. ("BANA", and the "2016 BANA Agreement"), for the purchase by BANA and sale by Metropolitan of Metropolitan's $175 million Subordinate Water Revenue Bonds, 2016 Authorization Series A (the "Subordinate 2016 Series A Bonds"), which is the first series of bonds issued under the Subordinate Debt Resolutions. Proceeds were used to reimburse Metropolitan for the purchase of the Delta Islands in the San Francisco Bay\Sacramento-San Joaquin River Delta that was funded from Metropolitan's reserves in July 2016. See "CAPITAL INVESTMENT PLAN–Other Capital Expenses" and "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A.

The Subordinate 2016 Series A Bonds bears interest at a variable rate of interest, at a spread to one-month LIBOR. Under the 2016 BANA Agreement, upon a failure by Metropolitan to perform or observe its covenants, a default in other specified indebtedness of Metropolitan, or other specified events of default, BANA could terminate its commitments and declare all amounts then outstanding to be immediately due and payable. Metropolitan has secured its obligation to pay principal and interest under the 2016 BANA Agreement as a Subordinate Parity Obligation. The Subordinate 2016 Series A Bonds are Index Tender Bonds and are subject to mandatory tender for purchase on the scheduled mandatory tender date of December 21, 2018, or, if directed by BANA upon the occurrence and continuance of an event of default under the 2016 BANA Agreement, five business days after receipt of such direction. On or before the scheduled mandatory tender date, Metropolitan may request an extension of the 2016 BANA Agreement for another tender period or may request BANA to purchase the Subordinate 2016 Series A Bonds in another interest rate mode, or Metropolitan may seek to remarket the 2016 Series A Bonds to another bank or in the public debt markets. In the event the 2016 BANA Agreement is not extended, Metropolitan is obligated under the 2016 BANA Agreement to cause unremarketed Subordinate 2016 Series A Bonds to be redeemed five business days after the scheduled mandatory tender date in the event the purchase price of the Subordinate 2016 Series A Bonds is not paid from the proceeds of a remarketing or other funds on the scheduled mandatory tender date. A failure to pay the purchase price of the Subordinate 2016 Series A Bonds upon a mandatory tender would constitute a default under the Subordinate Debt Resolutions if not remedied within five business days.

The water revenue bonds issued under the Subordinate Debt Resolutions outstanding as of February 1, 2017, are set forth below:

Name of Issue	Principal Outstanding
Subordinate Water Revenue Bonds, 2016 Authorization Series A[(1)]	$175,000,000

Source: Metropolitan.

(1) Outstanding variable rate obligation.

Subordinate Parity Obligations

In 2003, Metropolitan obtained a $20 million California Safe Drinking Water Revolving Fund Loan in 2003 at an interest rate of 2.39 percent per annum to reimburse construction costs for oxidation retrofit facilities at the Henry J. Mills Treatment Plant in Riverside County. The loan payment obligation is subordinate to the Senior Revenue Bonds and Senior Obligations and on parity with the Subordinate Revenue Bonds. As of February 1, 2017, the principal balance outstanding was $8.6 million.

Other Junior Obligations

Metropolitan currently is authorized to issue up to $400,000,000 of Commercial Paper Notes payable from Net Operating Revenues on a basis subordinate to both the Senior Revenue Bonds and Senior Parity Obligations and to the Subordinate Revenue Bonds and Subordinate Parity Obligations. Although no Commercial Paper Notes are currently outstanding, the authorization remains in full force and effect and Metropolitan may issue Commercial Paper Notes from time to time.

General Obligation Bonds

As of February 1, 2017, $92,865,000 aggregate principal amount of general obligation bonds payable from *ad valorem* property taxes were outstanding. See "METROPOLITAN REVENUES–General" and "–Revenue Allocation Policy and Tax Revenues" in this Appendix A. Metropolitan's revenue bonds are not payable from the levy of *ad valorem* property taxes.

General Obligation Bonds	Amount Issued[1]	Principal Outstanding
Waterworks General Obligation Refunding Bonds, 2009 Series A	$45,515,000	$30,745,000
Waterworks General Obligation Refunding Bonds, 2010 Series A	39,485,000	23,065,000
Waterworks General Obligation Refunding Bonds, 2014 Series A	49,645,000	39,055,000
Total	$134,645,000	$92,865,000

Source: Metropolitan.

(1) Voters authorized Metropolitan to issue $850,000,000 of Waterworks General Obligation Bonds, Election 1966, in multiple series, in a special election held on June 7, 1966. This authorization has been fully utilized. This table lists bonds that refunded such Waterworks General Obligation Bonds, Election 1966.

State Water Contract Obligations

General. As described herein, in 1960, Metropolitan entered into its State Water Contract with DWR to receive water from the State Water Project. All expenditures for capital and operations, maintenance, power and replacement costs associated with the State Water Project facilities used for water delivery are paid for by the 29 Contractors that have executed State Water Contracts with DWR, including Metropolitan. Contractors are obligated to pay allocable portions of the cost of construction of the system and ongoing operating and maintenance costs through at least 2035, regardless of quantities of water available from the project. Other payments are based on deliveries requested and actual deliveries received, costs of power required for actual deliveries of water, and offsets for credits received. In exchange, Contractors have the right to participate in the system, with an entitlement to water service from the State Water Project and the right to use the portion of the State Water Project conveyance system necessary to deliver water to them at no additional cost as long as capacity exists. Metropolitan's State Water Contract accounts for nearly one-half of the total entitlement for State Water Project water contracted for by all Contractors.

DWR and other State Water Project Contractors, including Metropolitan, have reached an Agreement in Principle to extend their State Water Contracts to 2085 and to make certain changes related to the financial management of the State Water Project in the future. See "METROPOLITAN'S WATER SUPPLY–State Water Project" in this Appendix A.

Metropolitan's payment obligation for the State Water Project for the fiscal year ended June 30, 2016 was $511 million; which amount reflects prior year's credits of $61.6 million. For the fiscal year ended June 30, 2016, Metropolitan's payment obligations under the State Water Contract were approximately 27 percent of Metropolitan's total annual expenses. A portion of Metropolitan's annual property tax levy is for payment of State Water Contract obligations, as described above under "METROPOLITAN REVENUES–General" in this Appendix A. See Note 9(a) to Metropolitan's audited financial statements in Appendix B for an estimate of Metropolitan's payment obligations under the State Water Contract. Also see "–Power Sources and Costs" below for a description of current and future costs for electric power required to operate State Water Project pumping systems and a description of litigation involving the federal relicensing of the Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville.

The State Water Contract requires that in the event that Metropolitan fails or is unable to raise sufficient funds by other means, Metropolitan must levy upon all property within its boundaries not exempt from taxation a tax or assessment sufficient to provide for all payments under the State Water Contract. Currently, a portion of the capital costs under the State Water Contract are paid from *ad valorem* taxes levied by Metropolitan. In the opinion of Metropolitan's General Counsel, a tax increase to provide for additional payments under the State Water Contract would be within the exemption permitted under Article XIIIA of the State Constitution as a tax to pay pre-1978 voter approved indebtedness.

Metropolitan capitalizes its share of the State Water Project capital costs as participation rights in State Water Project facilities as such costs are costs paid in exchange for participation in the system, regardless of whether there is water available to be delivered. Unamortized participation rights essentially represent a prepayment for future costs as Metropolitan will likely continue to participate in the system at least through 2035. Metropolitan's share of system operating and maintenance costs are annually expensed.

DWR and various subsets of the State Water Contractors have entered into amendments to the State Water Contract related to the financing of certain State Water Project facilities. The amendments establish procedures to provide for the payment of construction costs financed by DWR bonds by establishing separate subcategories of charges to produces the revenues required to pay all of the annual financing costs (including coverage on the allocable bonds) relating to the financed project. If any affected Contractor defaults on payment under certain of such amendments, the shortfall may be collected from the non-defaulting affected Contractors, subject to certain limitations.

These amendments represent additional long-term obligations of Metropolitan, as described below.

Devil Canyon-Castaic Contract. On June 23, 1972, Metropolitan and five other southern California public agencies entered into a contract (the "Devil Canyon-Castaic Contract") with DWR for the financing and construction of the Devil Canyon and Castaic power recovery facilities, located on the aqueduct system of the State Water Project. Under this contract, DWR agreed to build the Devil Canyon and Castaic facilities, using the proceeds of revenue bonds issued by DWR under the State Central Valley Project Act. DWR also agreed to use and apply the power made available by the construction and operation of such facilities to deliver water to Metropolitan and the other contracting agencies. Metropolitan, in turn, agreed to pay to DWR 88 percent of the debt service on the revenue bonds issued by DWR. For calendar year 2016, this represented a payment of $7.8 million. In addition, Metropolitan agreed to pay 78.5 percent of the operation and maintenance expenses of the Devil Canyon facilities and 96 percent of the operation and maintenance expenses of the Castaic facilities. Metropolitan's obligations under the Devil Canyon-Castaic Contract continue until the bonds are fully retired in 2022 even if DWR is unable to operate the facilities or deliver power from these facilities.

Off-Aqueduct Power Facilities. In addition to system "on-aqueduct" power facilities costs, DWR has, either on its own or by joint venture, financed certain off-aqueduct power facilities. The power generated is utilized by the system for water transportation and other State Water Project purposes. Power

generated in excess of system needs is marketed to various utilities and the California Independent System Operator. Metropolitan is entitled to a proportionate share of the revenues resulting from sales of excess power. By virtue of a 1982 amendment to the State Water Contract and the other water supply contracts, Metropolitan and the other water contractors are responsible for paying the capital and operating costs of the off-aqueduct power facilities regardless of the amount of power generated. Other costs of Metropolitan in relation to the State Water Project and the State Water Contract may increase as a result of restructuring of California's electric utility industry and new Federal Energy Regulatory Commission ("FERC") regulations.

East Branch Enlargement Amendment. In 1986, Metropolitan's State Water Contract and the water supply contracts of certain other State Water Project Contractors were amended for the purpose, among others, of financing the enlargement of the East Branch of the California Aqueduct. Under the amendment, enlargement of the East Branch can be initiated either at Metropolitan's request or by DWR finding that enlargement is needed to meet demands.

The amendment establishes a separate subcategory of the Transportation Charge under the State Water Contract for the East Branch Enlargement and provides for the payment of costs associated with financing and operating the East Branch Enlargement. Under the amendment, the annual financing costs for such facilities financed by bonds issued by DWR are allocated among the participating contractors based upon the delivery capacity increase allocable to each participating contractor. Such costs include, but are not limited to, debt service, including coverage requirements, deposits to reserves, and certain operation and maintenance expenses, less any credits, interest earnings or other moneys received by DWR in connection with this facility.

If any participating contractor defaults on payment of its allocable charges under the amendment, among other things, the non-defaulting participating contractors may assume responsibility for such charges and receive delivery capability that would otherwise be available to the defaulting participating contractor in proportion to the non-defaulting contractor's participation in the East Branch Enlargement. If participating contractors fail to cure the default, Metropolitan will, in exchange for the delivery capability that would otherwise be available to the defaulting participating contractor, assume responsibility for the capital charges of the defaulting participating contractor.

Water System Revenue Bond Amendment. In 1987, the State Water Contract and other water supply contracts were amended for the purpose of financing State Water Project facilities through revenue bonds. This amendment establishes a separate subcategory of the Delta Water Charge and the Transportation Charge for projects financed with DWR water system revenue bonds. This subcategory of charge provides the revenues required to pay the annual financing costs of the bonds and consists of two elements. The first element is an annual charge for repayment of capital costs of certain revenue bond financed water system facilities under the existing water supply contract procedures. The second element is a water system revenue bond surcharge to pay the difference between the total annual charges under the first element and the annual financing costs, including coverage and reserves, of DWR's water system revenue bonds.

If any contractor defaults on payment of its allocable charges under this amendment, DWR is required to allocate a portion of the default to each of the nondefaulting contractors, subject to certain limitations, including a provision that no nondefaulting contractor may be charged more than 125 percent of the amount of its annual payment in the absence of any such default. Under certain circumstances, the nondefaulting contractors would be entitled to receive an allocation of the water supply of the defaulting contractor.

The following table sets forth Metropolitan's projected costs of State Water Project water based upon DWR's Annual Billing to Metropolitan for calendar year 2017 and, for fiscal year 2016-17, preliminary financial results through December 30, 2016. For all other years the projections are based on Metropolitan's adopted biennial budget for fiscal years 2016-17 and 2017-18 and the ten-year financial forecast included in

the adopted budget. See "METROPOLITAN'S WATER SUPPLY–State Water Project – Bay-Delta Proceedings Affecting State Water Project – Bay-Delta Planning Activities" in this Appendix A.

PROJECTED COSTS OF METROPOLITAN FOR STATE WATER PROJECT WATER[1]
(Dollars in Millions)

Year Ending June 30	Capital Costs	Minimum OMP&R[2]	Power Costs[3]	Refunds & Credits	Total[4]
2017	$173.4	$225.0	$150.0	$(46.4)	$502.0
2018	184.2	294.7	158.4	(37.9)	599.4
2019	195.3	315.9	170.4	(36.1)	645.5
2020	212.1	340.5	191.1	(35.0)	708.7
2021	236.3	264.8	212.1	(34.7)	778.6

Source: Metropolitan.

(1) Projections are based upon DWR's Annual Billing to Metropolitan for 2017 and attachments (dated July 1, 2015) and, for fiscal year 2016-17, preliminary financial results through December 31, 2016. For other years, the projections are based on Metropolitan's adopted biennial budget for fiscal years 2016-17 and 2017-18, and the ten-year financial forecast included in the adopted budget. All costs are adjusted from calendar year to fiscal year periods ending June 30. The total charges shown above differ from those shown in Note 9 of Metropolitan's audited financial statements for the fiscal year ended June 30, 2016 and June 30, 2015, in Appendix B, due to the inclusion of allowances for inflation and anticipated construction of additional State Water Project facilities. See "METROPOLITAN EXPENSES–Power Sources and Costs – State Water Project" in this Appendix A.

(2) Minimum Operations, Maintenance, Power and Replacement ("OMP&R") represents costs which are fixed and do not vary with the amount of water delivered.

(3) Assumptions for water deliveries through the California Aqueduct (not including SBVMWD and DWA/CVWD transfers and exchanges) into Metropolitan's service area and to storage programs are as follows: 0.75 million acre-feet for fiscal year 2016-17, 0.77 million acre-feet for fiscal year 2017-18, 0.82 million acre-feet for fiscal year 2018-19, 0.88 million acre-feet for fiscal year 2019-20, and 0.93 million acre-feet for fiscal year 2020-21. Availability of State Water Project supplies vary and deliveries may include transfers and storage. All deliveries are within maximum contract amount and are based upon availability, as determined by hydrology, water quality and wildlife conditions. See "METROPOLITAN'S WATER SUPPLY–State Water Project" and "–Endangered Species Act and Other Environmental Considerations" in this Appendix A.

(4) Annual totals include California WaterFix related costs for the fiscal years ended June 30, 2017 through June 30, 2021 of $-0- in fiscal year 2016-17 and fiscal year 2017-18, $20 million in fiscal year 2018-19, $38 million in fiscal year 2019-20, and $63 million in fiscal year 2020-21. Projected California WaterFix costs are reflected in the ten-year financial forecast provided in the biennial budget for fiscal years 2016-17 and 2017-18 that was approved by Metropolitan's Board on April 12, 2016.

Other Long-Term Commitments

Metropolitan also has various ongoing fixed annual obligations under its contract with the United States Department of Energy for power from the Hoover Power Plant. Under the terms of the Hoover Power Plant contract, Metropolitan purchases energy to pump water through the CRA. In fiscal year 2015-16 Metropolitan paid approximately $15.7 million under this contract. Payments made under the Hoover Power Plant contract are treated as operation and maintenance expenses. On March 12, 2014, Metropolitan and the other Hoover Contractors funded the defeasance of $124 million of bonds issued by the U.S. Treasury Department for facilities related to the Hoover Dam and Power Plant. Following this repayment, Metropolitan expects to reduce its annual payment for Hoover power by approximately $2.3 million.

Power Sources and Costs

Current and future costs for electric power required for operating the pumping systems of the CRA and the State Water Project are a substantial part of Metropolitan's overall expenses. Expenses for electric power for the CRA (not including credits from power sales and related revenues) for the fiscal years 2014-15 and 2015-16 were approximately $39.2 million, and $35.5 million, respectively. Expenses for electric power

and transmission service for the State Water Project for fiscal years 2014-15 and 2015-16 were approximately $140.8 million and $125.4 million, respectively. Given the continuing uncertainty surrounding the electricity markets in California and in the electric industry in general, Metropolitan is unable to give any assurance with respect to the magnitude of future power costs.

Colorado River Aqueduct. Generally, 55 to 70 percent of the annual power requirements for pumping at full capacity (1.25 million acre-feet of Colorado River water) in Metropolitan's CRA are secured through long-term contracts with the United States Department of Energy for energy generated from facilities located on the Colorado River (Hoover Power Plant and Parker Power Plant) and Southern California Edison ("Edison"). These contracts provide Metropolitan with reliable and economical power resources to pump Colorado River water to Metropolitan's service area.

The Hoover Power Allocation Act of 2011 (H.R. 470) requires the Western Area Power Administration (Western) to renew existing contracts for electric energy generated at the Hoover Power Plant for an additional 50 years through September 2067. The contractors will retain 95 percent of their existing power rights. Metropolitan and Western have completed negotiations and have executed the new contract.

As provided for under the Hoover Power Allocation Act of 2011 (H.R. 470), Metropolitan has executed a 50-year agreement with the Western Area Power Administration for the continued purchase of electric energy generated at the Hoover Power Plant through September 2067. Under the successor agreement (which will replace Metropolitan's existing Hoover contract expiring in 2017), Metropolitan will retain 95 percent of its existing power rights.

The remaining approximately 30 to 45 percent of annual pumping power requirements for full capacity pumping on the CRA is obtained through energy purchases from municipal and investor-owned utilities or power marketers. Gross diversions of water from Lake Havasu for the fiscal years ended June 30, 2015 and June 30, 2016 were approximately 1.2 million acre-feet and 1.1 million acre-feet, respectively, including Metropolitan's basic apportionment of Colorado River water and supplies from water transfer and storage programs.

The Metropolitan-Edison 1987 Service and Interchange Agreement includes provisions for the sharing of the benefits realized by the integrated operation of Edison's and Metropolitan's electric systems. Under this agreement, with a prior year pumping operation of 1 million acre-feet, Edison provides Metropolitan additional energy (benefit energy) sufficient to pump approximately 140,000 acre-feet annually. As the amount of pumping is increased, the amount of benefit energy provided by Edison is reduced.

Depending on pumping conditions, Metropolitan can require additional energy in excess of the base resources available to Metropolitan from the Hoover Power Plant, the Parker Power Plant, and Edison benefit energy. Metropolitan is a member of the Western Systems Power Pool ("WSPP"), and utilizes its industry standard form contract to make wholesale power purchases at market cost. Metropolitan also purchases California market-priced power through its agreement with Edison. In fiscal years 2014-15 and 2015-16, Metropolitan purchased approximately 710,000 and 690,000 megawatt-hours, respectively, of additional energy.

The Metropolitan-Edison 1987 Service and Interchange Agreement will expire on September 30, 2017. Metropolitan is negotiating with several parties on successor agreements. In particular, Metropolitan will no longer receive benefit energy from Edison. Metropolitan anticipates market power purchases will replace benefit energy and has reflected the additional costs in the CRA power cost projections for fiscal year 2017-18 and the ten-year financial forecast.

State Water Project. The State Water Project's power requirements are met from a diverse mix of resources, including State-owned hydroelectric generating facilities. DWR has long-term contracts with Metropolitan (hydropower), Kern River Conservation District (hydropower), Northern California Power Agency (natural gas generation), Alameda Municipal Power (geothermal and landfill gas), Sun Power Corporation (solar) and Dominion Solar Holdings (solar). The remainder of its power needs is met by short-term purchases. Metropolitan pays approximately 70 percent of State Water Project power costs.

DWR is seeking renewal of the license issued by FERC for the State Water Project's Hyatt-Thermalito hydroelectric generating facilities at Lake Oroville. A Settlement Agreement containing recommended conditions for the new license was submitted to FERC in March 2006. That agreement was signed by over 50 stakeholders, including Metropolitan and other State Water Contractors. With only a few minor modifications, FERC staff recommended that the Settlement Agreement be adopted as the condition for the new license. DWR issued a Final EIR for the relicensing project on July 22, 2008. On August 21, 2008, Butte County and Plumas County filed separate lawsuits against DWR challenging the adequacy of the Final EIR. This lawsuit also named all of the signatories to the Settlement Agreement as "real parties in interest," since they could be adversely affected by this litigation. On May 16, 2012, the trial court found that the EIR prepared in conjunction with the relicensing was adequate and dismissed the lawsuit against DWR. On August 7, 2012, Butte and Plumas Counties filed a notice of appeal. Briefing on the appeal was completed in May 2013. Supplemental briefing was completed in the fall of 2016. No date has been set for oral argument. Regulatory permits and authorizations are also required before the new license can take effect. In December 2016, the National Marine Fisheries Service issued a biological opinion setting forth the terms and conditions under which the relicensing project must operate in order to avoid adverse impacts to threatened and endangered species. This was the last major regulatory hurdle prior to FERC issuing a new license. Metropolitan anticipates that FERC will issue the new license in 2017. However, FERC has issued one-year renewals of the existing license since its initial expiration date on January 31, 2007, and is expected to issue successive one-year renewals until a new license is obtained.

DWR receives transmission service from the California Independent System Operator ("CAISO"), a nonprofit public benefit corporation formed in 1996 pursuant to legislation that restructured and deregulated the electric utility industry in California. The transmission service providers participating in the CAISO may seek increased transmission rates, subject to the approval of FERC. DWR has the right to contest any such proposed increase. DWR may be subject to increases in the cost of transmission service as new electric grid facilities are constructed.

Defined Benefit Pension Plan and Other Post-Employment Benefits

Metropolitan is a member of the California Public Employees' Retirement System ("PERS"), a multiple-employer pension system that provides a contributory defined-benefit pension for substantially all Metropolitan employees. PERS provides retirement and disability benefits, annual cost-of-living adjustments and death benefits to plan members and beneficiaries. PERS acts as a common investment and administrative agent for participating public entities within the State. PERS is a contributory plan deriving funds from employee contributions as well as from employer contributions and earnings from investments. A menu of benefit provisions is established by State statutes within the Public Employees' Retirement Law. Metropolitan selects optional benefit provisions from the benefit menu by contract with PERS.

Metropolitan makes contributions to PERS based on actuarially determined employer contribution rates. The actuarial methods and assumptions used are those adopted by the PERS Board of Administration. Employees are required to contribute seven percent of their earnings (excluding overtime pay) to PERS. Pursuant to the current memoranda of understanding, Metropolitan contributes the requisite seven percent contribution for all employees represented by the Management and Professional Employees Association, the Association of Confidential Employees, Supervisors and Professional Personnel Association and AFSCME Local 1902 and who were hired prior to January 1, 2012. Employees in all four bargaining

units who were hired on or after January 1, 2012, pay the full seven percent employee contribution to PERS. Metropolitan contributes the entire seven percent on behalf of unrepresented employees. Employees hired on or after January 1, 2013 and who are "new" PERS members as defined by Public Employees' Pension Reform Act of 2013 pay a member contribution of 6.75 and 6.00 percent in fiscal years 2016-17 and 2017-18, respectively. In addition, Metropolitan is required to contribute the actuarially determined remaining amounts necessary to fund the benefits for its members.

The contribution requirements of the plan members are established by State statute and the employer contribution rate is established and may be amended by PERS. The fiscal year 2015-16 contribution is based on the June 30, 2013 valuation report, the fiscal year 2016-17 contribution is based on the June 30, 2014 valuation report, and the fiscal year 2017-18 contribution is based on the June 30, 2015 valuation report. The PERS' projected investment return (the discount rate) for each of these fiscal years is 7.5 percent.

For fiscal year 2015-16, Metropolitan contributed 19.74 percent of annual covered payroll. The fiscal year 2015-16 annual pension cost was $50.8 million, of which $12.4 million was for Metropolitan's pick-up of the employees' seven percent share. For fiscal years 2016-17 and 2017-18, Metropolitan is required to contribute 20.75 and 22.89 percent of annual covered payroll, respectively, in addition to member contributions paid by Metropolitan.

Metropolitan's required contributions to PERS fluctuate each year and include a normal cost component and a component equal to an amortized amount of the unfunded liability. Many assumptions are used to estimate the ultimate liability of pensions and the contributions that will be required to meet those obligations. The PERS Board of Administration has adjusted and may in the future further adjust certain assumptions used in the PERS actuarial valuations, which adjustments may increase Metropolitan's required contributions to PERS in future years. Accordingly, Metropolitan cannot provide any assurances that its required contributions to PERS in future years will not significantly increase (or otherwise vary) from any past or current projected levels of contributions.

On April 17, 2013, the PERS Board of Administration approved changes to the amortization and rate smoothing policies to spread all gains and losses over a fixed 30-year period from a rolling 30-year period, and to recognize increases or decreases in investment returns over a 5-year period versus a 15-year period beginning with the June 30, 2013 valuations. In addition, PERS no longer uses an actuarial valuation of assets and instead uses the market value of assets to determine contribution rates per PERS direct smoothing policy. These changes will result in higher employer contribution rates in the near term but lower rates in the long term. The new policies are effective for determining contribution requirements beginning fiscal year 2015-16. On December 21, 2016 the PERS Board of Administration approved lowering the discount rate to 7.00 percent over a three year period. As a result, the discount rate for fiscal year 2018-19 will be 7.375 percent, for fiscal year 2019-20 it will be 7.25 percent, and for fiscal year 2020-21 it will be 7.00 percent. PERS has estimated that with a reduction in the rate of return to 7.00 percent, most employers could expect a 1 to 3 percent increase in the normal cost for miscellaneous plans. As a result, required contributions of employers, including Metropolitan, toward unfunded accrued liabilities, and as a percentage of payroll for normal costs, are expected to increase. The following table shows the funding progress of Metropolitan's pension plan.

The following table shows the funding progress of Metropolitan's pension plan.

Metropolitan Pension Plan Assets
(dollars in billions)

				Funded (Unfunded)		Funded Ratios	
Valuation Date	**Accrued Liability**	**Actuarial Value of Assets**	**Market Value of Assets**	**Actuarial Value**	**Market Value**	**Actuarial Value**	**Market Value**
6/30/15	$2.060	N/A	$1.556	N/A	$(0.504)	N/A	75.5%
6/30/14	$1.983	N/A	$1.560	N/A	$(0.423)	N/A	78.7%
6/30/13	$1.805	N/A	$1.356	N/A	($0.449)	N/A	75.1%
6/30/12	$1.731	$1.471	$1.227	($0.260)	($0.504)	85.0%	70.9%
6/30/11	$1.674	$1.416	$1.257	($0.258)	($0.417)	84.5%	75.1%
6/30/10	$1.563	$1.351	$1.059	($0.212)	($0.504)	86.4%	67.7%
6/30/09	$1.478	$1.287	$0.940	($0.191)	($0.538)	87.1%	63.6%

Source: California Public Employees' Retirement System.

Effective July 1, 2014, Metropolitan implemented Governmental Accounting Standards Board Statement No. 68, *Accounting and Financial Reporting for Pensions – an amendment of GASB Statement No. 27* (GASB 68), affecting the reporting of pension liabilities for accounting purposes. Under GASB 68, Metropolitan is required to report the Net Pension Liability (*i.e.*, the difference between the Total Pension Liability and the Pension Plan's Net Position or market value of assets) in its financial statements.

For Metropolitan's fiscal year ended June 30, 2016 financial statements, the Net Pension Liability reported for the Miscellaneous Plan was $479.6 million (an increase of $72.8 million over the prior year), representing a Total Pension Liability as of such date of $2,038.6 million (an increase of $69.2 million over the prior year) less the Plan Fiduciary Net Position as of such date of $1,559.0 million (a decrease of $3.5 million over the prior year). For fiscal year 2016, the Miscellaneous Plan Net Pension Liability as a percentage of covered-employee payroll was 231.10 percent and the Plan Net Position as a percentage of the Total Pension Liability was 76.48 percent. The Net Pension Liability for Metropolitan's Miscellaneous Plan for the year ended June 30, 2016 was measured as of June 30, 2015, and the Total Pension Liability used to calculate the Net Pension Liability was determined by an annual actuarial valuation as of that date.

For the fiscal year ended June 30, 2015 financial statements, Metropolitan reported a Net Pension Liability of $406.8 million (a decrease of $118.1 million over the prior year), representing a Total Pension Liability as of such date of $1,969.3 million (an increase of $86.3 million over the prior year) less the Plan Fiduciary Net Position as of such date of $1,562.5 million (an increase of $204.4 million over the prior year). For fiscal year 2015, the Miscellaneous Plan Net Pension Liability as a percentage of covered-employee payroll was 200.53 percent and the Plan Net Position as a percentage of the Total Pension Liability was 79.34 percent. The Net Pension Liability for Metropolitan's Miscellaneous Plan for the year ended June 30, 2015 was measured as of June 30, 2014, and the Total Pension Liability used to calculate the Net Pension Liability was determined by an annual actuarial valuation as of that date.

For more information on the plan, see APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC

FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

Metropolitan currently provides post-employment medical insurance to retirees and pays the post-employment medical insurance premiums to PERS. On January 1, 2012, Metropolitan implemented a longer vesting schedule for retiree medical benefits, which applies to all new employees hired on or after January 1, 2012. Payments for this benefit were $23.1 million in fiscal year 2015-16. Under Governmental Accounting Standards Board Statement No. 45, Accounting and Financial Reporting by Employers for Post-employment Benefits Other Than Pensions, Metropolitan is required to account for and report the outstanding obligations and commitments related to such benefits, commonly referred to as other post-employment benefits (OPEB), on an accrual basis.

The actuarial valuation dated June 30, 2015, was released in June of 2016. This valuation indicates that the Annual Required Contribution (ARC) in fiscal years 2016-17 and 2017-18 will be $29.3 million and $30.1 million, respectively. The ARC was based on the entry-age normal actuarial cost method with contributions determined as a level percent of pay. The actuarial assumptions included (a) a 7.25 percent investment rate of return, (b) a general inflation component of 3.0 percent and (c) increases to basic medical premiums of 7.0 percent for non-Medicare plans for 2017, grading down to 5.0 percent for 2021 and thereafter. As of June 30, 2015, the date of the OPEB actuarial report, the unfunded actuarial accrued liability was estimated to be $258.8 million. The unfunded actuarial accrued liability is amortized over a fixed 30-year period starting with fiscal year 2007-08 and ending in 2037. Changes to assumptions, actuarial gains and losses, and plan changes are amortized over a fixed 15-year period.

In September 2013, Metropolitan's Board established an irrevocable OPEB trust fund with an initial deposit of $40.0 million. During fiscal year 2013-14, the Board approved funding of an additional $100.0 million which was deposited into the irrevocable OPEB trust fund. As part of its biennial budget process, the Board approved the full funding of the ARC for fiscal years 2016-17 and 2017-18.

Governmental Accounting Standards Board Statement No. 75, *Accounting and Financial Reporting for Postemployment Benefits Other than Pensions*, was issued in June 2015, relating to accounting and financial reporting by state and local governments for OPEB. This statement establishes standards for measuring and recognizing liabilities, deferred outflows and deferred inflows of resources, and expenses. For defined benefit OPEB, this statement identifies the methods and assumptions that should be used to project benefit payments, discount projected benefit payments to their actuarial present value, and attribute that present value to periods of employee service. Note disclosure and required supplementary information requirements about OPEB also are addressed. This statement is effective for Metropolitan for 2018. Major changes would be: (i) the inclusion of net OPEB liabilities on Metropolitan's Statement of Net Position (they are currently included as notes to Metropolitan's financial statements); and (ii) more variable OPEB expense as it will now be based on the net OPEB liability change between reporting dates, with some sources of change recognized immediately and others spread over years, instead of being based on actual contributions.

HISTORICAL AND PROJECTED REVENUES AND EXPENSES

The "Historical and Projected Revenues and Expenses" table below provides a summary of revenues and expenses of Metropolitan prepared on a modified accrual basis. This is consistent with the adopted biennial budget for fiscal years 2016-17 and 2017-18. The table does not reflect the accrual basis of accounting, which is used to prepare Metropolitan's annual audited financial statements. The modified accrual basis of accounting varies from the accrual basis of accounting in the following respects: depreciation and amortization will not be recorded and payments of debt service will be recorded when due and payable. Under the modified accrual basis of accounting, revenues are recognized in the fiscal year in which they are

earned and expenses are recognized when incurred. Thus water sales revenues are recognized in the month the water is sold and expenses are recognized when goods have been received and services have been rendered. The change to modified accrual accounting is for budgeting purposes and Metropolitan will continue to calculate compliance with its rate covenant, limitations on additional bonds and other financial covenants in the Resolutions in accordance with their terms.

The projections are based on assumptions concerning future events and circumstances that may impact revenues and expenses and represent management's best estimates of results at this time. See footnotes to the table below entitled "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for relevant assumptions, including projected water sales and average annual increase in the effective water rate, and "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES" for a discussion of potential impacts. Some assumptions inevitably will not materialize and unanticipated events and circumstances may occur. Therefore, the actual results achieved during the projection period will vary from the projections and the variations may be material.

Metropolitan's resource planning projections are developed using a comprehensive analytical process that incorporates demographic growth projections from recognized regional planning entities, historical and projected data acquired through coordination with local agencies, and the use of generally accepted empirical and analytical methodologies. See "METROPOLITAN'S WATER SUPPLY–Integrated Water Resources Plan" in this Appendix A. Metropolitan has conservatively set the water sales projections in the following table. Due to the variability of supplemental wholesale water sales and unpredictability of future hydrologic conditions, sales projections are based on long-term average forecasts consistent with Metropolitan's latest Board adopted Integrated Resources Plan, the 2015 IRP Update.

Nevertheless, Metropolitan's assumptions have been questioned by directors representing SDCWA on Metropolitan's Board. Metropolitan has reviewed SDCWA's concerns and, while recognizing that assumptions may vary, believes that the estimates and assumptions that support Metropolitan's projections are reasonable based upon history, experience and other factors as described above.

Metropolitan's water sales projections are the result of a comprehensive retail demand, conservation, and local supply estimation process, including supply projections from member agencies and other water providers within Metropolitan's service area. Retail demands for water are estimated with a model driven by projections of relevant demographics provided by SCAG and SANDAG. Retail demands are adjusted downward for conservation savings and local supplies, with the remainder being the estimated demand for Metropolitan supplies. Conservation savings estimates include all conservation programs in place to date as well as estimates of future conservation program goals that will result from regional 20 percent reductions by 2020 conservation savings. See "CONSERVATION AND WATER SHORTAGE MEASURES" in this Appendix A. Local supplies include water produced by local agencies from various sources including but not limited to groundwater, surface water, locally-owned imported supplies, recycled water, and seawater desalination (see "REGIONAL WATER RESOURCES" in this Appendix A). For example, water sales projections for fiscal year 2016-17 assumed that local projects such as groundwater recovery and desalination projects (see "REGIONAL WATER RESOURCES–Local Water Supplies" in this Appendix A) would become operational and produce local supplies in 2017. For additional description of Metropolitan's water sales projections, see "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

The water sales projections used to determine water rates and charges assume an average year hydrology. Actual water sales are likely to vary from projections. As shown in the *Historical Water Sales* chart below, sales can vary significantly from average and demonstrates the degree to which Metropolitan's commitments to meet supplemental demands can impact sales. In years when actual sales exceed projections, the revenues from water sales during the fiscal year will exceed budget, potentially resulting in

an increase in financial reserves. In years when actual sales are less than projections, Metropolitan uses various tools to manage reductions in revenues, such as reducing expenses below budgeted levels, reducing funding of capital from revenues, and drawing on reserves. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A. Metropolitan considers actual sales, revenues and expenses, and financial reserve balances in setting rates for future fiscal years.

Projections for fiscal year 2016-17 in the following table reflect actual financial results through December 31, 2016 and revised projections for the balance of the fiscal year. The financial projections for fiscal year 2017-18 reflects the adopted biennial budget that was approved by the Board on April 12, 2016, with revised preliminary water sales projections as of February 2017, but with no adjustments for lower expenses that can accompany lower water sales. Financial projections for fiscal years 2018-19 through 2020-21 are reflected in the ten-year financial forecast provided in the adopted biennial budget. This includes the projected issuance of $320 million of bonds in fiscal years 2017-18 through 2019-21 to finance the CIP. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES–Water Sales Revenues" and "CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing" in this Appendix A.

Water sales were 1.62 million acre-feet in fiscal year 2015-16. Water sales are projected to be 1.60 million acre-feet in fiscal year 2016-17 and 1.50 million acre-feet for fiscal year 2017-18, and 1.75 million acre-feet for fiscal years 2018-19 through 2020-21. Rates and charges increased by 1.5 percent on January 1, 2015 and January 1, 2016, and by 4.0 percent on January 1, 2017. On April 12, 2016 the Board adopted average increases in rate and charges of 4.0 percent, which will become effective on January 1, 2018. Rates and charges are projected to increase an average of 4.5 percent annually thereafter. Actual rates and charges to be effective in 2019 and thereafter are subject to adoption by Metropolitan's Board. The projections were prepared by Metropolitan and have not been reviewed by independent certified public accountants or any entity other than Metropolitan. Dollar amounts are rounded.

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HISTORICAL AND PROJECTED REVENUES AND EXPENSES[a]
(Dollars in Millions)

	Actual				Projected				
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Water Sales[b]	$1,283	$1,485	$1,383	$1,166	$1,198	$1,233	$1,473	$1,533	$1,597
Additional Revenue Sources[c]	173	182	199	200	191	173	179	184	192
Total Operating Revenues	1,456	1,667	1,582	1,366	1,389	1,405	1,652	1,717	1,789
O&M, CRA Power and Water Transfer Costs[d]	(456)	(512)	(697)	(799)	(646)	(631)	(661)	(681)	(695)
Total SWC OMP&R and Power Costs[e]	(337)	(342)	(308)	(402)	(365)	(453)	(486)	(532)	(577)
Total Operation and Maintenance	(793)	(854)	(1,005)	(1,201)	(1,011)	(1,084)	(1,147)	(1,212)	(1,272)
Net Operating Revenues	$ 663	$ 813	$ 577	$ 165	$ 378	$ 321	$ 505	$ 505	$ 517
Miscellaneous Revenue[f]	23	19	21	24	21	24	24	24	25
Transfer from Reserve Funds[g]	--	--	142	222	46	--	--	--	--
Sales of Hydroelectric Power[h]	25	15	8	7	13	22	22	23	22
Interest on Investments[i]	(2)	19	13	17	3	12	19	19	20
Adjusted Net Operating Revenues[j]	709	866	761	435	461	378	569	571	584
Senior Bond Service[k]	(298)	(343)	(280)	(309)	(307)	(330)	(328)	(322)	(314)
Subordinate Obligations[l]	(1)	(1)	(1)	(1)	(4)	(4)	(6)	(6)	(6)
Funds Available from Operations	$ 410	$ 522	$ 480	$ 125	$ 150	$ 44	$ 236	$ 243	$ 265
Senior Bond Debt Service Coverage [m]	2.38	2.52	2.72	1.41	1.50	1.15[q]	1.74	1.77	1.86
Subordinate Lien Debt Service Coverage	--	--	--	--	39.45	11.52[q]	43.57	44.83	48.72
Debt Service Coverage on all Senior and Subordinate Bonds[n]	2.37	2.51	2.71	1.40	1.48	1.13[q]	1.71	1.74	1.83
Funds Available from Operations	$ 410	$ 522	$ 480	$ 125	$ 150	$ 44	$ 236	$ 243	$ 265
Other Revenues (Expenses)	(5)	(6)	(7)	(6)	(6)	(6)	(7)	(7)	(7)
Pay-As-You Go Construction[p]	(55)	(117)	(210)	(273)	(132)	(120)	(120)	(120)	(120)
Pay-As-You Go Funded from Replacement & Refurbishment Fund Reserves[p]	--	--	--	160	--	--	--	--	--
Total SWC Capital Costs Paid from Current Year Operations	(88)	(68)	(46)	(24)	(54)	(65)	(71)	(86)	(103)
Remaining Funds Available from Operations	262	331	217	(18)	(42)	(147)	39	30	35
Fixed Charge Coverage[o]	1.83	2.10	2.33	1.30	1.26	0.95[q]	1.41	1.38	1.38
Property Taxes	95	95	104	108	106	101	103	105	107
General Obligation Bonds Debt Service	(40)	(40)	(22)	(22)	(22)	(23)	(19)	(14)	(14)
SWC Capital Costs Paid from Taxes	(55)	(55)	(82)	(86)	(83)	(75)	(82)	(88)	(91)
Net Funds Available from Current Year[p]	$ 262	$ 331	$ 217	$ (18)	$ (42)	$(147)	$ 39	$ 30	$ 35

Source: Metropolitan.

(Footnotes on next page)

(Footnotes to table on prior page)

(a) Unaudited. Prepared on a modified accrual basis. Projected revenues and expenses in fiscal year 2016-17 are based on preliminary financial results through December 31, 2016, and revised projections for the balance of fiscal year 2016-17. Projections for fiscal year 2017-18 are based on assumptions and estimates used in the adopted biennial budget for fiscal years 2016-17 and 2017-18 and revised for water sales of 1.5 million acre-feet. Projections for fiscal years 2018-19 through 2020-21 are based on assumptions and estimates used in the adopted fiscal years 2016-17 and 2017-18 biennial budget and reflect the projected issuance of additional bonds.

(b) During the fiscal years ended June 30, 2013 through June 30, 2016, annual water sales (in acre-feet) were 1.86 million, 2.04 million, 1.905 million and 1.62 million, respectively. See "METROPOLITAN REVENUES–Water Sales Revenues," the table entitled "SUMMARY OF WATER SOLD AND WATER SALES" in this Appendix A. The water sales projections (in acre-feet) are 1.60 million acre-feet for fiscal year 2016-17, 1.50 million acre-feet for fiscal years 2017-18, and 1.75 million acre-feet for fiscal years 2018-19, 2019-20 and 2020-21. Projections reflect Board adopted rate and charge increases of 4.0 percent, effective on January 1, 2017 and January 1, 2018. Rates and charges are projected to increase an average of 4.5 percent per fiscal year thereafter, subject to adoption by Metropolitan's Board. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES."

(c) Includes receipts from water standby, readiness-to-serve, and capacity charges. The term Operating Revenues excludes *ad valorem* taxes. See "METROPOLITAN REVENUES–Other Charges" in this Appendix A.

(d) Water Transfer Costs are included in operation and maintenance expenses for purposes of calculating the debt service coverage on all Obligations.

(e) Includes on- and off-aqueduct power and operation, maintenance, power and replacement costs payable under the State Water Contract. See "METROPOLITAN EXPENSES–State Water Contract Obligations" in this Appendix A.

(f) May include lease and rental net proceeds, net proceeds from sale of surplus property, reimbursements, and federal interest subsidy payments for Build America Bonds.

(g) Reflects transfers from the Water Management Fund, the Water Stewardship Fund, and the Water Rate Stabilization Fund, of $142 million in fiscal year 2014-15, $222 million in fiscal year 2015-16, and projected transfers of $46 million in fiscal year 2016-17 to fund a like amount of costs for conservation and supply programs. See "MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES."

(h) Includes CRA power sales.

(i) Does not include interest applicable to Bond Construction Funds, the Excess Earnings Funds, other trust funds and the Deferred Compensation Trust Fund. Fiscal year 2012-13 included Fair Value Adjustment of $(13.8) million, as per modified accrual accounting

(j) Adjusted Net Operating Revenues is the sum of all available revenues that the revenue bond resolutions specify may be considered by Metropolitan in setting rates and issuing additional Senior Revenue Bonds and Senior Parity Obligations and Subordinate Revenue Bonds and Subordinate Parity Obligations.

(k) Includes debt service on outstanding Senior Revenue Bonds, and additional Senior Revenue Bonds (projected). Assumes issuance of $80 million annually in additional Senior Revenue Bonds as provided in budget assumptions for the adopted biennial budget for fiscal years 2016-17 and 2017-18 and as projected for fiscal years 2018-19, 2019-20, and 2020-21. For fiscal years 2013-14 and 2014-15, reflects the defeasance of the 2004 Series B Water Revenue Refunding Bonds, payable on July 1, 2014, through a payment of $33.7 million to an escrow account on May 29, 2014. Fiscal year 2015-16 debt service increased $7.0 million for debt service paid on June 30, 2016, rather than July 1, 2017 and fiscal year 2016-17 debt service was therefore reduced by $7.0 million. See "CAPITAL INVESTMENT PLAN–Capital Investment Plan Financing" in this Appendix A.

(l) Consisting of subordinate lien California Safe Drinking Water Revolving Fund Loan and Subordinate 2016 Series A Bonds.

(m) Adjusted Net Operating Revenues divided by the sum of debt service on outstanding Senior Revenue Bonds and additional Senior Revenue Bonds (projected).

(n) Adjusted Net Operating Revenues, divided by the sum of debt service on outstanding Senior Revenue Bonds, Senior Parity Obligations, Subordinate Revenue Bonds and Subordinate Parity Obligations, including the subordinate lien California Safe Drinking Water Revolving Fund Loan and projected Revenue Bonds. See "METROPOLITAN EXPENSES–Outstanding Subordinate Revenue Bonds and Subordinate Parity Obligations" in this Appendix A.

(o) Adjusted Net Operating Revenues, divided by the sum of State Water Contract capital costs paid from current year operations and debt service on outstanding Revenue Bonds, the subordinate lien California Safe Drinking Water Revolving Fund Loan, Subordinate 2016 Series A Bonds and additional Revenue Bonds (projected).

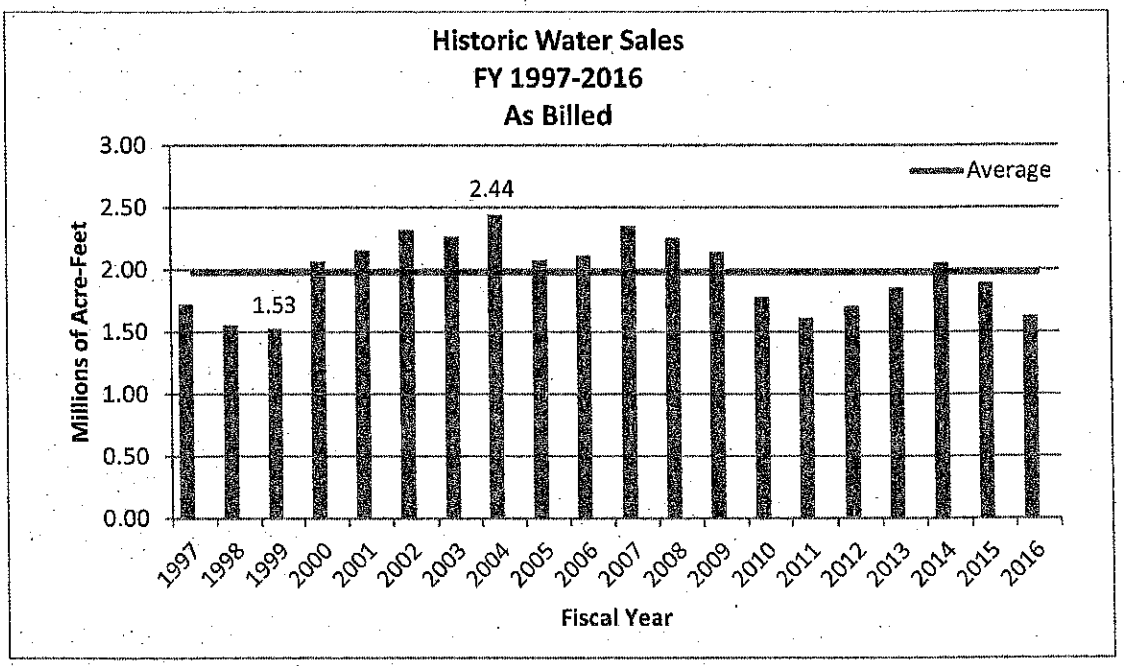
(p) For Fiscal Year 2012-13, includes amounts that were transferred prior to June 30, 2013: $25 million to the Water Transfer Fund, $25 million to a trust to pre-fund Metropolitan's unfunded liability for other post-employment benefits, and $25 million for pay-as-you-go Construction. For Fiscal Year 2013-14, includes amounts transferred prior to June 30, 2014: $100 million to a trust to pre-fund Metropolitan's unfunded liability for other post-employment benefits; $100 million for pay-as-you-go Construction, $232 million to the Water Management Fund, for water purchases to replenish storage and funding drought response programs. For Fiscal Year 2014-15, includes amounts transferred prior to June 30, 2015: $160 million to the Water Management Fund, for water conservation programs. For fiscal year 2015-16, Metropolitan used $264 million for acquiring properties in Riverside and Imperial Counties, funded by $160 million from the Replacement and Refurbishment Fund Reserves and the balance from unrestricted reserves. This land purchase is reflected as a pay-as-you-go expenditure for fiscal year 2015-16.

(q) The financial projection for fiscal year 2017-18 reflects the revised preliminary water sales projection of 1.50 million acre-feet and a corresponding reduction in projected water sales revenues. It does not take into account any potential reduction in expenses that may accompany such reduced water sales. As discussed, Metropolitan uses its financial reserves and budgetary tools to manage the financial impact of the variability in revenues due to fluctuations in annual water sales. See also "METROPOLITAN REVENUES–Financial Reserve Policy."

MANAGEMENT'S DISCUSSION OF HISTORICAL AND PROJECTED REVENUES AND EXPENSES

Water Sales Projections

Water sales forecast in the table above for fiscal year 2016-17 is 1.60 million acre-feet, 100 thousand acre-feet under budget. The updated water sales forecast is 1.50 million acre-feet for fiscal year 2017-18, and 1.75 million acre-feet for fiscal years 2018-19 and 2019-21, consistent with the biennial budget and ten-year financial forecast. For purposes of comparison, Metropolitan's highest water sales during the past 20 fiscal years was approximately 2.44 million acre-feet in fiscal year 2003-04 and the lowest was 1.53 million acre-feet in fiscal year 1998-1999. The chart below shows the last 20 fiscal years of water sales.



Water Sales Revenues

Metropolitan relies on revenues from water sales for about 85 to 90 percent of its total revenues. In adopting the budget and rates and charges for each fiscal year, Metropolitan's board reviews the anticipated revenue requirements and projected water sales to determine the rates necessary to produce the required revenues to be derived from water sales during the fiscal year. Metropolitan sets rates and charges estimated to provide operating revenues sufficient, with other sources of funds, to provide for payment of its expenses. See "HISTORICAL AND PROJECTED REVENUES AND EXPENSES" in this Appendix A.

Metropolitan's Board has adopted annual increases in water rates each year beginning with the rates effective January 1, 2004. See "METROPOLITAN REVENUES–Rate Structure" and "–Classes of Water Service" in this Appendix A. On April 10, 2012, Metropolitan's Board adopted annual water rate increases of 5.0 percent, which became effective January 1, 2013 and January 1, 2014. On April 8, 2014, Metropolitan's Board adopted 1.5 percent average water rate increases effective January 1, 2015, and January 1, 2016, and on April 12, 2016, Metropolitan's Board adopted an average 4.0 percent water rate increase, effective January 1, 2017, and an additional average 4.0 percent water rate increase effective January 1, 2018.

Projected Fiscal Year 2016-17 Results

Projections for fiscal year 2016-17, in the table above, are based on preliminary financial results through December 31, 2016, and revised projections for the balance of fiscal year 2016-17. The financial

projection for fiscal year 2017-18 reflects the adopted biennial budget for this fiscal year as approved by the Board on April 12, 2016, with revised preliminary water sales projections. Financial projections for fiscal years 2018-19 through 2020-21 are reflected in the ten-year financial forecast provided in the adopted biennial budget. The fiscal year 2016-17 and 2017-18 biennial budget and rates set the stage for predictable and reasonable rate increases over the ten-year planning period, with Board adopted rate increases of 4.0 percent annually in both fiscal years 2016-17 and 2017-18, and projected average increases of 4.5 percent per year thereafter. Actual rates and charges to be effective in fiscal year 2018-19 and thereafter are subject to adoption by Metropolitan's Board as part of the biennial budget process, at which point the ten-year forecast will also be updated as well. Increases in rates and charges reflect the impact of reduced water sales projections, increasing operations and maintenance costs, and increasing State Water Project costs, when compared to prior fiscal years.

Metropolitan's revenues exceeded expenses during fiscal year 2014-15, resulting in a significant increase in unrestricted reserves. On May 29, 2015, Metropolitan's Board approved the use of $160 million of unrestricted reserves over the target reserve level, $50 million from the Water Stewardship Fund, and $140 million from the Water Management Fund to fund conservation incentives. As of June 30, 2015, Metropolitan's unrestricted reserves were $476 million, on a modified accrual basis. On July 14, 2015, Metropolitan's Board approved $264 million to acquire various properties in Riverside and Imperial Counties, with $160 million funded from the Replacement and Refurbishment Fund and the remaining amount from unrestricted reserves. Unrestricted reserves, as of April 30, 2016, include $250 million drawn from Short-Term Revolving Credit Facilities with RBC Municipal Products, LLC, and U.S. Bank N.A, and deposited in Metropolitan's financial reserves. See "METROPOLITAN REVENUES–Financial Reserve Policy" and "METROPOLITAN EXPENSES–Outstanding Senior Revenue Bonds and Senior Parity Obligations – Senior Parity Obligations – Short-Term Revolving Credit Facilities" in this Appendix A.

In fiscal years 2014-15 and 2015-16, Adjusted Net Operating Revenues reflect the use of $142 million and $222 million respectively, from reserves to fund a like amount of costs for conservation and supply programs. In fiscal year 2016-17, $46 million of Adjusted Net Operating Revenues are projected to come from reserves to fund a like amount of costs for conservation and supply programs.

Financial projections for fiscal year 2016-17 reflect lower water sales revenues that are estimated to be $107.0 million, or 8 percent, below budget, based on the revised water sales projection of 1.60 million acre-feet, compared to the budgeted 1.70 million acre-feet, a reduction of 6 percent.

Operation and maintenance expenses in fiscal year 2016-17 are projected to be $1.01 billion, which represents approximately 63 percent of total costs. These expenses include the costs of labor, electrical power, materials and supplies of both Metropolitan and its contractual share of the State Water Project. Metropolitan's operation and maintenance expenditures are project to be on budget in fiscal year 2016-17. Metropolitan's State Water Project costs are projected to be $80.3 million lower than budgeted. Overall, projected expenditures for the twelve months ending June 30, 2017 are $1.6 billion. This is $89 million, or 5 percent, less than budgeted expenditures.

The combination of lower than budgeted water sales revenue and expenditures has resulted in projected fiscal year 2016-17 revenue bond debt service coverage to be 1.48x and fixed charge coverage to be 1.26x, compared to budgeted debt service coverage of 1.55x and budgeted fixed charge coverage of 1.27x. Fiscal year 2016-17 capital expenditures, currently estimated at $212 million, will be primarily funded by pay-as-you-go funding and the remainder from bond proceeds. Metropolitan's unrestricted reserves are projected to be approximately $378 million at June 30, 2017. See "METROPOLITAN REVENUES–Financial Reserve Policy" in this Appendix A. This amount does not include funds held in the Exchange Agreement Set-Aside Fund.

See also the "Management's Discussion and Analysis" contained in APPENDIX B–"THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA INDEPENDENT AUDITOR'S REPORT AND BASIC FINANCIAL STATEMENTS FOR FISCAL YEARS ENDED JUNE 30, 2016 AND JUNE 30, 2015 AND BASIC FINANCIAL STATEMENTS FOR THE SIX MONTHS ENDED DECEMBER 31, 2016 AND 2015 (UNAUDITED)."

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Appendix G

Water Supply Assessment Checklist

Water Supply Assessment Checklist

Water Code Section	Water Supply Assessment Content	Page # in WSA
10910(c)(2)	Incorporate data from UWMP.	1-46
10910(d)(1)	Identification of existing water supply entitlements, water rights, or water service contracts relevant to identified water supply for proposed project, and description of quantity of water received in prior years.	26-46
10910(d)(2)(A)	Written contracts or other proof of entitlement to an identified water supply.	26-46
10910(d)(2)(B)	Capital outlay program for financing the delivery of a water supply that has been adopted.	46
10910(d)(2)(C)	Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply.	15-46
10910(d)(2)(D)	Any necessary regulatory approval to deliver/convey the water supply.	15-46
10910(f)(1)	Review of any information contained in the UWMP relevant to the identified water supply for the proposed project.	1-46
10910(f)(2)	Description of any groundwater basin(s) from which proposed project will be supplied. For basins with adjudicated groundwater pumping rights, include a copy of the order/decree adopted by the court or the board and a description of quantity of groundwater public water system has the legal right to pump under the order/decree.	26-28, 31-33, Appendix D
10910(f)(3)	Description and analysis of amount and location of groundwater pumped for the past 5 years from any groundwater basin from which the proposed project will be supplied.	31-33
10910(f)(4)	Description and analysis of amount and location of groundwater that is projected to be pumped from any basin to provided water to the proposed project.	26-28, 31-33
10910(f)(5)	Analysis of sufficiency of groundwater from the basins from which the proposed project will be supplied to meet projected water demand of the proposed project.	26-28, 31-33

Jessie Fan

From: Aghakhani, Ryan <Ryan.Aghakhani@ladwp.com>
Sent: Thursday, February 8, 2018 7:57 AM
To: Kimberly D. Comacho
Cc: Mark Spector (mspector@onni.com); William Lamborn; Kwan, Delon; Kim, Theresa
Subject: RE: Times Mirror Square - WSA Potential Land Use Revisions

Hi Kim,

Based on the revisions to the scope of the Times Mirror Square Project sent below, LADWP recalculated the project's water demand utilizing the updated restaurant and office floor areas. The revised project's total water demand would not increase the previous water demand of 220 acre-feet/year, as approved by the Board of Water and Power on September 19, 2017.

Per Water Code Section 10910(h), no additional water supply assessment is required for the revisions because the changes in the project does not result in a substantial increase in water demand for this project.

If the project has any additional scope changes in the future, please notify LADWP and City Planning to verify if the changes would impact the approved Water Supply Assessment and Environmental Impact Report.

Please let me know if you have any questions.

Thank you.

Ryan Aghakhani
Resources Development and Supply Assessment Group
Water System Executive Office / Water Resources Section
Los Angeles Department of Water and Power
111 N. Hope Street, Room 1450
Los Angeles, CA 90012
(213) 367-2022

From: Kimberly D. Comacho [mailto:KComacho@esassoc.com]
Sent: Tuesday, January 16, 2018 10:45 AM
To: Aghakhani, Ryan
Cc: Mark Spector (mspector@onni.com)
Subject: Times Mirror Square - WSA Potential Land Use Revisions

Hi Ryan,

As we discussed on the phone, potential land use revisions are being considered for the Times Mirror Square project. These land use revisions include replacing retail uses with restaurant uses in the North and South Towers and replacing restaurant uses on the 2nd floor of the Plant Building with office uses. These potential changes are highlighted in Table 4, Proposed Development Program, from the WSA below. There will be no change in overall square footage of the project site.

Table 4 Proposed Development Program		
Use	**Size/Area**	
Site Area (Net)	**160,578**	**sf**
	3.6	**ac**
Maximum Building Height	665	feet
	53	floors
North and South Towers New Development		
Residential		
Studio	90	du
One Bedroom	546	du
One Bedroom + Den	160	du
Two Bedroom	324	du
Three Bedroom	4	du
Penthouse	3	du
Total Dwelling Units	1,127	du
Total Residential Floor Area (approx.)	1,071,692	sf
Non-Residential		
Amenities	23,956	sf
Lounges	2,997	sf
Loading	2,586	sf
~~Retail~~ Ground-floor Restaurant	34,572	sf
Total Non-Residential Floor Area	64,111	sf
Proposed New Floor Area in North and South Towers	**1,135,803**	**sf**
Times, Plant, and Mirror Buildings Rehabilitation		
Office	285,088	sf
Ground-floor Restaurant	18,817	sf
~~Upper-floor Restaurant~~ Office	22,200	sf
Grocery Store	50,000	sf
Proposed Adaptive Reuse Floor Area	**376,105**	**sf**
Total Proposed Project Floor Area	**1,511,908**	**sf**
Floor Area Ratio (FAR)	**9.42:1**	
Vehicle Parking Proposed On-Site	**1,744**[a]	**spaces**
LAMC Required Vehicle Parking	**1,661**	**spaces**
Bicycle Parking Proposed	**1,274**[b]	**spaces**
LAMC Required Bicycle Parking	**1,274**	**spaces**
Open Space		
Level 1 – Paseo/Plaza[c]	15,708	sf
Level 1 – Lounge (North Tower)	1,270	sf
Level 1 – Lounge (South Tower)	1,529	sf
Level 6 – Amenity (North Tower)	13,331	sf
Level 6 – Amenity (South Tower)	12,287	sf
Level 6 – Garden Plaza	28,777	sf
Subtotal Common Open Space	72,902	sf
Private Balconies	56,350	sf
Total Open Space	**129,252**	**sf**

Table 4 Proposed Development Program		
Use	**Size/Area**	
LAMC Required Open Space	**125,325**	**sf**

Notes:
[a] *Parking count may change throughout the planning process.*
[b] *1,240 bicycle parking spaces will be required for residential uses, and 34 bicycle parking spaces will be required for commercial uses.*
[c] *Available for public use.*

Source: ESA PCR, 2017.

Please let us know if you have any further questions or need clarification on anything.

Thanks,

Kimberly Comacho
Managing Associate
ESA | Community Development
626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017
213-599-4300 main | 213-599-4301 fax
213-542-6042 direct
kcomacho@esassoc.com | www.esassoc.com

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Connect Create Collaborate

William Lamborn <william.lamborn@lacity.org>

FW: Times Mirror Square - WSA Potential Land Use Revisions

William Lamborn <william.lamborn@lacity.org> Mon, Feb 5, 2018 at 2:21 PM
To: "Aghakhani, Ryan" <Ryan.Aghakhani@ladwp.com>

Hi Ryan,
The EIR for the project is still being prepared. The project description will be adjusted throughout the Draft EIR to account for this proposed shift in retail/office/restaurant space. This adjustment to the project description would not result in the need for a general plan amendment or zone changes, would not change the entitlement requests, and would not alter the proposed number of parking spaces.

Best,
Will

On Thu, Feb 1, 2018 at 8:31 AM, Aghakhani, Ryan <Ryan.Aghakhani@ladwp.com> wrote:

> Hi Will,
>
> Following up on our phone conversation yesterday, an EIR amendment or general plan amendment would not be required correct?
>
> Is their EIR complete? Would there be any changes to the EIR or would an additional EIR be required?
>
> Thank you.
>
> Ryan
>
> ---
>
> **From:** Aghakhani, Ryan
> **Sent:** Wednesday, January 31, 2018 10:00 AM
> **To:** 'William Lamborn'
>
> **Subject:** FW: Times Mirror Square - WSA Potential Land Use Revisions
>
> Hi Will,
>
> Have you come to any conclusions yet? In particular if an amendment would be required.
>
> Thank you.
>
> Ryan
>
> ---
>
> **From:** Aghakhani, Ryan
> **Sent:** Thursday, January 25, 2018 4:41 PM
> **To:** 'William Lamborn'
> **Cc:** Kim, Theresa
> **Subject:** FW: Times Mirror Square - WSA Potential Land Use Revisions
>
> Hi Will,
>
> The EIR consultant contacted me about this approved WSA from several months back and had some requested changes as seen below.

Depending on their number of assumed seats for the additional restaurant space, they may see a slight bump in water demand, but we don't believe it is significant enough at this time to trigger an additional WSA. The total sf for the project will remain the same.

With these changes to the project, does Planning foresee a need for any additional changes, such as to parking space, or zoning changes or an amendment? Would it still be consistent with the City's General Plan?

I will be out tomorrow, but my supervisor Theresa will be in.

Thank you.

Ryan Aghakhani

Resources Development and Supply Assessment Group

Water System Executive Office / Water Resources Section

Los Angeles Department of Water and Power

111 N. Hope Street, Room 1450

Los Angeles, CA 90012

(213) 367-2022

From: Kimberly D. Comacho [mailto:KComacho@esassoc.com]
Sent: Tuesday, January 16, 2018 10:45 AM
To: Aghakhani, Ryan
Cc: Mark Spector (mspector@onni.com)
Subject: Times Mirror Square - WSA Potential Land Use Revisions

Hi Ryan,

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Table 4
Proposed Development Program

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Site Area (Net)	**160,578**	**sf**
	3.6	**ac**
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	53	floors
North and South Towers New Development		
Residential		

Table 4
Proposed Development Program

Use	Size/Area	
Studio	90	du
One Bedroom	546	du
One Bedroom + Den	160	du
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Total Dwelling Units	1,127	du
Total Residential Floor Area (approx.)	1,071,692	sf
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LAMC Required Bicycle Parking	**1,274**	**spaces**
Open Space		

Table 4
Proposed Development Program

Use	Size/Area	
Level 1 – Paseo/Plaza[c]	15,708	sf
Level 1 – Lounge (North Tower)	1,270	sf
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Notes:

[a] *Parking count may change throughout the planning process.*

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[c] *Available for public use.*

Source: ESA PCR, 2017.

Please let us know if you have any further questions or need clarification on anything.

Thanks,

Kimberly Comacho

Managing Associate

ESA | Community Development

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--

William Lamborn
Major Projects
Department of City Planning
200 N. Spring Street, Rm 750
Ph: 213.978.1470
Please note that I am out of the office every other Friday.

Appendix N
Energy Documentation

ESA

N-1 Construction Energy Calculation Worksheets

Times Mirror Square Project
Construction Energy Analysis

Annual Fuel Summary

	Heavy-Duty Construction Equipment
868,836	Total Project Consumption
217,209	Annual Consumption
	Haul Trucks
158,470	Total Project Consumption
39,618	Annual Consumption
	Vendor Trucks
362,095	Total Project Consumption
90,524	Annual Consumption
	Workers
841,610	Total Project Consumption
210,402	Annual Consumption
520,565	Project Consumption of diesel for Haul Trucks and Vendors
130,141	Annual Consumption
1,389,401	Total Gallons Diesel (4 year estimated Project Construction Duration)
841,610	Total Gallons Gasoline (4 year estimated Project Construction Duration)

4.0	Estimated Project Construction Duration (years)
347,351	Annual Average Gallons Diesel
210,402	Annual Average Gallons Gasoline

Annual Fuel Savings Summary from Compliance with CARB Anti-Idling Regulation (13 CCR Section 2485)

65,974	Total Gallons Diesel Idling w/o CARB Anti-Idling Regulation (Trucks)
23,751	Total Gallons Diesel Idling w/ CARB Anti-Idling Regulation (Trucks)
42,224	Total Gallons Diesel Saved w/ CARB Anti-Idling Regulations (Trucks)
4.0	Estimated Project Construction Duration (years)
16,494	Annual Average Gallons Diesel Idling w/o CARB Anti-Idling Regulation (Trucks)
5,938	Annual Average Gallons Diesel Idling w/ CARB Anti-Idling Regulation (Trucks)
10,556	Annual Average Gallons Diesel Saved w/ CARB Anti-Idling Regulations (Trucks)

Project Construction Comparison to County Fuel Demand

Project	**Los Angeles County** [a]		**Percent of Annual Project Compared to Los Angeles County**
Source	**Fuel Type**	**Gallons**	
Workers	Gasoline	3,659,000,000	0.006%
Off-Road/Vendor/Haul Trucks	Diesel	590,000,000	0.059%

Notes:

a. Gasoline and diesel amounts from CEC, 2017. Available: http://www.energy.ca.gov/almanac/transportation_data/gasoline/2017_A15_Results.xlsx. Diesel is adjusted to account for retail (51%) and non-retail (49%) diesel sales.

Temporary Construction Trailer		
Land Use	**Square Feet**	**Energy Use per year (kWh)**
General Office	1,000	12,990
Note: CalEEMod 2016.3.2 used to estimate energy use for temporary construction office		

Electric-powered Construction Equipment

kWh/hp-hr
0.7457

Equipment	Number	Hours/Day	Horsepower	Load Factor	Number Days	Total hp-hr	kWh	kWh/yr
Cranes	3	12	231	0.29	944	2,276,588	1,697,652	424,413
Signal Boards	2	12	6	0.82	1485	175,349	130,757.60	32,689
Total	**-**	**-**	**-**	**-**	**-**	**2,451,937**	**1,828,409**	**457,102.35**

Notes:

1. Cranes horsepower and load factors taken from CalEEMod

2. Conversion factor taken from University of North Carolina Unit Conversion Dictionary; Source: http://www.unc.edu/~rowlett/units/dictH.html

Times Mirror Square Project
Construction Energy Analysis

Off-Road Equipment

Equipment ≤ 50 hp		
pounds fuel/hp-hr (OFFROAD2011 model, ≤ 50 hp):	0.408	lb/hp-hr
diesel pounds/gallon (CARB density assumption):	7.07	lb/gal
diesel gallons/hp-hr:	0.0577	gal/hp-hr
Total <50	499,288	hp-hr
Total diesel gallons:	28,813	gal
Equipment > 50 hp		
pounds fuel/hp-hr (OFFROAD2011 model, > 50 hp):	0.367	lb/hp-hr
diesel pounds/gallon (CARB density assumption):	7.07	lb/gal
diesel gallons/hp-hr:	0.0519	gal/hp-hr
Total >50	16,182,451	hp-hr
Total diesel gallons:	840,023	gal
Total diesel gallons (off-road equipment):	**868,836**	**gal**
(4 year estimated Project Construction Duration)		

Building Phase	Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
Existing Renovation	Building Construction	Air Compressors	1	12	78	0.48	660	296,525
Existing Renovation	Building Construction	Dumpers/Tenders	1	6	16	0.38	660	24,077
Existing Renovation	Building Construction	Forklifts	5	12	89	0.2	660	704,880
Tower Construction	Los Angeles County	Dumpers/Tenders	1	6	16	0.38	184	6,712
Tower Construction	Demolition	Excavators	2	12	158	0.38	184	265,137
Tower Construction	Demolition	Generator Sets	2	12	84	0.74	184	274,499
Tower Construction	Demolition	Off-Highway Trucks	2	12	402	0.38	184	674,588
Tower Construction	Demolition	Other Construction Equipment	2	12	172	0.42	184	319,012
Tower Construction	Demolition	Rollers	2	12	80	0.38	184	134,246
Tower Construction	Demolition	Rough Terrain Forklifts	2	12	100	0.4	184	176,640
Tower Construction	Demolition	Rubber Tired Loaders	2	12	203	0.36	184	322,721
Tower Construction	Demolition	Sweepers/Scrubbers	1	6	64	0.46	184	32,502
Tower Construction	Demolition	Tractors/Loaders/Backhoes	2	12	97	0.37	184	158,490
Tower Construction	Site Preparation	Dumpers/Tenders	1	6	16	0.38	24	876
Tower Construction	Site Preparation	Excavators	2	12	158	0.38	24	34,583
Tower Construction	Site Preparation	Generator Sets	2	12	84	0.74	24	35,804
Tower Construction	Site Preparation	Off-Highway Trucks	2	12	402	0.38	24	87,990
Tower Construction	Site Preparation	Rollers	2	12	80	0.38	24	17,510
Tower Construction	Site Preparation	Rough Terrain Forklifts	2	12	100	0.4	24	23,040
Tower Construction	Site Preparation	Rubber Tired Loaders	2	12	203	0.36	24	42,094
Tower Construction	Site Preparation	Sweepers/Scrubbers	1	6	64	0.46	24	4,239
Tower Construction	Site Preparation	Tractors/Loaders/Backhoes	2	12	97	0.37	24	20,673

Tower Construction	Grading	Bore/Drill Rigs	4	12	221	0.5	183	970,632
Tower Construction	Grading	Dumpers/Tenders	2	6	16	0.38	183	13,352
Tower Construction	Grading	Excavators	2	12	158	0.38	183	263,696
Tower Construction	Grading	Forklifts	2	12	89	0.2	183	78,178
Tower Construction	Grading	Plate Compactors	5	6	8	0.43	183	18,886
Tower Construction	Grading	Rough Terrain Forklifts	2	12	100	0.4	183	175,680
Tower Construction	Grading	Rubber Tired Loaders	2	12	203	0.36	183	320,967
Tower Construction	Grading	Sweepers/Scrubbers	1	6	64	0.46	183	32,325
Tower Construction	Grading	Tractors/Loaders/Backhoes	2	12	97	0.37	183	157,629
Tower Construction	Building Construction	Air Compressors	4	12	78	0.48	660	1,186,099
Tower Construction	Building Construction	Cement and Mortar Mixers	5	12	9	0.56	660	199,584
Tower Construction	Building Construction	Dumpers/Tenders	4	6	16	0.38	660	96,307
Tower Construction	Building Construction	Forklifts	10	12	89	0.2	660	1,409,760
Tower Construction	Building Construction	Off-Highway Trucks	2	12	402	0.38	660	2,419,718
Tower Construction	Building Construction	Rough Terrain Forklifts	2	12	100	0.4	660	633,600
Tower Construction	Building Construction	Sweepers/Scrubbers	1	6	64	0.46	660	116,582
Tower Construction	Paving	Concrete/Industrial Saws	2	6	81	0.73	189	134,107
Tower Construction	Paving	Generator Sets	1	12	84	0.74	189	140,979
Tower Construction	Paving	Pavers	2	12	130	0.42	189	247,666
Tower Construction	Paving	Paving Equipment	2	12	132	0.36	189	215,551
Tower Construction	Paving	Plate Compactors	3	6	8	0.43	189	11,703
Tower Construction	Paving	Surfacing Equipment	2	6	263	0.3	189	178,945
Tower Construction	Paving	Tractors/Loaders/Backhoes	1	12	97	0.37	189	81,399
Tower Construction	Foundation (North Tower)	Cement and Mortar Mixers	5	18	9	0.56	2	907
Tower Construction	Foundation (North Tower)	Forklifts	5	18	89	0.2	2	3,204
Tower Construction	Foundation (South Tower)	Cement and Mortar Mixers	5	18	9	0.56	2	907
Tower Construction	Foundation (South Tower)	Forklifts	5	18	89	0.2	2	3,204
Tower Construction	Subterranean Parking Structure	Air Compressors	4	12	78	0.48	228	409,743
Tower Construction	Subterranean Parking Structure	Cement and Mortar Mixers	5	12	9	0.56	228	68,947
Tower Construction	Subterranean Parking Structure	Dumpers/Tenders	4	6	16	0.38	228	33,270
Tower Construction	Subterranean Parking Structure	Forklifts	10	12	89	0.2	228	487,008
Tower Construction	Subterranean Parking Structure	Off-Highway Trucks	4	12	402	0.38	228	1,671,805
Tower Construction	Subterranean Parking Structure	Rough Terrain Forklifts	2	12	100	0.4	228	218,880
Tower Construction	Subterranean Parking Structure	Bore/Drill Rigs	1	12	221	0.5	228	302,328
Tower Construction	Subterranean Parking Structure	Sweepers/Scrubbers	1	6	64	0.46	228	40,274
Tower Construction	Podium Construction	Air Compressors	4	12	78	0.48	53	95,247
Tower Construction	Podium Construction	Cement and Mortar Mixers	5	12	9	0.56	53	16,027
Tower Construction	Podium Construction	Dumpers/Tenders	4	6	16	0.38	53	7,734
Tower Construction	Podium Construction	Forklifts	10	12	89	0.2	53	113,208
Tower Construction	Podium Construction	Off-Highway Trucks	4	12	402	0.38	53	388,621
Tower Construction	Podium Construction	Rough Terrain Forklifts	2	12	100	0.4	53	50,880
Tower Construction	Podium Construction	Sweepers/Scrubbers	1	6	64	0.46	53	9,362
							Total >50	16,182,451
							Total <50	499,288

Times Mirror Square Project
Construction Energy Analysis

On-Road Haul Trucks

			miles/gallon
EMFAC2014 Diesel Fuel Consumption Factor:[1]	0.1667	gallons/mile	6.0
Total Haul Truck VMT:	927,996	miles	
Total VMT diesel gallons (on-road haul trucks):	**154,679**		
EMFAC2014 Diesel Fuel Consumption Factor:[2]	0.8334	gallons/hour	
Total Haul Truck Idle-Hours per Year:	4,549	hours	
Total Idling diesel gallons (on-road haul trucks):	**3,791**		
Total diesel gallons (on-road haul trucks):	**158,470**	gal	
(4 year estimated Project Construction Duration)			

Estimated Fuel Savings from Anti-Idling Regulation (64 percent based on estimated CARB emissions reductions):[3]

Total Idling Diesel Gal. w/o Anti-Idling Reg.:	*10,531*
Total Savings:	*6,740*

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; T7 Single Construction; Annual; CY 2017; Aggregate MY; Aggregate Speed)
2. California Air Resources Board, EMFAC2014 (South Coast Air Basin; T7 Single Construction; Annual; CY 2017; Aggregate MY; 5 miles per hour converted to hourly rate)
3. Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, https://www.arb.ca.gov/regact/idling/isorappf.pdf. Accessed September 2018.

Building Phase	Phase	Days	Total One-Way Trips	Miles/Trip	VMT	Idle Hours
Existing Renovation	Building Construction	660	0	-	-	-
Tower Construction	Demolition	184	3500	17	59,500	292
Tower Construction	Site Preparation	24	0	20	-	-
Tower Construction	Grading	183	51088	17	868,496	4,257
Tower Construction	Building Construction	660	0	20	-	-
Tower Construction	Paving	189	0	20	-	-
Tower Construction	Foundation (North Tower)	2	0	20	-	-
Tower Construction	Foundation (South Tower)	2	0	20	-	-
Tower Construction	Subterranean Parking Structure	230	0	20	-	-
Tower Construction	Architectural Coating	552	0	20	-	-
Tower Construction	Podium Construction	53	0	20	-	-
						-
				Total Haul Truck VMT:	927,996	
				Total Idle-Hours:	4,549	

Times Mirror Square Project
Construction Energy Analysis

On-Road Vendor Trucks

			miles/gallon
EMFAC2014 Diesel Fuel Consumption Factor:[1]	0.1538	gallons/mile	6.5
Total Vendor Truck VMT:	2,223,977	miles	
Total VMT diesel gallons (on-road vendor trucks):	**342,135**		
EMFAC2014 Diesel Fuel Consumption Factor:[2]	0.7645	gallons/hour	
Total Haul Truck Idle-Hours per Year:	26,108	hours	
Total Idling diesel gallons (on-road haul trucks):	**19,960**		
Total diesel gallons (on-road haul trucks):	**362,095**	gal	
(4 year estimated Project Construction Duration)			

Estimated Fuel Savings from Anti-Idling Regulation (64 percent based on estimated CARB emissions reductions): [3]

Total Idling Diesel Gal. w/o Anti-Idling Reg.: *55,443*

Total Savings: *35,484*

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; HHDT and MHDT; Annual; CY 2017; Aggregate MY; Aggregate Speed)
2. California Air Resources Board, EMFAC2014 (South Coast Air Basin; HHDT and MHDT; Annual; CY 2017; Aggregate MY; 5 miles per hour converted to hourly rate)
3. Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, https://www.arb.ca.gov/regact/idling/isorappf.pdf. Accessed September 2018.

Building Phase	Phase	Days	Trips/Day	Miles/Trip	VMT	Idle Hours
Existing Renovation	Building Construction	660	62	6.9	282,348	3,410
Tower Construction	Demolition	184	0	6.9	-	-
Tower Construction	Site Preparation	24	0	6.9	-	-
Tower Construction	Grading	183	0	6.9	-	-
Tower Construction	Building Construction	660	271	6.9	1,234,134	14,905
Tower Construction	Paving	189	0	6.9	-	-
Tower Construction	Foundation (North Tower)	2	937	25	46,850	156
Tower Construction	Foundation (South Tower)	2	782	25	39,100	130
Tower Construction	Subterranean Parking Structure	230	308	6.9	488,796	5,903
Tower Construction	Podium Construction	53	363	6.9	132,749	1,603
				Total Vendor Truck VMT:	2,223,977	
				Total Idle-Hours:		26,108

Times Mirror Square Project
Construction Energy Analysis

On-Road Workers (LDA, LDT1, LDT2)

EMFAC2014 Gasoline Fuel Consumption Factor:[1]	0.0421	gallons/mile	miles/gallon
Total Worker VMT:	19,999,277	miles	23.8
Total VMT gasoline gallons (workers):	**841,610**		
(4 year estimated Project Construction Duration)			

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; LDA, LDT1, LDT2; CY 2017; Aggregate MY; Aggregate Speed)

Building Phase	Phase	Days	One-Way Trips/Day	Miles/Trip	VMT
Existing Renovation	Building Construction	660	124	14.7	1,203,048
Tower Construction	Demolition	184	58	14.7	156,878
Tower Construction	Site Preparation	24	58	14.7	20,462
Tower Construction	Grading	183	60	14.7	161,406
Tower Construction	Building Construction	660	1186	14.7	11,506,572
Tower Construction	Paving	189	33	14.7	91,684
Tower Construction	Foundation (North Tower)	2	38	14.7	1,117
Tower Construction	Foundation (South Tower)	2	38	14.7	1,117
Tower Construction	Subterranean Parking Structure	230	1186	14.7	4,009,866
Tower Construction	Architectural Coating	552	237	14.7	1,923,113
Tower Construction	Podium Construction	53	1186	14.7	924,013
				Total Worker VMT:	**19,999,277**

Times Mirror Square Project
Construction Energy Analysis

Construction Water Energy Estimates

Source	Construction Water Use per Day (Mgal)	Total Construction Water Use (Mgal)	Total Electricity Demand from water Demand (kWh)	Annual Electricity Demand from water Demand (kWh)
Project	0.011	13.860	180,466	45,117
CalEEMod Water Electricity Factors	**Electricity Intensity Factor To Supply (kWh/Mgal)**	**Electricity Intensity Factor To Treat (kWh/Mgal)**	**Electricity Intensity Factor To Distribute (kWh/Mgal)**	**Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)**
Project	9727	111	1272	1911

Sources:

Electricity Intensity Factors - California Emissions Estimator Model (CalEEMod).

Estimated construction water use assumed to be generally equivalent to landscape irrigation, based on a factor of 20.94 gallons per year per square foot of landscaped area within the Los Angeles area (Mediterranean climate), which assumes high water demand landscaping materials and an irrigation system efficiency of 85%. Factor is therefore (20.94 GAL/SF/year) x (43,560 SF/acre) / (365 days/year) / (0.85) = 2,940 gallons/acre/day, rounded up to 3,000 gallons/acre/day. (U.S. Department of Energy, Energy Efficiency & Renewable Energy, Federal Energy Management Program. “Guidelines for Estimating Unmetered Landscaping Water Use." July 2010. Page 12, Table 4 - Annual Irrigation Factor – Landscaped Areas with High Water Requirements).

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

VMT	Fuel Consumption (gal/day)	Annual VMT	ıal Fuel Consumption (gals)
17503649	2692750	6,388,831,969.15	982,853,652.50
gal/mi			
0.1538393			

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
South Coas	2018	HHDT	Aggregatec	Aggregated	GAS	749.9975977	94681.82398	15005.95194	20.74751376
South Coas	2018	HHDT	Aggregatec	Aggregated	DSL	80425.24107	10818544.34	0	1919.140533
South Coas	2018	LDA	Aggregatec	Aggregated	GAS	5902290.595	207297399.6	37196281.76	7958.701801
South Coas	2018	LDA	Aggregatec	Aggregated	DSL	48393.14602	1855377.906	299156.4009	53.11975439
South Coas	2018	LDA	Aggregatec	Aggregated	ELEC	62927.98267	2972576.746	409740.7105	0
South Coas	2018	LDT1	Aggregatec	Aggregated	GAS	511327.2302	17356141.55	3102010.452	786.3689689
South Coas	2018	LDT1	Aggregatec	Aggregated	DSL	695.5579541	18701.99399	3594.658956	0.734235859
South Coas	2018	LDT1	Aggregatec	Aggregated	ELEC	428.5870195	13476.73208	2594.393835	0
South Coas	2018	LDT2	Aggregatec	Aggregated	GAS	2046914.57	77072757.43	12925440.99	3952.17611
South Coas	2018	LDT2	Aggregatec	Aggregated	DSL	2951.974545	126794.4287	19063.36216	4.68152517
South Coas	2018	LHDT1	Aggregatec	Aggregated	GAS	131839.0588	3943593.65	1964205.537	363.590429
South Coas	2018	LHDT1	Aggregatec	Aggregated	DSL	85543.42385	3142729.428	1076028.658	157.5162719
South Coas	2018	LHDT2	Aggregatec	Aggregated	GAS	25272.37557	883276.3433	376520.7402	88.10823494
South Coas	2018	LHDT2	Aggregatec	Aggregated	DSL	34688.71556	1396295.158	436340.4033	76.69845534
South Coas	2018	MCY	Aggregatec	Aggregated	GAS	262651.2604	1786186.342	525249.9905	50.73800603
South Coas	2018	MDV	Aggregatec	Aggregated	GAS	1433228.386	48439048.93	8928225.112	3318.001467
South Coas	2018	MDV	Aggregatec	Aggregated	DSL	17593.6068	726780.4184	113083.9499	34.85621049
South Coas	2018	MH	Aggregatec	Aggregated	GAS	38589.43611	315292.5776	3860.487189	43.35592461
South Coas	2018	MH	Aggregatec	Aggregated	DSL	9464.41433	82431.70634	946.441433	8.123938437
South Coas	2018	MHDT	Aggregatec	Aggregated	GAS	19053.18642	942543.4897	381216.1538	137.6580612
South Coas	2018	MHDT	Aggregatec	Aggregated	DSL	121397.5308	6685104.889	0	773.6092001
South Coas	2018	OBUS	Aggregatec	Aggregated	GAS	7762.125048	364687.8784	155304.598	51.81176073
South Coas	2018	OBUS	Aggregatec	Aggregated	DSL	4637.189549	392043.0074	0	54.93391422
South Coas	2018	SBUS	Aggregatec	Aggregated	GAS	1968.219757	75638.52752	7872.879027	6.723769688
South Coas	2018	SBUS	Aggregatec	Aggregated	DSL	5119.648126	196152.0127	0	27.31414774
South Coas	2018	UBUS	Aggregatec	Aggregated	GAS	2129.787597	246271.828	8519.150386	49.92921528
South Coas	2018	UBUS	Aggregatec	Aggregated	DSL	4889.756484	568097.4212	19559.02594	121.3934272

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: Air Basin
Region: South Coast
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Haul Trucks (T7 Single Construction)			
VMT	Fuel Consumption (gal/day)	Annual VMT	Annual Fuel Consumption
374075	62351	136,537,218	22,758,087
gal/mi			
0.166680465			

Workers (LDA,LDT1, LDT2)			
VMT	Fuel Consumption (gal/day)	Annual VMT	Annual Fuel Consumption
301726299	12697247	110,130,098,977	4,634,495,111
gal/mi			
0.0421			

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
South Coas	2018	All Other Buses	Aggregatec	Aggregatec	DSL	3695.811	251528.1936	0	30.00283524
South Coas	2018	LDA	Aggregatec	Aggregatec	GAS	5902291	207297399.6	37196281.76	7958.701801
South Coas	2018	LDA	Aggregatec	Aggregatec	DSL	48393.15	1855377.906	299156.4009	53.11975439
South Coas	2018	LDA	Aggregatec	Aggregatec	ELEC	62927.98	2972576.746	409740.7105	0
South Coas	2018	LDT1	Aggregatec	Aggregatec	GAS	511327.2	17356141.55	3102010.452	786.3689689
South Coas	2018	LDT1	Aggregatec	Aggregatec	DSL	695.558	18701.99399	3594.658956	0.734235859
South Coas	2018	LDT1	Aggregatec	Aggregatec	ELEC	428.587	13476.73208	2594.393835	0
South Coas	2018	LDT2	Aggregatec	Aggregatec	GAS	2046915	77072757.43	12925440.99	3952.17611
South Coas	2018	LDT2	Aggregatec	Aggregatec	DSL	2951.975	126794.4287	19063.36216	4.68152517
South Coas	2018	LHD1	Aggregatec	Aggregatec	GAS	131839.1	3943593.65	1964205.537	363.590429
South Coas	2018	LHD1	Aggregatec	Aggregatec	DSL	85543.42	3142729.428	1076028.658	157.5162719
South Coas	2018	LHD2	Aggregatec	Aggregatec	GAS	25272.38	883276.3433	376520.7402	88.10823494
South Coas	2018	LHD2	Aggregatec	Aggregatec	DSL	34688.72	1396295.158	436340.4033	76.69845534
South Coas	2018	MCY	Aggregatec	Aggregatec	GAS	262651.3	1786186.342	525249.9905	50.73800603
South Coas	2018	MDV	Aggregatec	Aggregatec	GAS	1433228	48439048.93	8928225.112	3318.001467
South Coas	2018	MDV	Aggregatec	Aggregatec	DSL	17593.61	726780.4184	113083.9499	34.85621049
South Coas	2018	MH	Aggregatec	Aggregatec	GAS	38589.44	315292.5776	3860.487189	43.35592461
South Coas	2018	MH	Aggregatec	Aggregatec	DSL	9464.414	82431.70634	946.441433	8.123938437
South Coas	2018	Motor Coach	Aggregatec	Aggregatec	DSL	941.3787	140514.8139	0	24.93107898
South Coas	2018	OBUS	Aggregatec	Aggregatec	GAS	7762.125	364687.8784	155304.598	51.81176073
South Coas	2018	PTO	Aggregatec	Aggregatec	DSL	0	199794.6535	0	42.27672831
South Coas	2018	SBUS	Aggregatec	Aggregatec	GAS	1968.22	75638.52752	7872.879027	6.723769688
South Coas	2018	SBUS	Aggregatec	Aggregatec	DSL	5119.648	196152.0127	0	27.31414774
South Coas	2018	T6 Ag	Aggregatec	Aggregatec	DSL	242.1848	4446.995332	0	0.532800373
South Coas	2018	T6 CAIRP heavy	Aggregatec	Aggregatec	DSL	188.3958	10320.64307	0	1.183369565
South Coas	2018	T6 CAIRP small	Aggregatec	Aggregatec	DSL	491.4659	31681.82702	0	3.647458145
South Coas	2018	T6 instate construction heavy	Aggregatec	Aggregatec	DSL	2882.543	203843.7146	0	23.67323611
South Coas	2018	T6 instate construction small	Aggregatec	Aggregatec	DSL	9458.813	547603.833	0	63.49731991
South Coas	2018	T6 instate heavy	Aggregatec	Aggregatec	DSL	30112.08	1610714.759	0	185.9294559
South Coas	2018	T6 instate small	Aggregatec	Aggregatec	DSL	70421.29	4132019.588	0	477.9609507
South Coas	2018	T6 OOS heavy	Aggregatec	Aggregatec	DSL	111.8071	5913.340615	0	0.678603189
South Coas	2018	T6 OOS small	Aggregatec	Aggregatec	DSL	281.5915	18152.49623	0	2.08985644
South Coas	2018	T6 Public	Aggregatec	Aggregatec	DSL	5845.006	93753.4679	0	11.18251007
South Coas	2018	T6 utility	Aggregatec	Aggregatec	DSL	1362.347	26654.22395	0	3.233639755
South Coas	2018	T6TS	Aggregatec	Aggregatec	GAS	19053.19	942543.4897	381216.1538	137.6580612
South Coas	2018	T7 Ag	Aggregatec	Aggregatec	DSL	194.5882	3307.923851	0	0.615038283
South Coas	2018	T7 CAIRP	Aggregatec	Aggregatec	DSL	7623.965	1578774.711	0	271.3476489
South Coas	2018	T7 CAIRP construction	Aggregatec	Aggregatec	DSL	615.5359	144605.1778	0	24.98361815
South Coas	2018	T7 NNOOS	Aggregatec	Aggregatec	DSL	7933.703	1957682.605	0	315.8374219
South Coas	2018	T7 NOOS	Aggregatec	Aggregatec	DSL	3093.713	623615.5451	0	109.4262124
South Coas	2018	T7 POLA	Aggregatec	Aggregatec	DSL	13381.74	1927641.623	0	348.7745973
South Coas	2018	T7 Public	Aggregatec	Aggregatec	DSL	7079.595	162250.5946	0	33.13039052
South Coas	2018	T7 Single	Aggregatec	Aggregatec	DSL	10350.41	1006205.81	0	167.9749136
South Coas	2018	T7 single construction	Aggregatec	Aggregatec	DSL	4094.843	374074.5689	0	62.35092298
South Coas	2018	T7 SWCV	Aggregatec	Aggregatec	DSL	6644.992	306070.9459	0	126.2268791
South Coas	2018	T7 tractor	Aggregatec	Aggregatec	DSL	15634.01	2241927.559	0	366.5921883
South Coas	2018	T7 tractor construction	Aggregatec	Aggregatec	DSL	3180.25	278900.2389	0	46.95465586
South Coas	2018	T7 utility	Aggregatec	Aggregatec	DSL	597.8919	13692.38533	0	2.6493173
South Coas	2018	T7IS	Aggregatec	Aggregatec	GAS	749.9976	94681.82398	15005.95194	20.74751376
South Coas	2018	UBUS	Aggregatec	Aggregatec	GAS	2129.788	246271.828	8519.150386	49.92921528
South Coas	2018	UBUS	Aggregatec	Aggregatec	DSL	4889.756	568097.4212	19559.02594	121.3934272
							301726298.6		12697246.88

N-2 Operational Energy Calculation Worksheets

Times Mirror Square
Operational Energy Analysis

Energy and VMT Estimates

Source	Natural Gas demand (million kBTU/yr)	Building Electricity demand (million kWh/yr)	Water Electricity demand (million kWh/yr)	Annual Worker and Visitor VMT
Times Mirror Square	34.38	17.77	1.03	28,783,078
Existing Site	6.03	4.786	0.096	8,400,914
Net Total	**28.35**	**12.98**	**0.94**	

Source	CalEEMod Indoor Water Use (Mgal/yr)	CalEEMod Outdoor Water Use (Mgal/yr)	Total Water Use (Mgal/yr)	Electricity Demand from water Demand (million kWh)
Times Mirror Square	78.68	0.49	79.17	1.03
Existing Site	4.52	2.83	7.35	0.096
Net Total	**74.16**	**-2.34**	**71.82**	**0.94**

CalEEMod Water Electricity Factors	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
Times Mirror Square	9727	111	1272	1911

Source: California Emissions Estimator Model (CalEEMod).

Times Mirror Square
Operational Energy Analysis
Project Trips
Fuel Usage from VMT

Annual VMT (All): 28,783,078 miles/year

(With trip and VMT reductions from land use characteristics and proximity to public transit.)

Fuel Type:[1]	GAS	DSL	ELEC	
Percent:	93.20%	4.18%	2.62%	
Miles per Gallon Fuel:	24.76	8.67	-	
Annual VMT by Fuel Type :	26,825,829	1,203,133	754,117	miles/year
Annual Fuel Usage :	1,083,434	138,818	-	gal/year
Annual Fuel Savings from Electric Vehicles:[2]	-	-	30,457	gal/year (assumed to be gasoline)

Notes:

1. California Air Resources Board, EMFAC2014, South Coast Air Basin; 2023; Annual; All vehicle types; Aggregate model year; Aggregate speed). https://www.arb.ca.gov/emfac/2014/
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

Times Mirror Square
Operational Energy Analysis
Existing Trips
Fuel Usage from VMT

Annual VMT (All): 8,400,914 miles/year

(With trip and VMT reductions from land use characteristics and proximity to public transit.)

Fuel Type:[1]	GAS	DSL	ELEC	
Percent:	95.86%	3.73%	0.41%	
Miles per Gallon Fuel:	22.60	8.25	-	
Annual VMT by Fuel Type :	8,053,116	313,354	34,444	miles/year
Annual Fuel Usage :	356,322	37,981	-	gal/year
Annual Fuel Savings from Electric Vehicles:[2]	-	-	1,524	gal/year (assumed to be gasoline)

Notes:

1. California Air Resources Board, EMFAC2014, South Coast Air Basin; 2017; Annual; All vehicle types; Aggregate model year; Aggregate speed). https://www.arb.ca.gov/emfac/2014/
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

Times Mirror Square
Operational Energy Analysis
Project without Trip Reductions
Fuel Usage from VMT

Annual VMT (All): 43,353,344 miles/year

(Without trip and VMT reductions from land use characteristics and proximity to public transit.)

Fuel Type:[1]	GAS	DSL	ELEC	
Percent:	93.20%	4.18%	2.62%	
Miles per Gallon Fuel:	22.60	8.25	-	
Annual VMT by Fuel Type :	40,405,317	1,812,170	1,135,858	miles/year
Annual Fuel Usage :	1,787,792	219,651	-	gal/year
Annual Fuel Savings from Electric Vehicles:[2]	-	-	50,258	gal/year (assumed to be gasoline)

Notes:

1. California Air Resources Board, EMFAC2014, South Coast Air Basin; 2017; Annual; All vehicle types; Aggregate model year; Aggregate speed). https://www.arb.ca.gov/emfac/2014/
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

Times Mirror Square Project
Cooling Towers
Energy Analysis

Cooling Towers Daily Emissions

High Flow Rate:	12.4	Gallons per Minute
Number of Units:	1	Cooling Towers
Operating Hours:	24	hr/day
	17,820	gal/day
	6,504,300	gal/year
	6.5043	mgal/year

CalEEMod Water Electricity Factors	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
	9727	111	1272	1911

		GHG Emissions (lbs/yr)				
Source	Electricity Demand from Water Demand (million kWh)	CO2	CH4	N20	CO2e	MTCO2e (MT/yr)
Cooling Tower	0.0847	71,903.92	2.4561	0.5082	72,116.76	32.712

GHG	Intensity factor (lbs/MWh)	Global Warming Potential
CO2	849	1
CH4	0.029	25
N2O	0.006	298

EV Charging Stations

Source	Spaces	Average Charge (kWh/day) [a]	Days	kWh/yr
Project	349	4.4	365	560,494
Total	**349**	**4.4**	**365**	**560,494**

NOTES:

a. Estimated based on reference sources listed below.

SOURCES:

US Department of Energy. Alternative Fuels Data Center, 2016. Hybrid and Plug-In Electric Vehicle Emissions Data Sources and Assumptions. Available at: https://www.afdc.energy.gov/vehicles/electric_emissions_sources.html.

US Department of Energy. Smith, Margaret, 2016. Level 1 Electric Vehicle Charging Stations at the Workplace. Available at: https://www.afdc.energy.gov/uploads/publication/WPCC_L1ChargingAtTheWorkplace_0716.pdf.

UCLA Luskin Center for Innovation. Williams, Brett and JR deShazo, 2013. Pricing Workplace Charging: Financial Viability and Fueling Costs. Available at: http://luskin.ucla.edu/sites/default/files/Luskin-WPC-TRB-13-11-15d.pdf.

	Total CO_2 MT/yr	Fuel Type	Factor $KGCO_2$/gal	Gallons
Emergency Generator	27.06	diesel	10.15	2,666

Assumptions

10.15	diesel
8.91	gasoline
1	MT = 1,000 kilograms

N-3 County Fuel Use Data

Retail Gasoline Sales by County

(Millions of Gallons)

County	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#	
	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals
Alameda	456	551	476	548	480	568	473	603	341	491	432	542	518	582	521	583
Amador	12	15	12	14	12	14	10	12	11	15	10	13	12	14	13	15
Butte	66	81	70	81	66	78	64	81	59	85	62	78	74	83	78	87
Calaveras	11	14	12	14	10	12	10	13	10	14	11	14	13	15	14	15
Colusa	13	17	9	11	8	10	10	13	7	10	7	9	10	11	11	12
Contra Costa	332	403	344	395	354	419	331	422	272	392	303	380	384	431	385	430
Del Norte	6	8	6	7	6	7	4	5	5	7	5	6	6	7	6	7
El Dorado	55	68	57	67	64	75	56	72	36	52	65	81	72	81	73	82
Fresno	285	342	290	335	288	341	269	344	209	300	264	331	318	358	328	367
Glenn	12	14	12	14	11	12	11	14	11	16	13	16	15	17	17	18
Humboldt	44	54	46	54	45	53	51	64	31	44	47	59	54	61	49	55
Imperial	56	69	51	60	46	54	46	58	58	83	63	79	77	86	74	83
Inyo	16	19	16	18	13	16	12	16	12	17	14	18	16	18	16	18
Kern	293	362	309	359	301	356	287	367	267	384	299	375	362	407	349	390
Kings	42	51	41	48	40	47	38	48	31	45	41	51	50	57	54	60
Lake	20	25	18	22	17	20	19	24	17	25	19	23	7	8	19	21
Lassen	6	7	6	7	5	6	5	6	6	8	7	9	19	21	5	6
Los Angeles	3,005	3,658	3,069	3,554	2,916	3,451	2,700	3,445	2,606	3,749	2,762	3,465	3,184	3,577	3,272	3,659
Madera	47	57	54	61	44	53	43	54	31	45	35	44	52	59	56	62
Marin	78	94	91	103	91	107	83	106	52	75	83	105	91	102	90	101
Mariposa	6	7	6	7	5	6	4	5	6	9	5	6	7	8	5	6
Mendocino	33	41	34	40	36	43	33	42	28	40	32	40	37	42	34	38
Merced	86	106	81	95	78	92	74	94	58	83	84	105	101	114	105	117
Mono	6	7	5	6	2	2	6	8	6	8	6	7	7	8	5	5
Monterey	124	152	134	155	124	147	139	177	87	126	147	184	157	177	155	174
Napa	42	52	42	47	49	58	41	52	27	39	50	63	50	57	47	53
Nevada	34	42	30	35	29	34	19	25	19	27	31	40	36	40	35	39
Orange	1,162	1,406	1,162	1,338	1,145	1,355	1,044	1,332	1,018	1,465	1,092	1,370	1,224	1,375	1,236	1,382
Placer	154	190	162	189	162	192	131	167	118	170	167	209	181	204	182	203
Plumas	6	7	7	8	6	7	3	4	5	8	5	7	5	5	5	6
Riverside	781	952	792	916	756	895	725	925	702	1,010	828	1,039	921	1,035	941	1,052
Sacramento	467	566	482	553	473	560	446	568	308	442	465	584	534	600	535	599
San Benito	15	18	14	16	17	20	5	7	10	14	12	15	15	17	18	20
San Bernardino	747	902	761	871	742	878	697	889	659	948	725	909	899	1,010	888	993
San Diego	1,094	1,320	1,122	1,291	1,079	1,277	972	1,241	940	1,352	1,123	1,408	1,221	1,372	1,231	1,377
San Francisco	112	138	129	151	126	149	126	161	71	102	107	134	119	134	120	134
San Joaquin	248	303	260	301	253	299	254	325	217	312	287	360	303	340	310	347
San Luis Obispo	121	147	123	144	105	124	109	140	101	145	117	147	127	142	127	142
San Mateo	232	275	272	310	258	306	244	311	159	229	243	304	289	325	291	326
Santa Barbara	141	174	140	164	140	166	135	172	124	178	148	186	161	181	152	170
Santa Clara	514	621	600	691	589	697	546	696	460	661	580	727	638	717	613	685
Santa Cruz	84	103	91	106	89	105	79	101	53	77	77	96	85	95	84	94
Shasta	72	88	73	85	77	91	65	83	55	79	76	95	73	82	83	92
Siskiyou	20	25	17	19	19	23	9	12	10	14	21	27	24	27	26	29
Solano	158	190	191	218	180	213	158	202	116	167	160	201	187	210	194	217
Sonoma	157	189	155	178	160	189	163	208	146	210	160	201	186	209	186	208
Stanislaus	191	230	184	212	173	205	144	183	159	229	201	252	217	244	227	253
Sutter	30	37	31	37	34	40	33	42	17	24	30	38	35	39	35	39
Tehama	27	33	24	28	23	27	19	24	18	26	24	30	25	29	26	29
Trinity	3	4	3	4	1	2	3	4	3	4	3	4	4	5	4	5
Tulare	109	132	121	139	120	142	91	116	107	155	114	143	136	152	149	167
Tuolumne	14	17	13	16	15	18	12	15	14	21	18	23	21	23	22	25
Ventura	285	345	290	335	262	310	246	314	249	358	256	321	294	330	302	338
Yolo	82	100	76	87	74	87	75	96	63	90	82	103	98	110	101	113
Yuba	24	29	26	30	22	26	23	30	14	20	24	30	32	36	30	34
Other Counties*	2	3	2	2	1	2	1	1	1	2	2	2	2	2	2	2
Total	**12,238**	**14,860**	**12,644**	**14,596**	**12,241**	**14,486**	**11,396**	**14,540**	**10,220**	**14,701**	**12,044**	**15,108**	**13,785**	**15,491**	**13,936**	**15,584**

2012 to 2017 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc and Sierra.

Retail Diesel Sales by County

(Millions of Gallons)

	2010		2011		2012#		2013#		2014#		2015#		2016#		2017#		
County	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	Survey Responses	Estimated Totals	
Alameda	29	32	26	28	30	36	27	34	19	27	38	49	47	54	51	58	
Amador	2	2	2	2	2	2	1	2	1	2	1	2	2	2	2	2	
Butte	9	10	9	10	7	9	8	10	8	10	9	11	11	13	11	13	
Calaveras	2	2	2	2	2	2	1	2	1	2	2	2	3	3	3	3	
Colusa	3	3	2	3	4	5	4	5	2	2	3	4	4	4	2	3	
Contra Costa	15	18	19	21	17	20	17	21	12	17	19	24	23	26	24	28	
Del Norte	1	2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	
El Dorado	6	8	6	7	6	7	5	6	4	6	7	9	8	9	8	10	
Fresno	30	33	35	38	33	40	23	29	18	25	39	50	40	46	40	45	
Glenn	5	5	4	4	4	5	4	5	4	5	5	6	12	14	16	19	
Humboldt	10	12	10	12	10	12	11	14	4	5	10	13	13	14	8	9	
Imperial	9	10	8	9	7	8	8	10	8	11	9	11	14	16	11	12	
Inyo	3	4	3	4	2	2	3	4	3	3	3	4	3	4	3	4	
Kern	111	117	125	129	133	158	118	148	124	171	125	160	131	149	107	121	
Kings	7	7	7	8	7	9	5	6	4	6	7	9	5	6	7	7	
Lake	3	3	3	3	2	2	2	3	2	3	3	3	1	1	3	3	
Lassen	1	1	1	2	1	1	1	1	1	2	3	3	4	4	1	1	
Los Angeles	212	235	221	239	205	245	190	239	194	267	257	328	273	309	267	302	592 (with non-retail sales)
Madera	23	24	23	24	24	28	18	23	22	31	26	33	28	31	29	33	
Marin	3	4	2	3	3	3	2	3	2	2	2	3	4	4	4	4	
Mariposa	1	1	1	1	1	1	-	1	2	2	1	1	1	2	1	1	
Mendocino	6	7	7	8	7	9	6	6	4	5	6	7	9	10	6	6	
Merced	44	45	37	38	46	55	49	62	49	68	54	69	59	66	38	42	
Mono	1	1	1	1	-	1	1	1	1	1	1	1	1	1	1	1	
Monterey	21	23	24	26	25	30	22	27	13	18	23	29	24	28	24	27	
Napa	2	2	2	2	6	7	2	3	2	3	6	8	6	7	6	7	
Nevada	5	5	5	5	4	4	1	2	4	6	7	8	8	9	8	9	
Orange	38	47	36	42	38	46	33	42	37	51	46	59	52	59	54	61	
Placer	13	16	13	15	12	15	9	12	10	13	13	16	15	17	15	17	
Plumas	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	2	
Riverside	84	93	87	94	89	107	86	109	100	138	119	152	128	145	131	148	
Sacramento	33	37	32	35	27	32	18	21	21	29	28	36	38	42	42	48	
San Bernardino	141	149	136	142	158	189	164	206	152	210	198	253	223	252	235	265	
San Diego	69	80	64	72	62	74	58	73	67	93	87	111	93	105	92	103	
San Francisco	3	3	3	3	3	4	4	5	1	2	5	6	6	6	5	6	
San Joaquin	73	75	85	87	84	99	90	113	86	119	102	131	116	131	111	126	
San Luis Obispo	12	14	16	18	11	13	9	12	12	17	19	24	20	23	19	21	
San Mateo	10	12	8	10	8	10	8	10	4	6	15	19	13	14	15	17	
Santa Barbara	13	14	16	17	10	13	12	15	13	18	20	26	22	25	17	19	
Santa Clara	23	26	26	28	27	32	28	35	25	35	36	47	30	34	32	36	
Santa Cruz	4	5	5	6	4	5	4	6	2	3	5	6	5	6	6	6	
Shasta	20	23	19	21	16	19	18	22	13	18	21	27	21	24	22	25	
Siskiyou	5	6	11	11	16	20	15	19	16	20	20	26	19	22	18	21	
Solano	14	17	18	20	14	16	14	17	8	11	14	18	17	19	22	24	
Sonoma	14	16	18	19	13	16	14	18	12	17	15	20	20	23	20	23	
Stanislaus	33	36	27	29	25	30	15	19	20	27	26	33	20	22	30	34	
Sutter	4	5	2	3	3	4	4	5	2	3	4	5	5	6	3	4	
Tehama	31	32	38	39	35	42	37	47	25	35	37	48	35	39	34	38	
Tulare	23	25	33	35	27	32	31	39	31	43	34	43	37	42	37	41	
Tuolumne	2	2	2	2	1	2	2	2	2	2	2	3	2	3	3	3	
Ventura	20	23	32	34	23	27	23	29	25	34	27	34	29	32	32	36	
Yolo	33	34	26	27	27	33	30	37	29	40	27	35	32	37	27	30	
Yuba	4	4	4	5	3	4	3	4	2	3	2	3	4	5	8	9	
Other Counties*	1	2	2	2	1	2	1	1	1	2	2	2	3	3	3	3	
Total	**1,285**	**1,414**	**1,346**	**1,447**	**1,327**	**1,589**	**1,261**	**1,587**	**1,226**	**1,691**	**1,592**	**2,033**	**1,742**	**1,971**	**1,717**	**1,937**	

2012-2017 data are not directly comparable to other years since an improved methodology is used, but is within 5 percent compared to the previous methodology.

* Other Counties include Alpine, Modoc, San Benito, Sierra and Trinity.

Note: Non-Retail diesel sales, which comprise approximately 49% of all diesel sales, are not reported in this chart.

APPENDIX O

Tribal Cultural Resources Report

ESA

Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Assembly Bill 52 Consultation Summary Report

Prepared for
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

January 2019



Public Version

TIMES MIRROR SQUARE PROJECT, CITY OF LOS ANGELES, CALIFORNIA

Assembly Bill 52 Consultation Summary Report

Prepared for:
Onni Group
315 West 9th Street, Suite 801
Los Angeles, California 90015

January 2019

Prepared by:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project Director and Principal Investigator:
Monica Strauss, M.A., R.P.A.

Project Manager:
Sara Dietler, B.A.

Report Author:
Michael Vader, B.A.

Project Location:
Los Angeles (CA) USGS 7.5-minute Topographic Quad;
Township 1 South, Range 13 West, unsectioned

Acreage: Approx. 3.6 acres

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D170060.00

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TIMES MIRROR SQUARE PROJECT

Assembly Bill 52 Consultation Summary Report

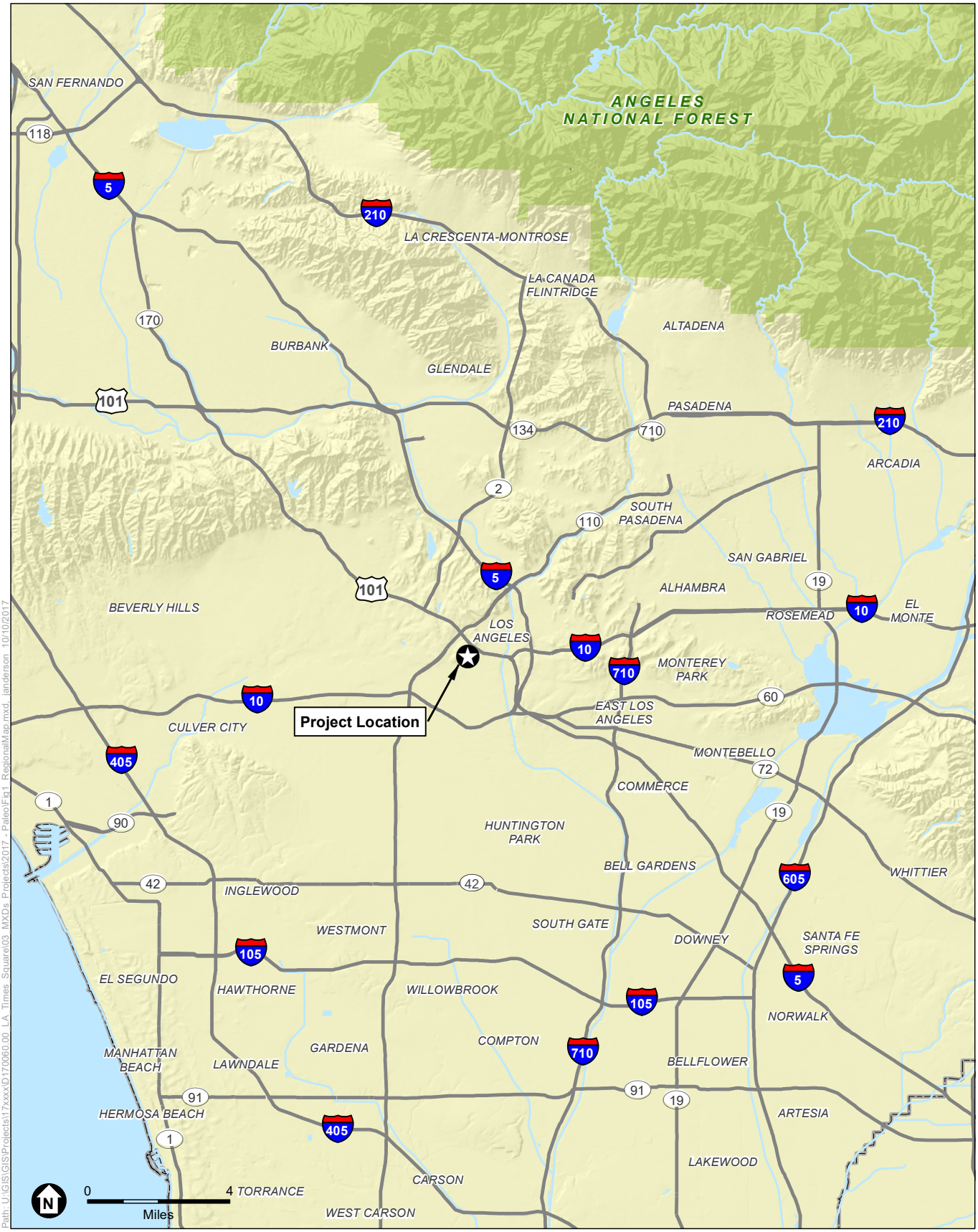
Introduction

Environmental Science Associates (ESA) has been retained by Onni Group (Applicant), to prepare this Assembly Bill 52 (AB 52) Consultation Summary Report for the Times Mirror Square Project (Project) in support of an Environmental Impact Report (EIR). The Applicant proposes to construct two new mixed-use towers along with rehabilitation of three existing buildings within the Times Mirror Square site (Project Site) in the City of Los Angeles. The Project Site is currently occupied by five structurally distinct but internally connected buildings occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings include the Times Building, the Plant Building, the Mirror Building, the Executive Building, and parking structure. The Project would include demolition of the Executive Building and parking structure, and would construct two mixed-used towers (North and South Towers) in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building. The City of Los Angeles (City) is the lead agency pursuant to the California Environmental Quality Act (CEQA).

ESA personnel involved in the preparation of this report are as follows: Monica Strauss, M.A., R.P.A., Project Director and Principal Investigator; Sara Dietler, B.A., Project Manager; and Michael Vader, B.A., report author. Resumes of key personnel are included in **Appendix A**.

Project Location

The 3.6-acre Project Site is located within the northern portion of downtown Los Angeles (**Figure 1**). Specifically, the Project Site is located in an unsectioned portion of Township 1 South, Range 13 West on the Los Angeles, CA USGS 7.5-minute topographic quadrangle (**Figure 2**). The Project Site comprises the city block bounded by W. 1st Street to the northeast, S. Spring Street to the southeast, W. 2nd Street southwest, and S. Broadway to the northwest (**Figure 3**).

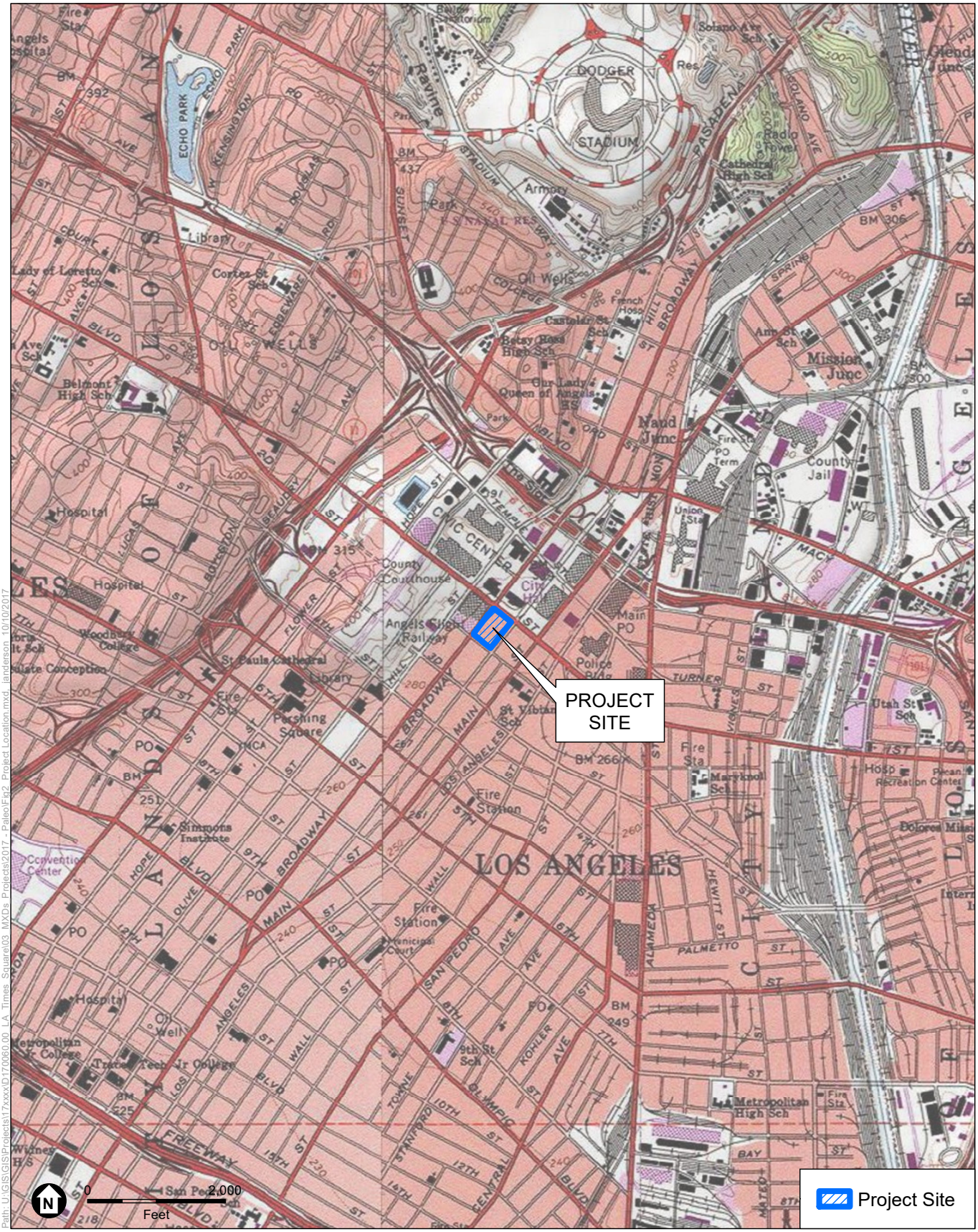


SOURCE: ESRI

Times Mirror Square Project

Figure 1
Regional Vicinity

ESA

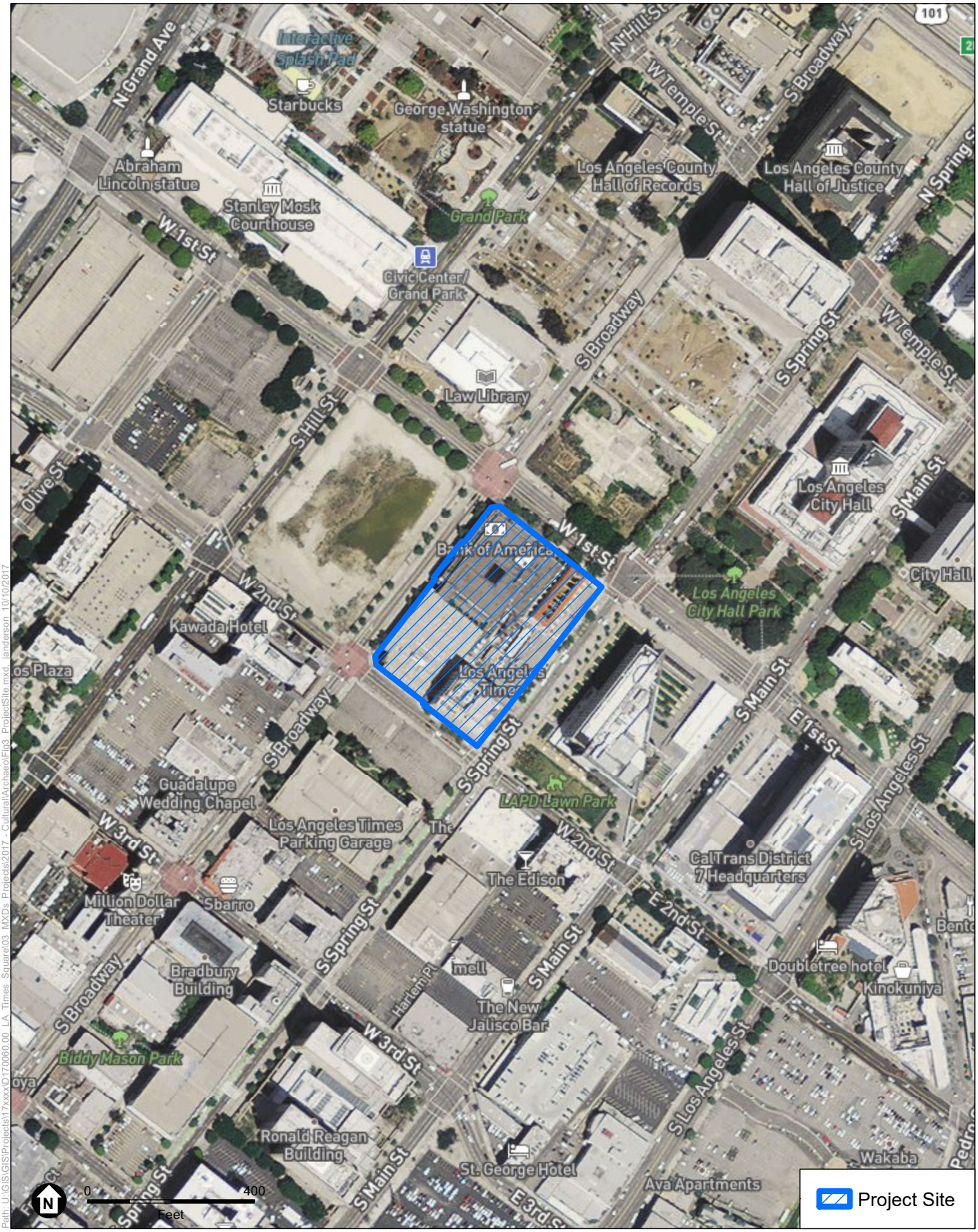


SOURCE: ESRI; Los Angeles Topoquad

Times Mirror Square Project

Figure 2
Project Location

ESA



SOURCE: MapBox Satellite Streets

Times Mirror Square Project

Figure 3
Project Site

ESA

Project Description

The Project Site encompasses five structurally distinct but internally connected buildings currently occupied by the Los Angeles Times offices, a bank, and other office uses. The buildings were constructed between the 1930s and 1970s and range from four to 10 stories in height. The buildings include the eight-story Times Building, the four-story Plant Building, the 10-story Mirror Building, the six-story Executive Building, and the six-story parking structure. The Project would include demolition of the Executive Building and parking structure, and would construct the two mixed-used North and South Towers in their place. The Project would also rehabilitate the Times Building, the Plant Building, and the Mirror Building.

The proposed 37-story North Tower and 53-story South Tower would be constructed in the west sector of the block, which is aligned with S. Broadway with frontages on W. 1st Street and W. 2nd Street. The North and South Towers, which would be constructed above a five-story parking podium (Podium), would contain a total of approximately 1,127 residential units, approximately 34,572 square feet of commercial floor area, and a combined floor area of approximately 1,135,803 square feet. The Podium would be an above-ground structure with street front new retail development on the first floor and four levels of above-grade parking, which forms the base for the residential towers. The space below the Podium would contain an additional nine levels of subterranean parking. An open-to-the sky pedestrian paseo (Paseo) leading from W. 1st Street to W. 2nd Street would bisect the block between the new towers and the rehabilitated Times, Plant, and Mirror Buildings, and would provide a visual connection to First and Broadway Civic Center Park. Ground level retail uses would be located along the base of the Podium facing W. 1st Street, S. Broadway, and W. 2nd Street, and the Paseo.

Setting

Ethnographic Setting

The Project Site is located in a region traditionally occupied by the Takic-speaking Gabrielino Indians. The term “Gabrielino” is a general term that refers to those Native Americans who were administered by the Spanish at the Mission San Gabriel Arcángel. Prior to European colonization, the Gabrielino occupied a diverse area that included: the watersheds of the Los Angeles, San Gabriel, and Santa Ana rivers; the Los Angeles basin; and the islands of San Clemente, San Nicolas, and Santa Catalina (Kroeber, 1925). Their neighbors included the Chumash to the north, the Juañeno to the south, and the Serrano and Cahuilla to the east. The Gabrielino are reported to have been second only to the Chumash in terms of population size and regional influence (Bean and Smith, 1978). The Gabrielino language is part of the Takic branch of the Uto-Aztecan language family.

The Gabrielino were hunter-gatherers and lived in permanent communities located near the presence of a stable food supply. Subsistence consisted of hunting, fishing, and gathering. Small terrestrial game was hunted with deadfalls, rabbit drives, and by burning undergrowth, while larger game such as deer were hunted using bows and arrows. Fish were taken by hook and line, nets, traps, spears, and poison (Bean and Smith, 1978). The primary plant resources were the acorn, gathered in the fall and processed in mortars and pestles, and various seeds that were

harvested in late spring and summer and ground with manos and metates. The seeds included chia and other sages, various grasses, and islay or holly-leafed cherry.

Community populations generally ranged from 50 to 100 inhabitants, although larger settlements may have existed. The Gabrielino-Tongva are estimated to have had a population numbering around 5,000 in the pre-contact period (Kroeber, 1925). Villages are reported to have been the most abundant in the San Fernando Valley, the Glendale Narrows area north of downtown, and around the Los Angeles River's coastal outlets (Gumprecht, 2001). The village of *Yaanga* was located approximately 0.25 miles from the location of the present-day Project Site (Morris et al., 2016). Of the approximately 100 known Gabrielino villages, *Yaanga* was one of the largest and leaders from other Gabrielino villages would regularly converge on *Yaanga* to hold councils (Rasmussen, 1997). The Gabrielino leaders would meet beneath the branches of a large sycamore tree known as the council tree, or *El Aliso*, which served as a regional landmark and meeting place. The 400-year old tree died and was cut down in 1892 as downtown Los Angeles's industrial expansion surrounded it (Rasmussen, 1997). Recent research indicates that El Aliso was located south of what is presently the Metropolitan Transit Authority's headquarters within the median of the Hollywood Freeway, located approximately 0.5 miles east of the Project Site (Rasmussen, 1997).

Based on baptismal records, *Yaanga* appears to have been occupied until at least 1813. But by the early 1820s, *Yaanga's* Gabrielino residents were displaced to an area south of the village site approximately 530 feet from the Project Site (Morris et al., 2016). By 1836, the displaced Gabrielino community was known as *Rancho de los Pablinos*, and Los Angeles residents began complaining about the Gabrielino bathing in the Zanjas (Morris et al., 2016). As a result of the complaints, the Gabrielino were once again displaced further to the east n approximately 0.44 miles from the present-day Project Site. By 1847, the Gabrielino from *Yaanga* were displaced once again and left without a space in which to form a new community. As a result, the Gabrielino dispersed throughout Los Angeles.

Regulatory Framework

State

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at *Public Resources Code (PRC) Section 21000 et seq.* CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

The *CEQA Guidelines* (Title 14 California Code of Regulations [CCR] Section 15064.5) recognize that historical resources include: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (California Register); (2) a resource included in a local register of historical resources,

as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in *CEQA Guidelines* Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (*CEQA Guidelines* Section 15064.5(b)(1)). According to *CEQA Guidelines* Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings (Standards) is considered to have mitigated its impacts to historical resources to a less-than-significant level (CEQA Guidelines Section 15064.5(b)(3)).

Assembly Bill 52 and Related Public Resources Code Sections

Assembly Bill (AB) 52 was approved by California State Governor Edmund Gerald "Jerry" Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. A cultural landscape that meets these criteria is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Historical resources, unique archaeological resources, or non-unique archaeological resources may also be tribal cultural resources if they meet these criteria

On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency's formal

notification and the lead agency must begin consultation within 30 days of receiving the tribe's request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project's impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe which provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Archival Research

SCCIC Records Search

A records search for the Project was conducted on May 4, 2017 at the California Historical Resources Information System (CHRIS) South Central Coastal Information Center (SCCIC) housed at California State University, Fullerton. The records search included a review of all recorded cultural resources and previous studies within the Project Site as well as a ½-mile radius.

Previous Cultural Resources Investigations

The records search results indicate that 152 cultural resources studies have been conducted within a ½-mile radius of the Project Site. Of these 152 previous studies, 98 included some form of field study including survey, excavation, or monitoring. (**Table 1**). Approximately 70 percent of the ½-mile records search radius has been included in previous cultural resources field studies. Of the 98 previous field studies, one (LA-10507) overlaps the Project Site. Approximately 90 percent of the Project Site has been included as part of this previous study.

TABLE 1
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS

Author	SCCIC# (LA-)	Title	Year
Amaral,et al.	11817	*Not Dead But Gone Before: The Archaeology of Los Angeles City Cemetery (CA-LAN-3566)*	2012
Anonymous	04836	*Phase I Archaeological Survey Along Onshore Portions of the Global West Fiber Optic Cable Project*	2000
Anonymous	08967	*San Pedro Apartments, Little Tokyo Redevelopment Project, Los Angeles, California*	2007
Anonymous	09844	*Draft: Los Angeles Eastside Corridor, Revised Cultural Resources Technical Report, Final Supplemental Environmental Impact Statement/Final Subsequent Environmental Impact Report*	2001
Anonymous	10507*	*Technical Report - Historical/Architectural Resources - Los Angeles Rail Rapid Transit Project "Metro Rail" Draft Environmental Impact Statement and Environmental Impact Report*	1983
Anonymous	01578	*Technical Report Archaeological Resources Los Angeles Rapid Rail Transit Project Draft Environmental Impact Statement and Environmental Impact Report*	1983
Anonymous	01997	*First Street North Draft Environmental Impact Report*	1990
Anonymous	02950	*Consolidated Report: Cultural Resource Studies for the Proposed Pacific Pipeline Project*	1992
Ashkar, Shahira	04834	*Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Anaheim, Los Angeles and Orange Counties*	1999
Ashkar, Shahira	04835	*Cultural Resources Inventory Report for Williams Communications, Inc. Proposed Fiber Optic Cable System Installation Project, Los Angeles to Riverside, Los Angeles and Riverside Counties*	1999
Berger, Louis	04262	*Zanja No. 3: Brick Culvert Historic American Engineering Record Documentation at the Proposed Federal Center Complex Los Angeles, California*	1987
Billat, Lorna	09388	*SHPO Cover Letter FCC Form 620 (Section 106) Submittal EarthTouch, Inc. (Consultants on Behalf of Royal Street Communications, LLC) Cal Trans @ Grand-Temple / LA-0158E Los Angeles City and County, California*	2008
Bonner, Wayne	11954	*Cultural Resources Records Search and Site Visit Results for Sprint Nextel Candidate LA03XC041 (Angels Flight) 242 South Broadway, Los Angeles, Los Angeles County, California*	2012
Bonner, Wayne	12392	*Cultural Resources Records Search and Site Visit Results for AT&T Mobility, LLC Candidate EL0038 (SBC Building), 433 Olive Street and 434 South Grand Avenue, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne and Crawford, Kathleen	12393	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02731A (LA424-AT&T (Madison MSC), 633 South Olive Street, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne and Crawford, Kathleen	12784	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SV11069C (Abe Building RT) 533 South Los Angeles Street, Los Angeles, Los Angeles County, California*	2013
Bonner, Wayne H.	07980	*Cultural Resources Records Search and Site Visit Results for Royal Street Communications, Llc Candidate La0155a (433 S. Olive Street: At&t Switch), 433 South Olive Street, Los Angeles, Los Angeles County, California*	2006

Author	SCCIC# (LA-)	Title	Year
Bonner, Wayne H.	07774	*Cultural Resources Records Search Results and Site Visit for Cingular Wireless El-038-01 (sbc Switch-downtown La), 433 South Olive Street & 434 Grand Avenue (aka 420 South Grand Avenue), Los Angeles, Los Angeles County, California*	2005
Bonner, Wayne H.	08537	*Cultural Resource Records Search Results and Site Visit for T-Mobile Candidate La03612a (alameda and Macy), 701 North Main Street, Los Angeles, Los Angeles County, California*	2006
Bonner, Wayne H.	09106	*Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11069C (Abe Building), 533 South Los Angeles Street, Los Angeles Street, Los Angeles, Los Angeles County, California*	2007
Bonner, Wayne H.	09107	*Cultural Resources Records Search and Site Visit Results for T-Mobile Candidate SV11557A (Manufacturer's Bank), 200 South San Pedro Street, Los Angeles, Los Angeles County, California*	2007
Bove, Frederick J.	00982	*Archaeological Resource Survey and Impact Assessment of a Proposed Parking Lot, Los Angeles, California*	1977
Chace, Paul G.	05437	*An Archaeological Review and Tests for the Tree Planting Program, El Pueblo De Los Angeles State Historic Park*	1980
Chace, Paul G.	03986	*A Cultural Resources Assessment of the Plaza El Pueblo De Los Angeles State Historic Park*	1981
Chace, Paul G.	02521	*An Archaeological Research Design for the Sepulveda Block Restoration-rehabilitation Project*	1980
Chace, Paul G.	03812	*Archaeological Monitoring of the W-7 Ramp Project, Olvera St, El Pueblo De Los Angeles State Historic Park*	1982
Conkling, Steven W.	04214	*Results of Cultural Resources Monitoring, L.a. Cellular Cell Site R106, Near West Fourth Street and South Hill Street, City and County of Los Angeles*	1998
Conkling, Steven W.	04215	*Results of Cultural Resources Monitoring, L.a. Cellular Cell Site R104, Near West Third Street and South Grand Avenue, City and County of Los Angeles*	1998
Conkling, Steven W.	04237	*Results of Cultural Resources Monitoring, L.a. Cellular Cell Site R105, at the Intersection of West Third Street and South Spring Street, City and County of Los Angeles*	1998
Conkling, Steven W.	04238	*Results of Cultural Resources Monitoring, L.a. Cellular Cell Site R107, at the Intersection of West First Street and South Hill Street, City and County of Los Angeles*	1998
Costello, Julia G.	01643	*Los Angeles Downtown People Mover Program Archaeological Resources Survey Phase 3*	1981
Costello, Julia G. and Larry R. Wilcoxon	00850	*An Archaeological Assessment of Cultural Resources in Urban Los Angeles, California -- La Placita De Dolores -- LAN-887*	1977
Costello et al.	11115	*Final Report: Historical Archaeology at the Headquarters Facility Project Site, the Metropolitan Water District of Southern California*	1999
Dietler, john and Sara C. Ferland	12867	*Testing to Protect Historic Cemetery Resources for the LA Plaza de Cultura y Artes Project, Los Angeles, California*	2015
Dietler et al.	12866	*Los Angeles Plaza Church Cemetery Technical Report for the LA Plaza de Cultura y Artes Project, Los Angeles, California*	2015
Dietler, Sara and Monica Strauss	10605	*Archaeological Evaluation for the Main Street Parking Facility and motor transportation division project, City of Los Angeles, California*	2009
Dillon, Brian D.	03151	*Alameda District Plan, Los Angeles California: Prehistoric and Early Historic Archaeological Research*	1994
Dillon, Brian D.	03668	*St. Vibiana's Cathedral Los Angeles, California*	1997

Author	SCCIC# (LA-)	Title	Year
Duke, Curt	05448	*Cultural Resource Assessment for At&t Wireless Services Facility Number R299.1, County of Los Angeles, Ca*	2000
Foster, John M.	11141	*Positive Archaeological Survey Report Plaza Substation Transportation Museum El Pueblo de Los Angeles, California*	2003
Foster, John M.	05203	*Archaeological Monitoring Report: Soil Test Pit Excavation for the Siqueiros Mural Project, El Pueblo De Los Angeles*	2001
Foster, John M.	03377	*El Pueblo de Los Angeles State Historic Park*	1996
Foster, John M.	06343	*Archaeological Monitor Report: Sewer Line Trenching for the Avila Adobe Interpretive Center, El Pueble De Los Angeles*	2001
Foster, John M.	07544	*Archaeological Monitoring Program, Alameda Street/north Spring Street Arterial Redesign-phase 1, California*	2006
Frierman, Jay D.	04383	*Cultural Resources Study, Chinatown Senior Citizens Housing Site*	1980
Fulton, Phil and McLean, Roderic	12493	*Cultural Resource Assessment Verizon Wireless Services Grand Avenue ELA Facility City of Los Angeles, Los Angeles County, California*	2012
Gibson, Heather	11039	*Archaeological Assessment for the Aiso Street Parking Facility Project, City of Los Angeles, California*	2011
Glenn, Brian K. and Sherri Gust	10856	*Cultural Resource Monitoring and Mitigation Plan for the Los Angeles County Metropolitan Transportation Authority Eastside Gold Line Transit Corridor, Los Angeles, Los Angeles County, California*	2004
Goldberg et al.	06382	*The Metropolitan Water District of Southern California Headquarters Facility Project the People of Yaanga?: Archaeological Investigations at CA-LAN-1575/h*	1999
Greenwood, Roberta S.	07564	*Archaeological Status Report: Collections and Reports*	1998
Greenwood, Roberta S.	03103	*Cultural Resources Impact Mitigation Program Angeles Metro Red Line Segment 1*	1993
Greenwood, Roberta S.	05129	*Archaeological Monitoring at La Golondrina Café, Olvera Street, Pueblo De Los Angeles State Historic Park*	2000
Gust, Sherry and Amy Glover	10805	*Cultural Resources Mitigation Compliance Report for the Metro Gold Line Eastside Extension, City of Los Angeles, California. For the Period 2004 to 2006*	2009
Hackel, Steven	11651	*Digging up the Remains of Early Los Angeles: The Plaza Church Cemetery*	2011
Hale, Alice E.	05426	*Negative Hpsr Form: Central Ave. Improvements*	2001
Hale, Alice E.	06359	*Archaeological Monitor Report the Los Angeles Gas Works 513 North Main Street*	2001
Hale, Alice E. and Scott Savastion	07558	*Archaeological Monitor Report Alameda Street Improvements*	2004
Hanna, David C., Gavin H. Archer, and David McLeod	09648	*Cultural Resources Mitigation and Monitoring For the Medallion Phase I Project City of Los Angeles, California*	2008
Howell-Ardila et al.	13180	*Cultural Resources Technical Report for the LA Plaza Cultura Village Project, City and County of Los Angeles, California*	2014
Huey, Gene	02712	*Archaeological Survey Report for the El Monte Busway Extension in the City of Los Angeles, Los Angeles County, California*	1978
Iverson, Gary	05131	*Negative Archaeological Survey Report: 119910*	1999

Author	SCCIC# (LA-)	Title	Year
King, Chester	03587	*Prehistoric Native American Cultural Sites in the Santa Monica Mountains*	1994
Lapin, Philippe	05413	*Cultural Resource Assessment for Pacific Bell Mobile Services Facility La 263-02, County of Los Angeles, Ca*	2000
Loftus, Shannon L.	10806	*Addendum-Paleontological and Cultural Resource Compliance Monitoring Report, Los Angeles County, Metropolitan Transit Authority, Eastside Gold Line Transit Corridor Project*	2010
McKenna, Jeanette	09429	*An Architectural Evaluation of the three buildings located at 217-221 West 4th St., 350-354 S. Broadway, and 356-364 S. Broadway, in the City of Los Angeles, Los Angeles County, California*	2008
McKenna, Jeanette A.	07533	*Archaeological/paleontological Monitoring at 3rd Street and San Pedro*	2004
McKenna, Jeanette A.	08516	*Re: 3rd and San Pedro Archaeological Monitoring (addendum)*	2004
Messick, Peter and Alice E. Hale	08910	*Archaeological Monitoring Report Mangrove Parking Lot Project, Los Angeles, California*	2007
Murray, Samantha and John Dietler	12868	*Archaeological Monitoring Report for the LA Plaza de Cultura y Artes Project Memorial Garden and Fence Installation, Los Angeles, California*	2015
Padon, Beth	05451	*The Va Outpatient Clinic Project*	
Padon, Beth	01609	*Los Angeles Outpatient Clinic Veterans Administration Archaeological Assessment Report Phase Ii*	1986
Padon, Beth	04263	*General Services Administration Federal Center: Archaeological Assessment Report Phase 2*	1986
Padon, Beth, Rod Raschke, and Roger Hatheway	01424	*Cultural Resource Assessment of the Proposed Los Angeles Federal Center, Los Angeles, California*	1984
Ramirez, Robert S.	09283	*A Phase I Cultural Resource Assessment and Vertebrate Paleontological Assessment for the Los Angeles Department of Water and Power District Cooling Plant and Distribution System Project in the City of Los Angeles, Los Angeles County, California*	2007
Robinson, Mark	10860	*Exposition Corridor Light Rail Transit Project Construction Phase Cultural Resources Monitoring and Treatment Plan*	2007
Salls, Roy A.	01770	*Report of Archaeological Reconnaissance Survey Of:esa Project 7217b, City of Los Angeles, Los Angeles County, Ca*	1989
Savastio, Scott A.	05446	*Report for Monitoring: Sewer Pipe Repair at Alameda and Arcadia Streets, Los Angeles*	2001
Savastio, Scott A.	05450	*Archaeological Monitoring Report: Los Angeles Web Host 900 South Alameda Street, Los Angeles, California*	2001
Schmidt, James J.	05447	*Archaeological Monitoring Report: 911 Dispatch Center First and Los Angeles Streets Los Angeles, California*	1999
Slawson, Dana N.	05433	*Exposure of Brick Remains Along Central Avenue Little Tokyo, City of Los Angeles*	2001
Slawson, Dana N.	07556	*Archaeological Monitoring Report Earthquakerepair and Replacement Sewer Unit 338 (w.o. E2003260) El Pueblo De Los Angeles and Environs Los Angeles, California*	2006
Slawson, Dana N.	07557	*Archaeological Monitoring Report Sewer Line Repair Project El Pueblo De Los Angeles and Environs Los Angeles, California*	2006
Speed, Lawrence	11048	*American Recovery and Reinvestment Act (ARRA) Funded Security Enhancement Project (PRJ29112359) - Improved Access Controls, Station Hardening, CCTV Surveillance System, and Airborne*	2009

Author	SCCIC# (LA-)	Title	Year
		Particle Detection at Los Angeles Station and Maintenance Yard, LA, CA	
Strauss, Monica	07888	*Archaeological Resources Assessment for the Proposed Public Safety Facilities Master Plan Project, City of Los Angeles, California*	2004
Unknown	12583	*La Plaza Cultural Village Project Draft Environmental Impact Report Volume I*	2014
Unknown	06351	*Nextel Communications CA-7837a/onizuka 332 2nd Street Los Angeles, California*	2001
Unknown	07178	*Report on Cultural Resources Mitigation and Monitoring Activities Fluor/level (3) Los Angeles Local Loops*	2001
Van Horn, David M.	01162	*Archaeological Survey Report: the Site of the New Southern Regional Library Compact Shelving Facility at Ucla*	1980
Warren, Keith	09663	*Herbalists and Horsemen: Cultural Diversity Along Los Angeles Street. Archaeology of the New Caltrans District 7 Headquarters Site (CA-LAN-3097)*	2004
Warren, Keith and M. Colleen Hamilton	09662	*Cultural Resources Monitoring of Demolition of the Former California Department of Transportation District 7 Offices*	2006
Warren, Keith M, Hamilton, Colleen, and Robinson, Mark	05200	*Assessment of Archaeological and Paleontological Sensitivity on the Proposed California Department of Transportation District 7 Headquarters Replacement Project*	2001
Warren, Keith, Dina M. Coleman, and M. Colleen Hamilton	10326	*Results of Phase II Testing, Analysis, and Evaluation, and Development of a Phase III Research Design - California Department of Transportation District 7 Headquarters Replacement Project, Los Angeles, California*	2001
White, Robert S. and Laura S. White	03783	*Archaeological Element of the Metropolitan Water District of Southern California Headquarters Facility Site Study Analysis*	1993
Whitley, David S.	03645	*Phase I Archaeological Survey and Cultural Resources Assessment of the Metropolitan Water District Headquarters Study Area, Los Angeles, California*	1995
Whitley, David S.	07547	*Phase I Archaeological Survey/class Iii Inventory for the Hall of Justice Study Area, Los Angeles, Los Angeles County, California*	2003
Wiley, Nancy, Colocho, Connie, and Garrison, Andrew	12648	*Archaeological Monitoring Results: The Los Angeles US Courthouse Los Angeles CA*	2014
Wlodarski, Robert J.	06085	*A Phase I Archaeological Study for the Proposed Eugene Obregon Congressional Medal of Honor Memorial Within Father Serra Park and El Pueblo De Los Angeles State Historic Park, City of Los Angeles, Los Angeles County, California*	2003
Wlodarski, Robert J.	06340	*A Phase I Archaeological Study for 625 North Hill Street (Castellar Apartments) City of Los Angeles, Los Angeles County, California*	2001

*Indicates study overlaps Project site

Previously Recorded Cultural Resources

The records search results indicate that 15 resources have been previously recorded within the ½-mile records search radius (**Table 2**). These resources include 14 archaeological resources and one California Historic Landmark (CHL #744). Of the 14 archaeological resources, 13 are historic-period archaeological sites (CA-LAN-2741H, -3097H, -3129H, -3337H, -3347, -3566, -3588H, -3767H, -3862H, -4114H, -4171H, -4196H and P-19-004451), and one is a historic-

period isolate (P-19-100311). CHL #744 (P-19-174925) is the site of the first brick school house in Los Angeles, the Butterfield Overland Mail Company office and corrals, and the U.S. Army Quartermaster, which existed during the mid-19th century. The CHL is marked by a commemorative plaque affixed to the Mirror Building. Of the 14 previously recorded archaeological resources, one (P-19-004451) is located within 100 feet the Project Site. CHL #744 (P-19-174925) is located within the Project Site itself. Detailed descriptions of these resources are provided below.

TABLE 2
PREVIOUSLY RECORDED CULTURAL RESOURCES

Primary Number (P-19-)	Trinomial (CA-LAN-)	Description	Date Recorded
002741	2741H	Historic-period archaeological site: buried mortared red brick footing or wall.	1998
003097	3097H	Historic-period archaeological site: brick and concrete structural foundations and privies.	2002
003129	3129H	Historic-period archaeological site: four discrete refuse deposits dating to the late 19th and early 20th centuries.	2003
003337	3337H	Historic-period archaeological site: refuse deposit	2000
003347	3347H	Historic-period archaeological site: granite-block pavement	2004
003566	3566H	Historic-period archaeological site: Los Angeles's first cemetery and refuse deposits	2000
003588	3588H	Historic-period archaeological site: foundations and a refuse deposit.	2006
003767	3767H	Historic-period archaeological site: three structural foundations, basements, pads and associated historic refuse from the late 19th and early 20th centuries.	2007
003862	3862H	Historic-period archaeological site: brick alignment.	2009
004114	4114H	Historic-period archaeological site:11 structural features, seven refuse deposit features and isolated artifacts.	2008
004171	4171H	Historic-period archaeological site: refuse deposits and features from the mid-19th century to the mid- 20th century.	2007
004196	4196H	Historic-period archaeological site (Zanja Madre and associated artifacts)	2011
004451**	-	Historic-period archaeological site: privies, foundation walls, building foundations, and refuse deposits.	2014
100311	-	Historic-period isolate: one black glass bottle fragment.	1998
174925*	-	CHL# 744: Site of the first brick schoolhouse in Los Angeles, Butterfield Overland Mail Company, and U.S. Army Quartermaster	1979

*Indicates resource within Project site

**Indicates resource within 100 feet of Project site

P-19-004451

Resource P-19-004451 is a historic-period archaeological site that is comprised of nine features discovered during archaeological monitoring between 2013 and 2014 (Garrison, 2014). The features include privy deposits, foundations, and refuse deposits. The resource is located within 100 feet from the Project Site.

P-19-174925 (CHL #744)

Resource P-19-174925 includes CHL #744 which commemorates the site of the first brick school house in Los Angeles (1854 - 1855), as well as the site of the Butterfield Overland Mail Company office and corrals (1858 -1861), and the U.S. Army Quartermaster (1861). All of these structures were located in the eastern portion of the Project Site within the current footprint of the Mirror Building during the mid-19th century.

Sacred Lands File Search

The California Native American Heritage Commission (NAHC) maintains a confidential Sacred Lands File (SLF) which contains sites of traditional, cultural, or religious value to the Native American community. The NAHC was contacted by ESA on August 11, 2017 to request a search of the SLF. The NAHC responded to the request in a letter dated August 23, 2017. The NAHC's letter states that sites are known to be located within the Project Site, but did not provide specific information regarding these sites. The NAHC recommended that the Gabrieleno Band of Mission Indians - Kizh Nation be contacted for more information regarding the identified resource. All NAHC correspondence is attached as **Appendix B**.

Historic Map and Aerial Photograph Review

Historic maps and aerial photographs were examined to provide historical information from which to establish historic land uses for the Project Site from which to assess the Project Site's archaeological sensitivity and the potential for encountering as yet unknown archaeological resources. Available maps include the 1888, 1894, 1906, and 1950 Sanborn Fire Insurance Maps. The 1888 and 1894 Sanborn Fire Insurance Maps are reproduced in the Archaeological Resources Assessment Report in Appendix D-2, Figures 4 and 5. Historic aerial photographs of the Project Site from the years 1948, 1952, 1964, 1977, 1972, 1980, and 2012 were also examined (historic aerials.com 2017).

In sum, the historic map and aerial review indicates that the Project Site has been developed and used for residential and commercial purposes since the late 19th century. Beginning in the mid-20th century the eastern half of the Project Site was drastically changed as all of the multi-story buildings present since the late 19th century were demolished and replaced with the Times, Plant, and Mirror Buildings. Similarly, the multistory buildings in the western half of the Project Site were destroyed when the Executive Building and parking structure were constructed in the 1970s. The buildings that are currently present within the Project Site all contain basements, and the construction of these buildings likely destroyed any subsurface remnants associated with the multistory buildings that were constructed in the late 19th century. This is in alignment with the findings of the geotechnical studies conducted for the Project which indicate that the Project Site is underlain by artificial fill ranging from depths of 2 to 18 feet below the ground surface

(GEOCHON West, Inc., 2013; Kleinfelder, 2005; MACTEC Engineering and Consulting, 2003). This artificial fill may have been imported to the Project Site following the demolition of the multi-story buildings present since the late 19th century and the construction of the Times, Plant, and Mirror Buildings.

Assembly Bill 52 Tribal Consultation

Pursuant to the requirements of AB 52, requiring government-to-government consultation, the City as the lead agency sent consultation notification letters via certified mail to Native American groups affiliated with the Project Site on May 5, 2017 (**Table 3**). The letters included a description of the proposed Project, the Project location, and a notification of the type of consultation being initiated. The City received a response from the Gabrieleno Band of Mission Indians - Kizh Nation (Andrew Salas, Tribal Chair). The other Native American groups contacted by the City have not responded. All consultation materials are attached in **Appendix C**.

TABLE 3
SUMMARY OF AB 52 CONSULTATION

Contact	Tribe/Organization	Date AB 52 Notice Sent	Response Received	Date of AB 52 Consultation Initiation	Consultation Results
Kimia Fatehi, Director, Public Relations	Fernandeño Tataviam Band of Mission Indians	5/5/2017	No response	-	-
Andrew Salas, Chairperson	Gabrieleño Band of Mission Indians – Kizh Nation	5/5/2017	Request consultation	6/12/2017	-Consultation on-going
Robert F. Dorame, Tribal Chair/Cultural Resources	Gabrielino Tongva Indians of California Tribal Council	5/5/2017	No response	-	-
Sam Dunlap, Cultural Resources Director	Gabrielino/Tongva Nation	5/5/2017	No response	-	-
Sandonne Goad, Chairperson	Gabrielino/Tongva Nation	5/5/2017	No response	-	-
Anthony Morales, Chairperson	Gabrielino/Tongva San Gabriel Band of Mission Indians	5/5/2017	No response	-	-
Linda Candelaria, Co-Chairperson	Gabrielino-Tongva Tribe	5/5/2017	No response	-	-
Joseph Ontiveros, Cultural Resource Director	Soboba Band of Luiseño Indians	5/5/2017	No response	-	-
Michael Mirelez, Cultural Resource Coordinator	Torres Martinez Desert Cahuilla Indians	5/5/2017	No response	-	-
John Valenzuela, Chairperson	San Fernando Band of Mission Indians	5/5/2017	No response	-	-

In a letter dated May 16, 2017, Andrew Salas, chairperson of the Gabrieleno Band of Mission Indians - Kizh Nation, initiated AB 52 consultation in response to the City's notification. On July 13, 2017, the City and Tribal Chairman Salas engaged in AB 52 consultation via telephone. Tribal Chairman Salas indicated that the Project Site is sensitive for the presence of tribal cultural resources citing its proximity to the Los Angeles River and the ethnographic village of Yangna. Tribal Chairman Salas also stated that present day Spring Street, which bounds the southeastern portion of the Project, was a historic trade route. During consultation the tribe indicated that due to the cultural sensitivity of the Project Site, the Gabrieleno Band of Mission Indians - Kizh

Nation has recommended that a Native American monitor be present on Site to observe all Project-related grading activities.

In an effort to provide substantial evidence for the cultural sensitivity of the Project Site, Tribal Chairman Salas provided a number of newspaper articles, electronic resources, and maps. PRC Section 21082.3(c)(1) states that any information, regarding the location, description, and use of a tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be disclosed. Confidentiality, does not however apply to data or information that are publicly available. Many of the materials provided by Tribal Chairman Salas are comprised of public available internet resources and are described herein.

These digital documents include information regarding the village of Yaanga's possible locations and the Gabrielino trading route. These documents include the following: *Yangna - Early Los Angeles Community*; *From Site of Ancient Tribal Tree, the City of Angels Grew*; A *Visit to Old Los Angeles: Spring Street Part 1*; *Headquarters and Facility Project Archaeological Investigations at CA-Lan-1575/H*; *California's Gabrielino Indians*; *the Kirkman-Harriman Pictorial and Historical Map of Los Angeles County;* and *the Street Railway History of Los Angeles*. One of the sources provided by Tribal Chairman Salas (Headquarters and Facility Project Archaeological Investigation at CA-Lan-1575) contains information regarding the locations of archaeological resources and is therefore a confidential document. These sources provide information on potential locations of the Yangna which include locations approximately 0.20 and 0.70 miles from the Project Site.

The Kirkman-Harriman Map depicts a number of "Old Roads," or trails, converging on what is presently Downtown Los Angeles. One of these roads may correlate with the trading route indicated by Tribal Chairman Salas; however, the scale of the map makes it difficult to discern if one of the roads passed through or adjacent to the Project Site.

Summary

To identify tribal cultural resources within or adjacent to the Project Site, an SLF search was prepared by the NAHC, and the City sent notification letters to Native American groups requesting to be notified of City of Los Angeles projects. The SLF search indicated that tribal cultural resources are known to be located within the Project Site. The NAHC did not provide details regarding the resource, but recommended that the Gabrieleno Band of Mission Indians - Kizh Nation be contacted for additional information. At the request of Andrew Salas, the City engaged in AB 52 consultation with the Gabrieleno Band of Mission Indians - Kizh Nation on July 13, 2017. Mr. Salas has stated that the Project Site is sensitive for the presence of tribal cultural resources due to its proximity to the Los Angeles River and the ethnographic village of *Yangna*, as well as the presence of a historic travel route along what is present-day Spring Street. Due to the cultural sensitivity of the Project Site, the Gabrieleno Band of Mission Indians - Kizh Nation has recommended a Native American monitor be present to observe all Project-related grading activities.

The buildings that are presently on Site all contain basements that extend at least one story below grade. The construction of these buildings and their basements during the mid-20th century likely

destroyed any intact archaeological deposits that may have underlain the Project. However, the low archaeological sensitivity of the Project Site does not diminish its sensitivity for tribal cultural resources as indicated by the Gabrieleno Band of Mission Indians - Kizh Nation.

Conclusions

In conclusion, the documents and maps provided for the record indicated that the Project Site was once located within the general vicinity of the Native American village of *Yangna*; however, no villages are mapped or documented as overlapping with the Project Site or occurring immediately adjacent. The scales of the maps provided to describe the presence of trading routes did not contain the level of detail sufficient to determine whether the depicted road bypasses or intersects with the current Project area. Information provided by Mr. Salas, as described above, asserts that Indian villages known to have been present within Downtown Los Angeles and its vicinity moved around over time and may have overlapped. Specific evidence of village locations or trading routes located within or overlapping the Project Site was not provided. As such, materials provided do not provide substantial evidence of a tribal cultural resource within the Project Site. **Therefore, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource,** as **defined in Public Resources Code section 21074, and impacts would be less than significant.**

While no tribal cultural resources are anticipated to be affected by the Project, the City has established a standard condition of approval under its police power and land use authority to address any inadvertent discovery of a tribal cultural resource. For purposes of this analysis, it is assumed the City would impose this condition on the Project as part of its land use approvals. Should tribal cultural resources be inadvertently encountered during Project construction, this condition of approval requires the temporarily halting of construction activities near the encounter and notification of the City and any Native American tribes traditionally and culturally affiliated with the geographic area of the Project. If the City determines that the potential resource appears to be a tribal cultural resource (as defined by PRC Section 21074), the City would provide any affected tribe a reasonable period of time to conduct a site visit and make recommendations regarding the monitoring of future ground disturbance activities, as well as the treatment and disposition of any discovered tribal cultural resources. The Project Applicant would then be required to implement the tribe's recommendations if a qualified archaeologist concludes that the tribe's recommendations are reasonable and feasible. The recommendations would be incorporated into a tribal cultural resources monitoring plan, and once the plan is approved by the City, ground disturbance activities would be permitted to resume. In accordance with this condition of approval, all related activities would be conducted in accordance with regulatory requirements.

References

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Kleinfelder, "Geotechnical Engineering Report, New Police Headquarters Facility, City Block Bounded by First Street on the North, Main Street on the East, Second Street on the South, and Spring Street on the West (120 South Spring Street, 141 South Main Street, and 106 through 132 West First Street), Tract L A C A Map No. 94, Lots PCL 14 and 15 and Ord's Survey Tract, Block 1, Lots 4 and 8), Downtown Los Angeles, Prepared for the City of Los Angeles, Department of Public Works, Bureau of Engineering, Geotechnical Engineering Division", dated February 15, 2005, WO E170910B, GED File 04-120. Lamar, D.L. 1970. Geology of the Elysian Park-Repetto Hills Area, Los Angeles County, California. California Division of Mines and Geology Special Report 101.

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MACTEC Engineering and Consulting, "Report of Geotechnical Investigation, Proposed Los Angeles Federal Courthouse, Between Broadway and Hill Street and First and Second Streets, Los Angeles, California, Prepared for General Services Administration, San Francisco, California", dated January 15, 2003 (MACTEC Project No. 4953-03-3881).

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Appendix A
Personnel



Monica Strauss, RPA

Director, Southern California Cultural Resources Group

Monica has successfully completed dozens of cultural resources projects throughout California and the greater southwest, where she assists clients in navigating cultural resources compliance issues in the context of CEQA, NEPA, and Section 106. Monica has extensive experience with archaeological resources, historic buildings and infrastructure, landscapes, and Tribal resources, including Traditional Cultural Properties. Monica manages a staff of cultural resources specialists throughout the region who conduct Phase 1 archaeological/ paleontological and historic architectural surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. She maintains excellent relationships with agency staff and Tribal representatives.

EDUCATION

M.A., Archaeology, California State University, Northridge

B.A., Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

19 YEARS EXPERIENCE

SPECIALIZED EXPERIENCE

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

PROFESSIONAL AFFILIATIONS

Register of Professional Archaeologists (RPA), #12805

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

QUALIFICATIONS

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Relevant Experience

Los Angeles Unified School District, Central Los Angeles High School #9. Los Angeles, CA. *Project Director.* ESA contributed to Data Recovery Report sections for Los Angeles Unified School District's Central High School #9, constructed in downtown Los Angeles. Between 2004 and 2009, Monica led a team of archaeological staff of ten who conducted archaeological monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Alameda Street Improvement Archaeological Monitoring and Assessment. Los Angeles CA. *Project Director.* Monica directed archaeological monitoring conducted during the construction of roadway improvements in downtown Los Angeles. She responded to the discovery of historic resources including the *Zanja Madre* and the historic brick Alameda Street. She developed mitigation recommendations to address impacts to these resources from the project including an adaptive re-use of the recovered brick materials in the landscape design of the project. Monica provided oversight to laboratory analysts who catalogued the artifact collection.

City of Los Angeles, Department of Public Works, Public Safety Facilities Master Plan Phase I Archaeological Resources Evaluation. Los Angeles County, CA. *Project Director.* Monica directed a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Project work involved an extensive investigation of the area during the cities' early pueblo years and specifically the Zanja Madre irrigation system. Monica prepared a technical report with findings and recommendations for further work, pursuant to CEQA requirements.



Sara Dietler

Archaeologist

EDUCATION

B.A., Anthropology, San Diego State University

19 YEARS EXPERIENCE

CERTIFICATIONS/ REGISTRATION

California BLM Permit, Principal Investigator, Statewide

Nevada BLM Permit, Paleontology, Field Agent, Statewide

PROFESSIONAL AFFILIATIONS

Society for American Archaeology (SAA)

Society for California Archaeology (SCA)

Sara is a senior archaeology and paleontology lead with 20 years of experience in cultural resources management in Southern California. As a senior project manager, she manages technical studies including archaeological and paleontological assessments and surveys, as well as monitoring and fossil salvage for many clients, including public agencies and private developers. She is a cross-trained paleontological monitor and supervisor, familiar with regulations and guidelines implementing the National Historic Preservation Act (NHPA), National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and the Society of Vertebrate Paleontology guidelines. She has extensive experience providing oversight for long-term monitoring projects throughout the Los Angeles Basin for archaeological, Native American, and paleontological monitoring compliance projects and provides streamlined management for these disciplines.

Relevant Experience

Los Angeles Unified School District (LAUSD) Central Los Angeles High School #9; Los Angeles, CA. *Senior Project Archaeologist & Project Manager*. Sara conducted on-site monitoring and investigation of archaeological sites exposed as a result of construction activities. During the data recovery phase in connection with a 19th century cemetery located on-site, she participated in locating of features, feature excavation, mapping, and client coordination. She organized background research on the cemetery, including genealogical, local libraries, city and county archives, other local cemetery records, internet, and local fraternal organizations. Sara advised on the lab methodology and setup and served as project manager. Sara was a contributing author and editor for the published monograph, which was published as part of a technical series, “Not Dead but Gone Before: The Archaeology of Los Angeles City Cemetery.”

Downtown Cesar Chavez Median Project, City of Los Angeles, CA. *Project Manager*. Sara assisted the City of Los Angeles Department of Public Works Bureau of Engineering with a Local Assistance Project requiring consultations with Caltrans cultural resources. Responsible for Caltrans coordination, serving as contributing author and report manager for required ASR, HPSR, and HRER prepared for the project.

Elysian/USC Water Recycling Project Initial Study/Environmental Assessment, Los Angeles, CA. *Project Manager.* Sara worked on the Initial Study/Mitigated Negative Declaration and an Environmental Assessment/Finding of No Significant Impact to construct recycled water pipelines for irrigation and other industrial uses serving Los Angeles Department of Water and Power customers in downtown Los Angeles, including Elysian Park. The U.S. Environmental Protection Agency is the federal lead agency.



Michael Vader

Senior Associate

EDUCATION

B.A., Physical Anthropology, University of California, Santa Barbara

11 YEARS EXPERIENCE

PROFESSIONAL AFFILIATIONS

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Pacific Coast Archaeological Society (PCAS)

SPECIALIZED EXPERIENCE

Analysis of faunal remains including fish and shellfish species

Archaeological Monitoring

Paleontological Monitoring

Environmental Compliance Monitoring

Human osteology and bioarchaeology

Michael is cultural resources specialist with experience working on survey, data recovery, and monitoring projects. Michael has experience with project management, has led crews on multiple surveys and excavations, and is familiar with environmental compliance documents. He has worked on a variety of energy and water infrastructure projects throughout California, including projects in Riverside, San Diego, Imperial, San Bernardino, Los Angeles, Orange, Santa Barbara, San Luis Obispo, Kern, Fresno, Madera, and Inyo Counties, as well as in Clark County Nevada. Michael regularly works as part of a team, coordinating with field staff and agency leads.

Relevant Experience

San Gabriel River Confluence with Cattle Canyon Improvements Project, Los Angeles National Forest, Los Angeles County, CA. *Archaeologist*. ESA has been retained by BlueGreen Consultants to prepare a joint EIS/R for the San Gabriel River Confluence with Cattle Canyon Improvements Project. The Project consists of recreational improvements and ecological restoration opportunities to address resource management challenges resulting from high public use of a 2.5-mile reach of the East Fork of the San Gabriel River, near its confluence with Cattle Canyon Creek in the Angeles National Forest. Michael led the cultural resources survey and prepared the Phase I cultural resources study report in support of the EIS/R.

Ballona Wetlands Ecological Reserve Restoration Project, Los Angeles, CA. *Archaeologist.* The California State Coastal Conservancy retained ESA to conduct an Extended Phase I investigation at 20 previously recorded shell scatters and Phase II archaeological testing of four historic-period archaeological sites in support of an Environmental Impact Statement/Environmental Impacts Report being prepared for the proposed Ballona Ecological Reserve Restoration Plan Project which would restore native coastal wetland and upland habitats within the 600-acre Ballona Wetlands Ecological Reserve. Michael led the extended Phase I and Phase II fieldwork and assisted in the preparation of the technical report presenting the results and conclusions of the study.

City of Los Angeles Department of Water and Power, City Trunk Line Unit 3 Project, Los Angeles, CA. *Archaeologist.* ESA has conducted a Phase 1 cultural resources assessment for the Los Angeles Department of Water and Power (LADWP), City Trunk Line Unit 3 Project. LADWP plans replacing a portion of the City Trunk Line on Coldwater Canyon Avenue between Vanowen Street and Magnolia Boulevard, within the City of Los Angeles. The proposed Project would involve the installation of approximately 10,250 linear feet of 60-inch diameter water pipeline constructed of welded steel. Michael led the Phase 1 cultural resources survey of the Project area and prepared the technical report and the cultural resources ISMND section.

Appendix B
Sacred Lands File Search

ESA

2121 Alton Parkway
Suite 100
Irvine, CA 92606
949.753.7001 phone
949.753.7002 fax

www.esassoc.com

August 11, 2017

Native American Heritage Commission
1550 Harbor Blvd., Suite 100
Sacramento, CA 95691

Subject: Sacred Lands File Search Request: Proposed Omni LA Times Square Project, Downtown Los Angeles, California.

Dear Native American Heritage Commission Representative:

ESA is preparing environmental documentation for the proposed Omni LA Times Square Project ("the Project").

The Project would involve the redevelopment of the Times Mirror Square site (Project Site) located in Downtown Los Angeles and bounded by West 1st Street, South Spring Street, West 2nd Street, and South Broadway. The Project would include the retention and renovation of the on-site Times, Plant and Mirror Buildings on the eastern half of the Project Site. The Project would also demolish the four-level Parking Garage and Executive Building located on the western half of the Project Site and construct two towers with residential units. The Project would provide nine new subterranean levels of parking and five above-ground podium levels.

To ensure that any areas containing previously recorded cultural resources and sacred lands are identified and considered, ESA is requesting a Sacred Lands File search of the Project Site. The Project Site is located in an unsectioned portion of Township 1 South, Range 13 West of the Los Angeles, CA United States Geological Survey 7.5' topographic quadrangle map (**Figure 1**, attached).

Thank you for your assistance with our efforts to address possible Native American concerns that may be affected by the proposed project. If you have any questions or need additional information, please contact me at (949) 753-7001 or via email at fclark@esassoc.com.

Sincerely,

Fatima Clark
Archaeologist



TOPOQUAD: Hollywood & Los Angeles

Times Mirror Square Project

Figure 1

Record Search

ESA PCR

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710

August 23, 2017

Fatima Clark
ES Associates

Sent by E-mail: fclark@esassoc.com

RE: Proposed Omni LA Times Square Project, City of Los Angeles; Los Angeles USGS Quadrangle, Los Angeles County, California

Dear Ms. Clark:

Attached is a list of tribes that have cultural and traditional affiliation to the areas of potential project effect (APE) referenced above. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult, as may be required under particular state statutes. If a response has not been received within two weeks of notification, the Native American Heritage Commission (NAHC) requests that you follow-up with a telephone call to ensure that the project information has been received.

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. Sites have been located within the APE you provided that may be impacted by the project. Please immediately contact Gabrieleno Band of Mission Indians – Kizh Nation at (626) 926-4131 for more information about these sites.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions, please contact me at my email address: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst

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Native American Heritage Commission
Native American Contact List
Los Angeles County
8/23/2017

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chariperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
gabrielenoindians@yahoo.com

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693 — Gabrieleno
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231 — Gabrielino
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street — Gabrielino
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Omni LA Times Square Project, Los Angeles County.

Appendix C
Assembly Bill 52 Consultation Correspondence

DEPARTMENT OF
CITY PLANNING

CITY PLANNING COMMISSION

DAVID H. J. AMBROZ
PRESIDENT

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VICE-PRESIDENT

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COMMISSION OFFICE MANAGER
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May 5, 2017

Fernandeño Tataviam Band of Mission Indians
Kimia Fatehi, Director, Public Relations
1019 2nd Street, Ste. 1
San Fernando, CA 91340

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

Dear Tribal Representative:

This letter is to inform you that the Los Angeles Department of City Planning is reviewing the following proposed project:

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Los Angeles Department of City Planning
Attn: William Lamborn
200 N. Spring Street, Room 750
Los Angeles, CA 90012
Email: William.lamborn@lacity.org
Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

DEPARTMENT OF
CITY PLANNING

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May 5, 2017

Gabrieleño Band of Mission Indians – Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA 91723

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

Dear Tribal Representative:

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Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

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May 5, 2017

Gabrielino Tongva Indians of California Tribal Council
Robert F. Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower, CA 90707

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

Dear Tribal Representative:

This letter is to inform you that the Los Angeles Department of City Planning is reviewing the following proposed project:

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200 N. Spring Street, Room 750
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Email: William.lamborn@lacity.org
Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

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May 5, 2017

Gabrielino/Tongva Nation
Sam Dunlap, Cultural Resources Director
P.O. Box 86908
Los Angeles, CA 90086

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

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Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

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May 5, 2017

Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles, CA 90012

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

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Los Angeles, CA 90012
Email: William.lamborn@lacity.org
Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

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May 5, 2017

Gabrielino/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

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Email: William.lamborn@lacity.org
Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning



William Lamborn
Major Projects Section

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May 5, 2017

Gabrielino-Tongva Tribe
Linda Candelaria, Co-Chairperson
1999 Avenue of the Stars, Suite 1100
Los Angeles, CA 90067

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
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Sincerely,

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May 5, 2017

San Fernando Band of Mission Indians
John Valenzuela, Chairperson
P.O. Box 221838
Newhall, CA 91322

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
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Sincerely,

Vincent P. Bertoni, AICP
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Major Projects Section

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May 5, 2017

Soboba Band of Luiseño Indians
Joseph Ontiveros, Cultural Resource Director
P.O. Box 487
San Jacinto, CA 92581

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

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[1] Additional addresses associated with the proposed Project include: 100-142 South Broadway; 202-234 West 1st Street; 121-147 South Spring Street; 205-221 West 2nd Street.

Los Angeles Department of City Planning
Attn: William Lamborn
200 N. Spring Street, Room 750
Los Angeles, CA 90012
Email: William.lamborn@lacity.org
Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning

William Lamborn
Major Projects Section

DEPARTMENT OF
CITY PLANNING

CITY PLANNING COMMISSION

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CITY OF LOS ANGELES
CALIFORNIA

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MAYOR

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(213) 978-1273

http://planning.lacity.org

May 5, 2017

Torres Martinez Desert Cahuilla Indians
Michael Mirelez, Cultural Resource Coordinator
PO Box 1160
Thermal, CA 92274

CASE No.: ENV-2016-4676-EIR
Project Address: 100 S. Broadway[1]
Community Plan: Central City

Dear Tribal Representative:

This letter is to inform you that the Los Angeles Department of City Planning is reviewing the following proposed project:

The Project would involve the redevelopment of the Times Mirror Square site located in Downtown Los Angeles and bounded by West 1st Street, South Spring Street, West 2nd Street, and South Broadway. The Project proposes the retention and renovation of the on-site Times, Plant and Mirror Buildings on the eastern half of the Project Site. The renovated buildings would include ground floor commercial uses with office space on the upper levels. The Project proposes to demolish the four-level Parking Garage and Executive Building located on the western half of the Project Site and construct two mixed-use towers. The northern tower, oriented along 1st Street and Broadway, would be 37 stories and 465 feet in height with 450 residential units. The southern tower, oriented along Broadway and 2nd Street, would be 53 stories and 596 feet in height with 677 residential units. Combined, the towers would contain 1,127 residential units, 34,572 square feet of commercial uses and 1,135,803 square feet of floor area. Overall, with the existing buildings to remain, the Project proposes 1,511,908 square feet of floor area. The Project would provide approximately 1,744 parking spaces in nine new subterranean levels and five above-ground podium levels.

Per AB 52, you have the right to consult on a proposed public or private project prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. You have 30 calendar days from receipt of this letter to notify us in writing that you wish to consult on this project. Please provide your contact information and mail your request to:

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Phone No.: 213-978-1470

Sincerely,

Vincent P. Bertoni, AICP
Director of Planning

William Lamborn
Major Projects Section

GABRIELEÑO BAND OF MISSION INDIANS - KIZH NATION
Historically known as The San Gabriel Band of Mission Indians
recognized by the State of California as the aboriginal tribe of the Los Angeles basin

City of Los Angeles
200 N. Spring St. Room 750
Los Angeles, CA 90012

May 16, 2017

Re: AB52 Consultation request for 100 S. Broadway Central City

Dear William Lamborn,

Please find this letter as a written request for consultation regarding the above-mentioned project pursuant to Public Resources Code § 21080.3.1, subd. (d). Your project lies within our ancestral tribal territory, meaning descending from, or a higher degree of kinship than traditional or cultural affiliation. Your project is located within a sensitive area and may cause a substantial adverse change in the significance of our tribal cultural resources. Most often, a records search for our tribal cultural resources will result in a "no records found" for the project area. The Native American Heritage Commission, ethnographers, historians, and professional archaeologists can only provide limited information that has been previously documented about California Native Tribes. This is the reason the Native American Heritage Commission (NAHC) will always refer the lead agency to the respective Native American Tribe of the area because the NAHC is only aware of general information and are not the experts on each California Tribe. Our Elder Committee & tribal historians are the experts for our Tribe and are able to provide a more complete history (both written and oral) regarding the location of historic villages, trade routes, cemeteries and sacred/religious sites in the project area. Therefore, to avoid adverse effects to our tribal cultural resources, we would like to consult with you and your staff to provide you with a more complete understanding of the prehistoric use(s) of the project area and the potential risks for causing a substantial adverse change to the significance of our tribal cultural resources.

Consultation appointments are available on Wednesdays and Thursdays at our offices at 901 N. Citrus Ave. Covina, CA 91722 or over the phone. Please call toll free 1-844-390-0787 or email gabrielenoindians@yahoo.com to schedule an appointment.

** Prior to the first consultation with our Tribe, we require all those individuals participating in the consultation to view a video produced and provided by CalEPA and the NAHC for sensitivity and understanding of AB52. You can view the video at: http://nahc.ca.gov/2015/12/ab-52-tribal-training/

With Respect,

Andrew Salas, Chairman

Andrew Salas, Chairman | Nadine Salas, Vice-Chairman | Christina Swindall Martinez, secretary
Albert Perez, treasurer I | Martha Gonzalez Lemos, treasurer II | Richard Gradias, Chairman of the Council of Elders
PO Box 393, Covina, CA 91723 | www.gabrielenoindians.org | gabrielenoindians@yahoo.com

William Lamborn <william.lamborn@lacity.org>

AB52 Consultation Follow-up - Times Mirror Square Project

3 messages

William Lamborn <william.lamborn@lacity.org> Thu, Jul 13, 2017 at 4:01 PM
To: Gabrieleno Band of Mission Indians <gabrielenoindians@yahoo.com>, matt.teutimez@gmail.com

Dear Chairman Salas and Mr. Teutimez,

Thank you again for joining the call today for AB 52 Tribal Consultation. This is a follow-up and summary of our discussion of the Times Mirror Square Project.

The following information was provided to the City by the Tribe regarding the project site and vicinity:

- The Project Site is located within an Area of Potential Effects (APE), similar to the area around the Arts District near the LA River, which is a sensitive area.
- The Project Site is located in the vicinity of the Yangna village, a predominant village that extended through Civic Center, Little Tokyo, and the Arts District, for a total area of approximately 5 square miles in and around downtown Los Angeles.
- Spring Street was historically used as a trading route in the project vicinity .
- Cultural resources have been found from two construction sites near the 101-freeway and Hill/Spring Streets
- Topography of the downtown/Civic Center area is higher than some surrounding areas. Higher ground is often indicative of the location of past settlements/villages.
- The Tribe has requested that a monitor be continuously on site for grading activities during project construction.

Follow-up inquiries/requests:

1. Chairman Salas to provide a map and further information regarding historic trading route along Spring Street.
2. Chairman Salas to provide a map and further information regarding the location and history of the Yangna Village.
3. Chairman Salas to provide further information regarding excavation and resource finds from a recent/ongoing construction sites located near Hill Street/Spring Street by the 101 Freeway.
4. Chairman Salas/Mr. Teutimez to provide supporting academic/research articles regarding the above mentioned tribal history, or archaeological evidence of recent finds in the region.
5. The City to provide geotechnical information regarding the project site history and subsurface soil conditions once preliminary geotechnical reports become available.

Thank you very much. I look forward to your follow-up regarding the above inquiries.

--

William Lamborn
Major Projects
Department of City Planning
200 N. Spring Street, Rm 750
Ph: 213.978.1470
Please note that I am out of the office every other Friday.

Gabrieleno Band of Mission Indians <gabrielenoindians@yahoo.com> Thu, Jul 13, 2017 at 7:07 PM
Reply-To: Gabrieleno Band of Mission Indians <gabrielenoindians@yahoo.com>

To: William Lamborn <william.lamborn@lacity.org>, "matt.teutimez@gmail.com" <matt.teutimez@gmail.com>

Dear William
Heres a Little history i like to share with you. i will be sending you more.
A VISIT TO OLD LOS ANGELES--SPRING STREET PART ONE

A VISIT TO OLD LOS ANGELES--SPRING STREET PART ONE

THE STREET RAILWAY HISTORY OF LOS ANGELES

THE STREET RAILWAY HISTORY OF LOS ANGELES

From Site of Ancient Tribal Tree, the City of Angels Grew

From Site of Ancient Tribal Tree, the City of Angels Grew

It was already ancient when it was chopped down more than a century ago, the sycamore tree that forever fixes in...

Yangna - Early Los Angeles Community

Yangna - Early Los Angeles Community

Almanac facts, information and trivia about Los Angeles County, its people, cities and communities.

Sincerely,

Andrew Salas, Chairman
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723
cell: (626)926-4131
email: gabrielenoindians@yahoo.com
website: www.gabrielenoindians.org

On Thursday, July 13, 2017 4:02 PM, William Lamborn <william.lamborn@lacity.org> wrote:

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William Lamborn
Major Projects
Department of City Planning
200 N. Spring Street, Rm 750
Ph: 213.978.1470
Please note that I am out of the office every other Friday.



1938 LA County Map.jpg
2899K

William Lamborn <william.lamborn@lacity.org> Mon, Jul 17, 2017 at 4:29 PM
To: Gabrieleno Band of Mission Indians <gabrielenoindians@yahoo.com>
Cc: "matt.teutimez@gmail.com" <matt.teutimez@gmail.com>

Thank you, Mr. Salas. I've received your email, inclusive of the attached map and web links. I'll look forward to any additional information you would like to provide.

Best,
Will

On Thu, Jul 13, 2017 at 7:07 PM, Gabrieleno Band of Mission Indians <gabrielenoindians@yahoo.com> wrote:

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KERN COUNTY
MOJAVE DESERT
VENTURA COUNTY
SANTA CLARA HILLS
SIMI HILLS
SAN FERNANDO VALLEY
SAN GABRIEL MOUNTAINS
SAN BERNARDINO MOUNTAINS
SAN BERNARDINO CO.
Victor Valley
DESERT
ORANGE CO.
Santa Ana River
Santa Ana Mountains
San Joaquin Hills
Santa Monica Bay
Pacific Ocean
Riverside County
San Diego County
Principal
Historic Sites - Old Highways = Also, Battle-Fields.
- Spanish-Mexican-Early American -
in
Old
LOS ANGELES COUNTY.
Legend: - Portola's First Exploring Route
- Camps and Dates
- El Camino Real (Official Spanish Roads)
- Mission Roads (Created Highways, May, 1851)
- Old Roads
(Ancient) Together with a few established bef. 1890
- Dead Line = 1860 A.D.
Scale
Compiled by
Geo. W. Kirkman
August, 1937.
Los Angeles, California.
The Kirkman-Harriman
Pictorial and Historical Map
of
Los Angeles County: 1860 A.D.
1937 A.D.
Copyright 1938 by George W. Kirkman.
R91.7941 L88Ki
For The Map Room
of the History Dept.
Los Angeles Public Library
In appreciation of the many kindnesses
shown me, during many years of research,
by the History Librarians.
George W. Kirkman
Los Angeles, April 5, 1938.

A Visit to Old Los Angeles

5. Spring Street (Part 1).

by

Brent C. Dickerson

Copyright © Brent C. Dickerson

Index to Episodes (click here)

A Walk South down Spring Street to Fourth Street.

• The new post office and Temple Square, looking south, at the point where old Spring Street began, angling off of Main Street (Spring Street "straight ahead" at center, the larger Main Street at left; this "angled" portion of Spring Street cut diagonally across the block on which the new City Hall now sits; old original Plaza and Church about two blocks behind the viewer; this angled portion of Spring Street was all that remained of the line of the ancient Native American trail which skirted the base of the hills). That brick building facing us is the New Temple Block, Don Juan Temple's professional building, which we looked at more closely when we visited Main Street. The Post Office is on the site of Temple's general store, which was in a building known as the Old Temple Block (and subsequently, after Temple's death in 1866 brought new ownership, as the Downey Block, the new owner being former governor John G. Downey).



• Looking west on Temple to—nearer—its corner with Spring, and then—further— its corner with New High Street; we can see the Court House in the distance. We will get better acquainted with the Court House later!



• Just a few more steps, and the south face of the Post Office, at the head of Spring Street, opens out to us as we look west on Temple. Beyond, the building at Temple and New High St.



• I had my first packet of postcards and deathless prose ready to send you, dear; so I walked into the post office to do so while the others waited outside. It was spacious and quiet; I halfway expected to see plaques on the wall reading, "In Loving Memory..."



• Across the street, at the southwest corner of Spring and Temple, is the prosperous-looking International Savings and Exchange Bank Building. Banks—especially southwards on the street—are the characteristic businesses on Spring Street.





• Here's the rear of the same building as we look east from the Court House on Pound Cake Hill to the west. We can see a little of the east face of Main Street beyond the International Bank Building; the structure with the conical tower mid-way between the right edge of the view and the edge of the International Bank Building would be the Amestoy Block at the corner of Main Street and Market Street. Mr. Amestoy started in Los Angeles as a Basque sheepherder in 1858, his wife meantime taking in washing to bolster the family income.

• South on Spring past the International Savings and Exchange Bank Building, we come to the corner of tiny Market Street, which goes connects Spring and Main streets, and look north on Spring towards Temple Street and the Post Office. In the distance are the towers of the Baker Block on Main Street.



• We look south on the diagonal portion of Spring Street, its junction with Temple Street a number of yards behind us. This view is from 1890; the building at extreme right would be demolished as part of the site for the International Savings and Exchange Bank Building. Seemingly blocking Spring Street in the distance is the Hotel Nadeau at First Street.



• Charley had a wry smile on his face. "Minnie, my darling sister," quoth he, looking into the distance, "would you say that you like salt?" She cocked her head and responded, "Brother Charles, many a fleeting hour have I spent pondering how things would be had you paid due attention to throwing salt over your left shoulder." "Did you say 'floating'?" "No, I said 'fleeting'." "And," continued Charley, "what of men and salt?" Minnie pursed her lips, and pondered for a moment. "I suppose enough would tend to preserve them." "Not always in a good way," added Mother, shooting a glance at Papa. Well, this dialectic was put an end to at this point by young Frederick Johan, who exclaimed, "He's talking about all the sailors, Minnie. Have a look!" Beyond the marching sailors, we see the west side of Spring Street south of the International Savings and Exchange Bank, of which we can see just a bit of its wall-sign in the upper right corner.



• Another half-block, and we turn and look at the Phillips Block. Mother, however, gazed aloft. "Why, may I ask, is there a creature above my head?" "Well, Mrs. S.," said Papa, "it appears to me that the Elks Lodge is having a sort of 'do', that's how it appears to me." Mother frowned. "The Elks may 'do' whatever they might want to 'do'; but they had best refrain from 'do'-ing it above my head!" Young Frederick Johan added, "It might not be the Elks. That thing looks more like a cross between a goat and a cow."



• We walk a block south, and turn and (left) look back up Spring Street from near First Street, seeing, on the left the back of the Int'l Savings & Exchange Bank Bldg., and then, just beyond it, the brick-red Post Office in the distance, showing its angled corner where Spring Street meets Main Street—the same necessary angling that we saw at the same site on Temple's old General Store in the previous episode, though from another direction; and here is the same scene in 1880 (right). The elaborate tower at the center of the older picture is that of the then-new Baker Block, looming over things from further north on Main Street. In the newer picture, the Baker Block is hidden by the new Post Office. At the extreme left in the newer picture is the Phillips Block, built in 1887, only the second four-story building in Los Angeles at the time it was built. This was the new home of the People's Store—most of the lettering of which you can see in a similar position in the old picture. The exterior of the Phillips Block would be painted white, becoming quite a landmark as the "Great White Store," better known as Hamburger's Department Store, a successful enterprise which made one more move in its commercial life, as we shall see in due course.





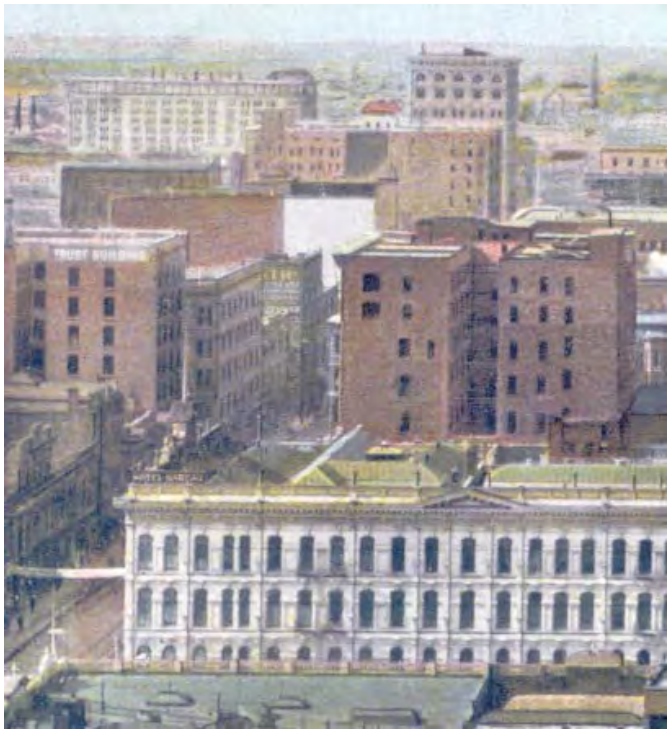
• Looking south on Spring from the corner of Franklin, showing the intersection with First. The building with the cupola, at the left, the southeast corner of Spring and First Sts., is known as the Wilson Block, and was built in 1889.



• The Hotel Nadeau, said to be the first four-story building in Los Angeles, at the south-west corner of Spring Street and First Street. In the old Spanish days, this site was a flat stretch of ground which Angelenos would make use of on the occasion of a community fandango (it is now the site of the Los Angeles Times Building). Off to the right, we see the south face of First Street west to its corner with Broadway.



• We look down at the First Street face of the Hotel Nadeau, and, at the left, the east side of the 100s and 200s blocks of Spring Street.



• We reverse and look up from the point on Spring Street at which we were just looking down. The Nadeau to our left, we look towards Spring's intersections with First Street and Franklin Street, just beyond which we see the Phillips Block, housing Hamburger's Department Store.



• Suddenly, the smell of food wafted over us, and I could see Minnie's nose following the scent. "Mother," said she, "we really must keep our strength up!" And with that, she took a step towards a nearby cafe...only to have Papa ward her off with "I do not think we will die of hunger at 10:30 in the morning, no I don't think so, I don't think so at all."





• Between the banks and hotels are shops and restaurants without end! This one is "Mosgrove's Importers," claiming to be "the oldest cloak and suit house in the city." Young Frederick Johan wondered how a shop that specialized in very old cloaks and suits could stay in business; "after all, who would buy them?". All I did was to gesture towards Mother, Minnie, and Anna, who were looking intently through the doorway.

• The successful and generous Mr. Hollenbeck built the Hollenbeck Hotel on the southwest corner of Spring and Second. We shall meet Mr. Hollenbeck's doings once or twice again when we visit the environs of Los Angeles! To the right, we look up Second Street to its corner with Broadway. At the extreme left, we can see a bit of the building known as the Brode Block, at addresses 217-219. At the extreme right, we see the corner of the Bryson Block.



• I thought I'd peek into the Hollenbeck Hotel's lobby.



• We look back at the east face of the south 100s block of Spring. All those wires! The corner of the Bryson Block looms darkly at extreme left.



• We are momentarily granted the power to fly, and wing our way out the tower of the Hollenbeck across the street and south down the block a number of yards, alight, and turn again to the north, now focusing on the west face of the south 100s block. That's the Hollenbeck Hotel in the immediate foreground to the left, beyond which we can see the full majesty of the Bryson Block. The Bryson Block, built in 1889, is on the site of an early public school, and an early City Hall. In the distant background on the left, we can see some of the houses on Bunker Hill close by to downtown. Suburbia just a block or two away from stark downtown! The tall towered building in the distance is the Court House.



• Our wings suddenly disappear, and we plummet safely to the ground to a bench, where we see that, during our flight, city workers have been preparing for a civic celebration by hoisting flags over the street—lucky we didn't get tangled up in the lines! Between trolley-transits, young Frederick Johan darts into the middle of the street to take in the view. "Go out there and stand with him," said Papa to Charley; "People might hesitate to run over the both of you."



• The streetcars not deigning to slaughter young FJ and Charley, they return and we continue walking south a bit, then turn and look back north up Spring Street from between Second and Third. The building we see at the right edge of this view is the Wilcox Building.



• The Wilcox Building, at the southeast corner of Spring and Second Sts., was completed in 1896.



• From mid-block, we look north towards the western corner of Spring and Second Streets, over which the Bryson Block and the Hotel Hollenbeck preside. The large awning at left, at 221 S. Spring Street, belongs to the Parisian Cloak & Suit Co. I looked at Minnie. "No snappy banter?". She sniffed and said, "It doesn't suit me." Young FJ took the occasion to ask, "Does anyone have a watch? I'd like to know what o'cloak it is." Mother sighed, "We must make allowances for the young..."



• And then we turn around and look south down Spring Street towards its corner with Third. The old-fashioned building with a tower at center is the Ramona Hotel, located at the southwest corner of Spring and Third Sts.; the more modern five-story building just this side of the Ramona, at the northwest corner, is the Douglas

Block. At the extreme right in this view is the Los Angeles Theater, formerly Turnverein Hall, one of the earliest theaters in Los Angeles.



• We continue to, and just past, the corner with Third Street, and turn once again to look back north up Spring Street. "All of this turning," said Minnie, "is much better suited to the dance floor than the street." Papa frowned. "I shall bear that in mind, Minnie," said he. The building with the cupola, at the center of the picture, is the Lyceum theater, formerly the Orpheum Theater. We shall see a newer Orpheum Theater when we visit Broadway.



• The same scene just a few years earlier, when horses still dominated the streets. The shadows tell us that it's wintertime. Note, in comparison to the previous picture, that many of the conical roofs were taken down between the time of the earlier picture (below) and the later picture (above).



• Just around the corner, to the west on Third Street, is The Metropolitan Barber Shop, "the largest and finest in the world." Young Frederick Johan pursed his lips in thought. "Let's have it," said I. He cocked his head and said, "There must be a regular mountain of hair coming out of there every day, wouldn't you say? Couldn't you use it to stuff quilts and things?" Mother frowned in consternation; "The very thought!—sleeping with the hair of every man in town all around you!" FJ began to protest, "Well, but..." Minnie stopped him in mid-protest. "'Well, but' nothing. I'm blushing down to the tips of my toes just thinking about it," she said, shaking her head in disgust. Now FJ got a blank look on his face, pursed his lips again, and floated, "But isn't your long underwear made of wool? You'd rather . . . " Minnie covered her ears and shrieked, "Oh, Mother—now he's talking about our underwear!". Even Anna chimed in: "Honestly, Frederick Johan—out on a public street. What next?". Papa laughed to himself and took FJ under his wing; "Young man," quoth he, "when will you learn not to try to reason with the ladies?" "Not with these ladies, anyway," I added.



• Having re-sized his head at the barber shop, a man could conveniently cross the street and buy a new hat at Ye Hattery. Anna looked through the window at the shop's offerings. "But . . . but they're all the same . . . " Mother snorted and said, "Men are all the same!" "Just keep smiling," whispered Papa to young FJ.



• We admire the smooth lines of the handsome Douglas Block. The tower of the Ramona Hotel edges into the picture at left, while we can vaguely see the Phillips Block in the distance at the right margin.



• A wider view of the same intersection, angling towards the northeast. That's the Ramona Hotel next to us at the left of this view. The large pinkish building dominating the right half of the picture is at the northeast corner of Spring and Third Sts., and is the Stimson Block, the first six-story building in Los Angeles; it houses the American Savings Bank, formerly the National Bank of California. Not to be outdone, at the right margin of this view is the first seven-story building in Los Angeles, the Lankershim Building.



• We found Charley peering into a window a few doors down, at 326 S. Spring. "Look, Papa! 'James Jeffries' Gentleman's Cafe'," he said. "Beer hall," said Mother; "I've never known anything in a city that had 'Gentleman' on its sign that wasn't a beer hall. Or worse. And this one's run by a prize-fighter too! Oh! Just move along, Minnie; don't give the patrons false hopes." Papa said to Anna and me, quietly, "Well, then I guess I won't go in." Charley whispered, "I should think a prize-fighter would be just the one to handle Minnie."



• We go a little farther south down the street, halfway to Fourth Street, turn north again (much to Minnie's distress), and take in a wider view of Spring Street and its activities from the middle of the 300s block.



• Happy throngs of pedestrians shopping Spring Street! This is towards the middle of the west face of the 300 block of S. Spring Street; the jewelry shop S. Nordlinger & Sons, an old and respected Angeleno business, can be seen, its address being 323 S. Spring Street. This particular business moved every few years, following the slow migration south and west of what was considered a more prestigious location. The dark building taking up the right-hand quarter of the view is the Ramona Hotel again at the corner of Spring and Third Sts.



• Young Frederick Johan is trailing a block behind, examining every this and that he can find. From the middle of the 200s block, he turns to look south past the corner of Third Street. A proud city of imaginative hope and busy activity every way one looks! It's about here, at Third Street, that the character of the buildings changes. North of Third Street, the buildings evoke the 1880s and 1890s; as we go south, there's a more modern look to the streetscape. The Union Trust Building looms a block away...



• Halfway down the 300 block of Spring St., looking south.



• I noticed a frustrated look on Charley's face. He sighed, "It's hard to see the pretty girls on the other side of the street with all this traffic...", at which Minnie sighed—a little too theatrically, if you ask me—"But think what bliss they're in!"



• We reach the corner of Spring Street and 4th Street. In this view, the street light is at the corner as we look north up the west face of the 300s block. Note the "F" on the sign at the top corner of the building behind the street light. At the extreme left is the Hotel Angelus at the southwest corner.



• Now we turn and look east up 4th back towards Main Street (which is off to the right). Prominent in the foreground is the H.W. Hellman Building on the northeast corner of Spring and 4th; farther, to the right looking east on 4th, we see two buildings which we saw from another perspective in our walk down Main—that's the Westminster Hotel in the distance at the corner of 4th and Main; and the Van Nuys Hotel is the lighter building a little closer on 4th. Now note the building jutting into the lower left-hand corner of our view, there's the same "F" again which we saw from another angle in the previous picture.



• Turning around, we look now to the west up 4th to the distant Fremont Hotel with its towers looming at Olive and 4th; in due course, we shall visit the Fremont and look back at where we're standing now. The cupola barely peeking over the Fremont is that of the home of L.J. Rose located at the southeast corner of Grand Avenue and Fourth Street, which we shall see close-up in due course. Dominating our foreground is the Angelus Hotel at the southwest corner of Spring and 4th, beyond which we can see 4th's corner with Broadway. "All of this is very well," Mother declared; "but 'tis time to eat, is it not?".



• The handsome Union Trust Building is at the southeast corner of Fourth and Spring (left); it's also known as the Braly Building (yes, that's my hand at the bottom of the picture). Harkening to the hungry, peaked looks of the womenfolk in our party—I must admit to having felt a bit peckish myself—we stopped at the Cafe Bristol at Fourth and Spring to refresh ourselves before going on...(right).





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CITYSCAPES / CECILIA RASMUSSEN

From Site of Ancient Tribal Tree, the City of Angels Grew

April 12, 1997 | CECILIA RASMUSSEN

It was already ancient when it was chopped down more than a century ago, the sycamore tree that forever fixes in time and place the village that existed for three millenniums--the earliest site of what became Los Angeles.

While Christopher Columbus was setting foot on the shores of the West Indies in the fall of 1492, a seedling began to grow near the Pacific shores that Juan Rodriguez Cabrillo would discover half a century later.

In its 400 years, the tree would provide shelter for the highest councils of an Indian nation, serve as a landmark to the Spanish soldiers and become ground zero for the city of Los Angeles.

And now a historian has used the tree to settle a century-old debate over the exact site of Yangna, the central village of the Gabrielino Indians, and the seed of the settlement that became Los Angeles.

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*

Centuries before the Mexicans arrived and christened the huge sycamore tree "El Aliso," more than 200 Gabrielinos lived in Yangna, the largest of the 100 or so villages that 5,000 Gabrielinos called home. Chiefs from these lesser villages would travel to meet under the spreading branches of the "council tree."

The precise location of Yangna has always been a mystery, one that local historians and anthropologists have sought to solve. Some placed it variously at City Hall, Union Station, Pershing Square and the Los Angeles Children's Museum.

But now, John Crandell, a Sunland landscape architect/urban designer and vice president of the L.A. Millennium Project, has discovered what he believes to be the exact location of the village--along what is now a center divider on the 101 just south of the Metropolitan Transportation Authority headquarters.

His judgment may have been confirmed two years ago when excavations for elevator shafts for handicapped access near Olvera Street unearthed hundreds of artifacts, the oldest from a 3,000-year-old Gabrielino settlement at the edge of current-day downtown, then "a vast matrix of alders, cottons, sycamores and ash interspersed with tules or wetlands," as Crandell described it.

In searching for Yangna, Crandell believes he may have solved another historical dilemma: fixing the site of the second Spanish settlement that became Los Angeles. (The first is still a mystery.) It was next to Yangna, he said, and existed for about 10 years.

The second settlement "was wiped out in the Great Flood of 1815, a flood that the tree survived and which then forced the pueblo dwellers to seek higher ground, where the central [historic] plaza is located today," Crandell said. (The Gabrielinos, accustomed to living with flood cycles, routinely burned their wickiups and moved a few yards away.)

Historian Doyce Nunis Jr. speculates that the first Spanish settlement may have been built about half a mile from the site of the tree, and high up--on a 50-foot bluff on North Broadway, where St. Peter's Italian Catholic Church sits today.

Nunis, editor of the journal of the Historical Society of Southern California, said an 1847 drawing by pioneer William Rich Hutton shows abandoned ruins on a very high bluff. "My suspicion is that the original pueblo site was north of the Yangna village. This drawing is probably the best clue we've ever had," Nunis said.

Crandell agrees and points out the sycamore tree in the distance in the drawing. "Maybe the city's first settlers got tired of carrying everything up the bluff and decided it would be easier to live on the flatlands."

*

There is nothing left of Yangna, which Gaspar de Portola and his jolly friars, Juan Crespi and Francisco Gomez, chanced upon on their way to close escrow on Alta California for the king of Spain in 1769.

The Mexican city rulers who followed the Spaniards did to the Gabrielinos much of what the U.S. government would do to other tribes--took over their land and left them with smaller and smaller parcels.

Over the years, locals chipped away at Indian property. In June 1835, French immigrant and vineyard owner Jean-Louis Vignes took over the land on which the six-story-tall sycamore stood; he valued the tree at $20.

In the mid-1830s, the city council, or ayuntamiento, shrunk Yangna to a 100-vara-long triangle (one vara equals about 2 feet 9 inches). But even that only lasted little more than a decade. In 1846, the city rescinded that altogether, moving the tribe to the far side of the river.

Two years later, after 26 residents complained of noise generated by "disorderly gatherings" when American soldiers visited the village for unauthorized R & R, the military commander ordered the city to eliminate the village, "or else."

Townsfolk contributed all of $24 to assist the remaining Gabrielinos--their numbers ravaged by decades of opium, liquor, disease and violence--to move their belongings to wherever they could find refuge.

But the tree remained. By the 1870s, the Philadelphia Brewery surrounded "El Aliso." New brewery buildings encroached upon the sycamore, with its branches spreading 200 feet in diameter. By 1892, the Yangna council tree was dead.

Little Charles Gibbs Adams, who would become one of Los Angeles' first landscape architects, watched as the tree was cut down. He counted its annual rings of growth and recorded its life span--400 years.

Crandell, who is working on a book called "Porciuncula" (Los Angeles River) has written to Mayor Richard Riordan and the owner of the land where the "council tree" once grew, suggesting that another sycamore be planted there to commemorate what once was, as well as the arrival of a new millennium here in Los Angeles.

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THE STREET RAILWAY HISTORY OF LOS ANGELES began on July 3rd, 1873, when the City Council passed the first franchise ordinance, the opening clause of which reads as follows:

> AN ORDINANCE granting franchise to D. V. Waldron"—and provided for a franchise for the period of five years, for the purpose of laying down and maintaining two iron railroad tracks and to run cars thereon, to be propelled by horses or mules, and to carry passengers thereon, commencing at a point on North Main Street at Alameda Street south on Main Street to the City limits, which was a point just south of the present corner of Jefferson and Main.

The second chapter opened on December 8, 1873, when J. R. Toberman, Mayor approved a franchise, for a street railway, the opening clause of which reads as follows:

> "AN ORDINANCE granting a franchise for a street car railroad in the City of Los Angeles to R. M. Widney"—and provided for a franchise for a period of twenty years, commencing at Temple and Spring Streets, and along Spring to First; First to Fort Street, (now Broadway); Fort Street to Fourth Street, Fourth to Hill Street, on Hill to Fifth Street; on Fifth to Olive Street; on Olive to Sixth Street; and thence along Sixth Street to Figueroa Street. Fare ten cents.

This franchise also provided that in the event D. V. Waldron, to whom the first franchise was issued, should forfeit his rights, then the Widney franchise would extend from Temple and Spring Streets via Main to Alameda Street. Waldron forfeited his rights, therefore, Widney's franchise was thus extended.

Widney assigned his franchise to a company known as the SPRING AND SIXTH STREET RAILROAD CO. and this company completed the line and put it in operation in the spring of 1874.

The next or third franchise issued, was approved on September 14, 1874, by J. R. Toberman, Mayor, and provided for the extension of the SPRING AND SIXTH STREET RAILROAD from North Main and Alameda Streets via Alameda and private right-of-way to a point in front of the Old River Station of the Southern Pacific, then known as the upper depot grounds.

The fifth franchise issued, was approved March 24, 1875, by P. Beaudry, Mayor, and provided for ninety days extension to the SPRING & SIXTH STREET RAILROAD COMPANY to complete their line to the Southern Pacific Station.

The ninth franchise issued, also in connection with the SPRING & SIXTH STREET RAILROAD COMPANY, approved Dec. 3, 1875, granting a renewed right to extend this line from North Main and Alameda Streets, via Alameda and private right-of-way to a point in front of the Southern Pacific Station.

Evidently the company had not found it expedient to construct the line under previous franchise grants. These franchises contained some very general description as to routes. For instance, one franchise is for a line from Main and Alameda to the Southern Pacific Station, and reads in part:

> "—that on and along such portion of said route as the track of the Southern Pacific Railroad runs, the track of the street railroad shall be laid from the center line of Main Street to a point six foot easterly of the telegraph pole standing by the willow stump in the swamp; thence in a straight line to the westerly sidewalk of the street, and thence over the gutter along the: sidewalk to such point as may be necessary to cross (and across) the sidewalk on to private property to reach the depot."

In the ordinance approved December 3, 1875, being the ninth franchise issued, it is recited that the route shall be as follows:

> "—along Alameda Street, or the extension thereof to a point in said street, distance sixteen feet east of the eastern rail of the line of the Southern Pacific Railroad Company; running southerly and connecting

> with the line of road known as the Los Angeles and San Pedro Railroad Company; which said point is opposite to and west of a large but topped near the junction of said street with another street running in a southeasterly direction; running thence along said Alameda Street, or the extension thereof, northerly and crossing in the most convenient way that line of track of said Southern Pacific Railroad Company curving easterly and running to Spadra and other points east of this city, to a point twenty-five feet east of the eastern rail of the road of the Southern Pacific Railroad Company at the point south of the new depot where the several lines of the tracks of said company connect; running thence in a straight line northerly to a point opposite to the northwest corner of the lot belonging to the Los Angeles Infirmary, and known as the Hospital grounds of the Sisters of Charity,"

The fourth franchise issued, was approved September 28, 1874, by J. R. Toberman, Mayor, the opening clause of which reads as follows:

> "AN ORDINANCE granting a franchise for street car railroad in the city of Los Angeles to John C. Downey, O. W. Childs and John M. Baldwin. "—and provided for a franchise for a period of twenty years. The route covered commenced at Temple Block; south on Main to Washington Street; westerly on Washington to Figueroa Street; thence southerly on Figueroa to the city limits, which is a point about the center of what is now Exposition Park.

The sixth franchise issued was approved March 31, 1875, by P. Beaudry, Mayor, the opening clause of which reads as follows:

> "AN ORDINANCE granting a franchise for a street railroad in the city of Los Angeles to R. M. Widney and his assigns. "—and provided for a franchise for a period of thirty years. The route covered commenced at First and Los Angeles Streets and thence along a very tortuous route over many streets whose names are not now known, running past the Southern Pacific Station, terminating on Downey Avenue (now North Broadway) at the end of that street— (no statement as to where that was.) Fare, ten cents.

The seventh franchise issued was approved June 26, 1875, the opening clause of which reads as follows:

> "AN ORDINANCE granting a franchise for street railroad in the City of' Los Angeles to William H. Workman and A. H. Judson and their assigns. "—and provided for a franchise for a period of thirty years, for a single track horsecar line. Route, from Arcadia and Main Streets, via Arcadia, Aliso Street, Aliso Avenue to Soto Street. This road was put in operation sometime in 1876.

The builders of this road were

- W. H. Workman,
- W. H. Perry,
- J. B. Hollenbeck, first President of the First National Bank, and
- E. F. Spence, then Cashier and later President of the First National Bank

The track was a narrow gauge; used twenty-pound rail; one horsecar was operated; trip every one and a half hours.

Routing the line, as it would read today would be Arcadia, Aliso Street, Pleasant Avenue, First to Soto. At that time Aliso Street started at Los Angeles and continued along this route east to the city limits on First Street. This line was extended a few months later on Main Street to Temple Block to connect with the Spring and Sixth Street line and the Main Street and Agricultural Park Line.

First Street was not opened at this time.

At Easter Week in 1884, floods destroyed the Aliso Street Bridge and the Downey Avenue Bridge and left the Macy Street bridge—these being the only bridges across the Los Angeles River at that time.

For months after the flood the passengers from the Aliso Street car line walked over improvised gangplanks to cross the river and were thus transferred from car to car. This was the second line put in operation in Los Angeles. The Main Street and Agricultural Park line being the third.

The framework of the Macy Street Bridge today is the original bridge construction, but at that time it was covered. This covering was removed a few years ago.

The eighth franchise issued, to be found in the city archives, Volume 10, Page 201, (for the session of November 19, 1875) —date of approval not given in copy at hand—the opening clause of which reads as follows:

> "AN ORDINANCE granting a franchise for a street railroad in the City of Los Angeles to John S. Griffin and to his assigns" — and provided for a franchise for a period of twenty—five years. This route started at the point where the last franchise granted to the SPRING & SIXTH STREET RAILROAD COMPANY terminated at the Southern Pacific Station, and followed what is now San Fernando and Olympic Streets and across the Los Angeles River to Downey Avenue (now North Broadway.)

The description locates the route as follows: "Thence in a straight line along the said street northerly to a point opposite and east of second upper switch of said S.P.R.R. and distant not more than twelve feet east of the eastern iron rail of track of said Company; thence northerly to junction of the new street running east; thence along the same easterly and in the center thereof and across the Los Angeles River to Downey Avenue (now North Broadway) in East Los Angeles; thence along the same by the most convenient route over the streets in East Los Angeles to the workshop grounds of the S. P. Railroad."

The tenth franchise issued, approved January 5, 1876 by P. Beaudry, Mayor; the opening clause of which reads:

> "AN ORDINANCE amendatory of and supplementary to an ordinance entitled 'An ordinance granting a franchise for street car railroad in the city of Los Angeles to John G. Downey, O. W. Childs and John M. Baldwin', approved September 28th, 1874,

This extends the period of the franchise for one year for the completion of the building of the line granted on the previous franchise. This line was placed in operation to Washington and Main Streets previous to the granting of this last franchise, and the building of the line was completed under the new extension of time.

The eleventh franchise issued, approved May 26th, 1876; S. B. Coswell, Clerk of the Council; the opening clause of which reads:

> "AN ORDINANCE granting a franchise for street railroad in the City of Los Angeles to J. F. Ward, John S. Thompson and John Haley and to their associates and assigns."

There is no evidence that any portion of this line was ever built under this franchise.

P. Beaudry, Mayor approved the twelfth franchise issued, on October 9, 1876. The opening clause of which reads;

> "AN ORDINANCE granting a franchise for a street railroad in the City of Los Angeles to C. E. Beane and J. S. Crawford and to their associates and assigns."

The route covered was on Main from Washington south to Jefferson, and on Jefferson west to Figueroa and was used in connection with the Main Street Line.

The sixteenth franchise issued, was approved by F. A. MacDougall, Mayor, on January 12th, 1877; the opening clause of which reads:

> "AN ORDINANCE granting franchise for a street railroad to J. W. Potts

"AN ORDINANCE granting franchise for a street railroad to J. W. Potts and others, and to their assigns." The others consisted of H. J. Crow, Thomas A. Garey, Ivar A. Weid and P. Beaudry.

The route covered by this franchise, described as follows: "From a point in the space north of Temple Block, between the junction of Spring and Main Streets, said terminus not to exceed within five feet of the prolongation of the eastern line of Temple Block***Thence along Temple Street to Pearl Street (now Figueroa); thence along the extension of Temple Street, as laid out by M. Kelleher, City Surveyor, to the City Limits, on the western side of the city, (Hoover Street)."

This was to be a horsecar line.

E. F. Spence, Mayor approved the thirtieth franchise issued, on March 14th, 1885. The opening clause of which reads:

> "AN ORDINANCE granting a franchise for the construction and operation of a cable street railroad in the city of Los Angeles, to C. H. Howland and his assigns." Route described as follows:

"Commencing at the intersection of Second Street with the westerly line of Spring Street, and running thence westerly along said Second Street on each side of the center line thereof, to Lake Shore Avenue; thence westerly along said Lake Shore Avenue on each side of the center line thereof to Diamond Street; thence westerly along said Diamond Street on each side of the center line thereof to the west boundary of said city."

This is the franchise under which the West Second Street Cable Railroad was eventually built.

Diamond Street and what is now (1921) known as West First Street are the same street.

The construction of this line was started in the spring of 1885, when Isaac W. Lord turned a spade-full of earth at the corner of Second and Spring Streets, and in a few months the line was in full operation to First and Belmont, and continued in operation until the Fall of 1888, when it was closed down and the entire property scrapped, the INVESTMENT BEING A TOTAL LOSS.

The thirty-third franchise issued was approved September 7th, 1885, by D. E. Miles, Mayor pro tem, and W. W. Robinson, Clerk of the Council. The opening clause reading as follows:

> "AN ORDINANCE granting a franchise for the construction and operation of a street railroad in the City of Los Angeles to W, H. Workman and his assigns."

This provided for the building of a car line from First and Spring Streets east on First to the junction of First and Aliso Avenue (which is now First Street and Boyle Avenue); thence along Aliso Avenue (now First Street) to First and Indiana. For a period of thirty years, cars to be "propelled by cable wire."

This ORDINANCE was amended by another ORDINANCE which was approved on the 28th day of April, 1886, by E. F, Spence, Mayor, and provided that the cars may be "propelled by electricity, horse or cable wire."

This line was constructed to First and Evergreen Avenue, being completed in the Spring of 1886, by W. H. Workman and J. B. Hollenbeck. It was broad gauge. They only operated it a short time when they sold out to the Los Angeles Cable Railway Company for Twelve Thousand ($12,000,00) Dollars.

The company built a bridge across the river on First Street; it was a wooden affair and was washed away by the floods in the winter of l887-l888, and the operation of the line was discontinued; the Boyle Heights region being served by the Aliso Street Line. No cars were operated on First Street between Main and Boyle Avenue from the time of this discontinuance until the cable started in August, 1889.

From 1873 to January 1st, 1887, there were issued by the City Council of the City of Los Angeles, and approved by the various Mayors, forty-three (43) streetcar franchises. Many of these are trivial in their nature to correct errors in previous franchises, or slight changes of routes.

In 1887 the LOS ANGELES CABLE RAILWAY COMPANY was organized;

- J. F. Crank, President;
- S. P. Jewett, Secretary and Treasurer;

- Chas. Forman, General Manager, who were also Directors.
  The other Directors of this Company were:
- I. W. Hellman and
- S. C. Hubbell, who was also attorney for the Company.

The Los Angeles Cable Railway Company purchased a number of the then existing lines and built some others, until on the first day of August, 1888, it operated the following lines, with horses and mules as motive power;

BUENA VISTA STREET LINE: From First and Main Streets, via Main, Marchessault, Bellevue Avenue (now Sunset Blvd,); Buena Vista (Now North Broadway) to College Street.

ALISO STREET LINE: From the east side of Main Street on Arcadia, Aliso Street, Pleasant Avenue, First Street to 1st and Evergreen. Single track narrow gauge.

BLUE LINE: From Temple Block via Main to First Street; First to Spring; Spring to Ninth Street; Ninth to Pearl Street (now Figueroa,); Pearl to Pico Street; where the name changed from Pearl to Figueroa, via Figueroa to Washington; thence along Washington to Vermont Avenue where the car barn was located; double track; broad gauge.

OLIVE STREET LINE: From Pritchard Street and Downey Avenue (now North Broadway); along North Broadway; Olympia Street, San Fernando Street, Alameda Street, Main Street, First Street, Spring Street, Fifth Street, Olive Street, Twelfth Street, Figueroa Street, Washington Street to Vermont Avenue. Double track, broad gauge.

WEST NINTH STREET LINE: From Sixth and Pearl Street (new Figueroa) along Sixth Street, to Hill, to Fourth, to Broadway, to First, to Spring, to Main to Marchessault to Upper Main (now North Spring Street); to San Fernando, to Olympia to Downey Avenue (now North Broadway) to Chestnut Street (now Avenue 20) to Pasadena Avenue to Daly Street and thence to Avenue Thirty-Three. Single track, narrow gauge.

The operation of this line was extended from Sixth and Figueroa Streets by way of Figueroa and West Ninth Street to Ninth Street and Grand View Avenue in the last week of August l888.

KUHRTS STREET LINE: From Plaza North by way of Main Street to the River, crossing River on the bridge, and by way of Kuhrts (now East Main Street) to Mission Street Road and along Mission Road to a point near where the big cut is now (1921) opposite the Selig Zoo.

Number of cars in operation on all lines Thirty-eight (38).

There were also in operation, on the first of August, 1888, the following lines, which were each operated by separate Companies.

TEMPLE STREET CABLE RAILWAY: Single track cable railway line on Temple Street from the West side of Spring Street via Temple to Belmont Avenue.

This Company was incorporated on November 3, 1885; and the contract was let for the construction of the line, on November 1st, 1885, to what was then known as Texas Street (now Union Avenue). The line was completed and started operation on July 4th, 1886, distance being l.6l miles. The line was extended, the last week in August, 1888, from Union Avenue west to Hoover Street via Temple Street. About January, l889, work was started to double track the line from Spring to Union Avenue which was completed and the double track section was put in operation in August, 1889. This line was sold under foreclosure proceedings on February 28th, 1898. Previous investment being a complete loss.

Another cable line in operation on August 1st, 1888, was the WEST SECOND STREET CABLE RAILWAY. It started at Second and Spring Streets and routed west via Second, Lake Shore Avenue, First to Belmont Avenue.

At First and Belmont Avenue a dummy line connected with the cable road and ran to what is now Hollywood. Its route was: Belmont Avenue to Temple Street, Temple to Coronado Street thence south over private right-of-way to First Street; on First and private right-of-way to Western Avenue at the point where Temple Street now (1921) crosses Western Avenue; thence north along Western Avenue to Hollywood Boulevard; west on Hollywood Boulevard, and private right-of-way over the present (1921) line of the Pacific Electric tracks to a point near Gardner Junction, where it terminated in the midst of gardens.

The Hollywood Line was discontinued when the Pacific Electric line was built to Hollywood; they having purchased this dummy line.

MAIN STREET AND AGRICULTURAL PARK LINE: Temple Block south to Jefferson; to Wesley Avenue (new University Avenue) and to Agricultural Park (new Exposition Park), thence to a point just south of the present site of the Museum, where the car barn was located.

Another branch of this line routed from Washington and Main Streets via Washington, Figueroa to Jefferson Street. One-half of the service was operating each way.

The route from Washington and Main Streets via Washington to Figueroa to Jefferson was discontinued in 1892, and the franchise abandoned on account of the expense entailed by the paving of Figueroa Street.

ELECTRIC RAILWAYS

PICO STREET ELECTRIC RAILWAY, known as the LOS ANGELES ELECTRIC RAILWAY

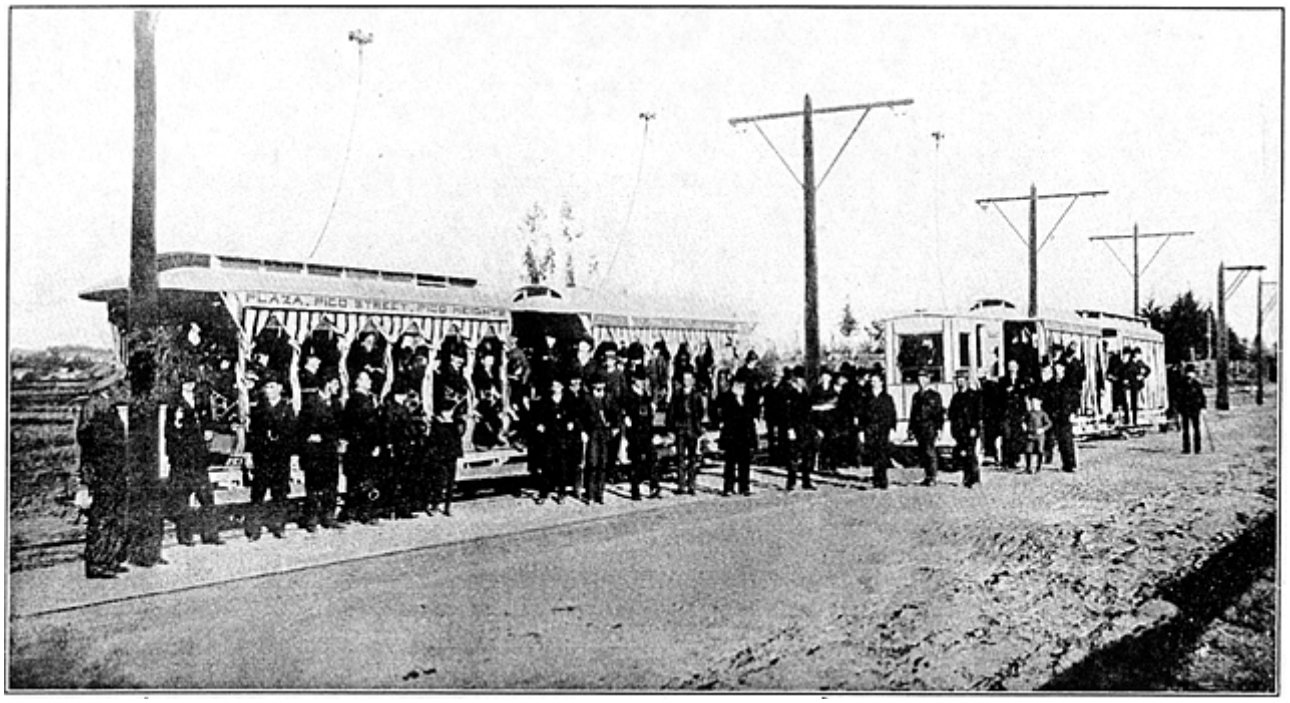
Commenced on Los Angeles Street at the Plaza; south on Los Angeles to Third Street; east on Third to San Julian; south on San Julian to Seventh; west on Seventh to Maple Avenue, Maple Avenue to Pico Street and thence west on Pico to Lorde Street (now Harvard Boulevard)

Another branch continued south on Maple Avenue to West Adams Street, terminating in the center of an orange grove, (trees being grubbed up to make way for the rails.) The Los Angeles Electric Railway Company built this line in 1886 and 1887 – Chas. H. Holland being President and General Manager, and W. H. Best, Superintendent. (Col. Holland is now deceased. Mr. Best is living (1921) in Brooklyn, N.Y.; he visited Los Angeles in 1915.)

These lines were being operated only intermittently and frequently one had to wait two hours for a car. Operation was discontinued in the Fall of 1888.

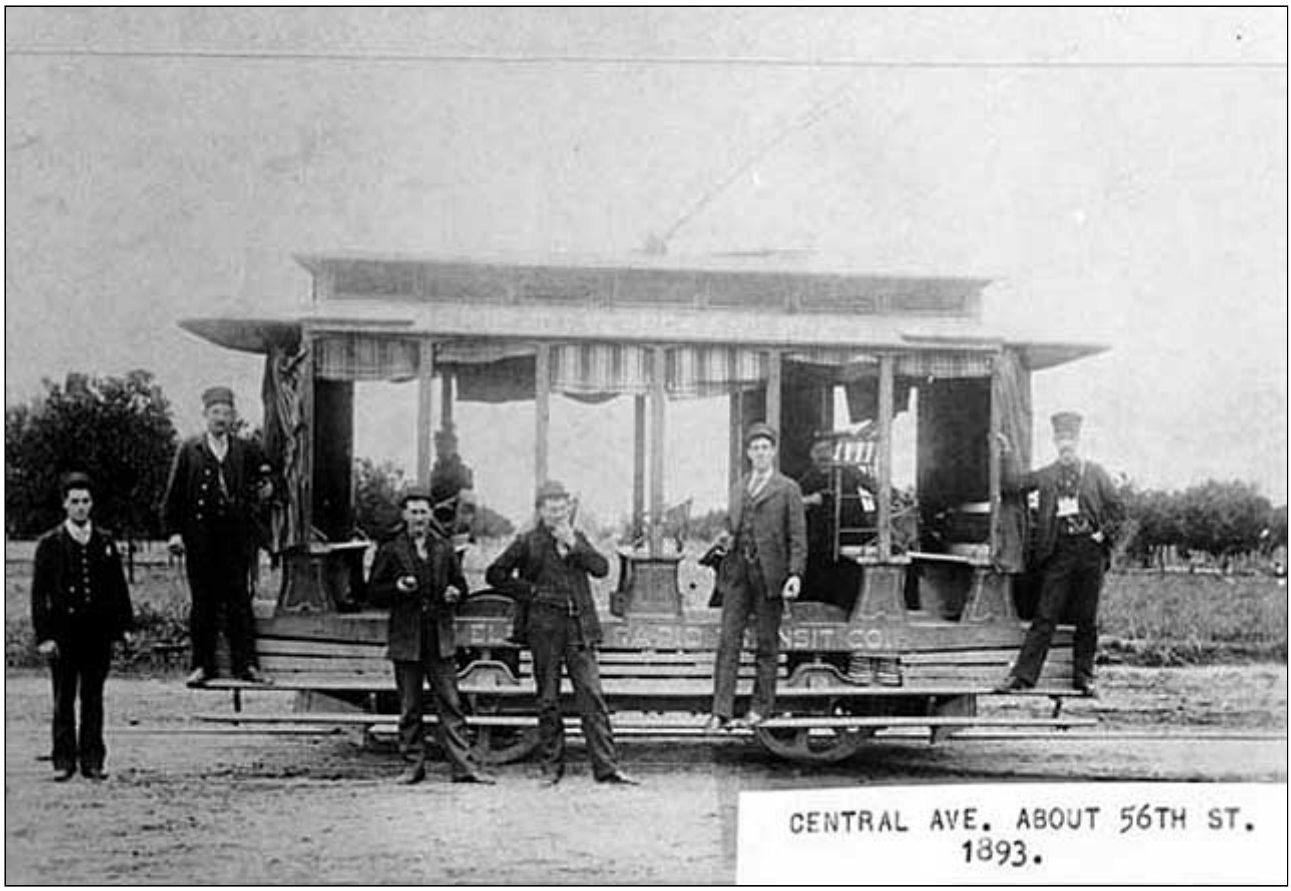
From "The Science of Burning Liquid Fuel ~ Introduction"

"The author of this book began the study of liquid fuel while Master Mechanic and Superintendent of the Los Angeles Electric Railway in the year 1887. We use the Daft system of electricity. This system had previously operated an electric railway in Boston, Mass. They, however, did not have the overhead wire, but used the third rail system. Ours was the first overhead system of electric railroad in the United States, if not in the world. A view of the electric motor car then used on the system is here given. You can also see the first electric locomotive with two trailers attached.



It may be of interest to here state that after building the Myrtle Avenue branch of this road (which was a branch of the main line to Pico Heights), I reported to the Board of Directors that we should purchase motor cars for the branch line and not use the electric locomotive and trailers, because the latter was more costly to operate, but I also made the statement that in a few years electric locomotives would be used instead of steam locomotives in certain branches of work and for that service they would be better than electric motor cars. This portion of my report caused considerable merriment as there were grave doubts in the minds of many as to the fulfillment of this prophecy."

Mr. William Newton Best Los Angeles, CA 1913



In 1890 the LAERy Co. was acquired by the Electric Rapid Transit Company which attemped to rebuild the lines and acquire new electric cars. Sixteen new cars were ordered, 10 motors and six trailers. When the cars arrived in Los Angeles the investors could not pay the freight bill and so turned to General Sherman for help. For his $56,000 investment he received one-half interest in the ERTCo. By September 1st 1890 he had secured full ownership.

Sherman had the unfinished powerhouse completed, purchased the West 2nd Street cable route and proceeded to have the rails electrically bonded. Sherman also kept the 3'-6" cable car gauge and reduced the Pico line from standard 4'-8½" thus establishing the narrow gauge for Los Angeles city streetcars until the end came in 1963.

On July, 1st 1891 the first sucessful electric railway began operations covering a circuitous route beginning at 2nd and Spring Streets. Sherman called it The Belt Line Railway Company, and it was the immediate predecessor to The Los Angeles Consolidated Electric Railway Company.

Mr. James Walker Jr. Los Angeles, CA 1977

VERNON LINE: From Plaza south on Los Angeles Street to First, thence on San Pedro Street to Third; Third to Wolfskill (now Central Avenue) then via Central to Seventh; private right-of-way to Eighth; Central Avenue to Slauson. This was single track; frequent turnouts. Horses.

EAST SECOND STREET LINE -- known locally as DAVIES LINE. Second and Spring east to Santa Fe Station, via Second, Stephensen Avenue, Third, Santa Fe Avenue, back to Alameda Street Via Second Street making a loop at the Santa Fe Station.

MATEO STREET LINE: From First and Santa Fe Avenue South via Santa Fe Avenue to Fourth, private right-of-way to Mateo, Mateo to Ninth Street. Narrow gauge, horses.

In September 1888, the LOS ANGELES CABLE RAILWAY COMPANY, being in financial difficulties, the controlling interest was sold to C. B. Holmes, and associates, of Chicago, Ill. They organized a new Company, known as the PACIFIC RAILWAY COMPANY, capitalized at $5,000,000.00 and finished the construction of the cable lines, which when completed covered the following streets, with double tracks:

Commencing at Grand Avenue and Jefferson Streets, on Grand Avenue to Seventh Street; Seventh to Broadway; Broadway to First; First to Spring; Main; Marchessault; San Fernando to Upper Main (now North Spring Street); North

Spring to College and then over a viaduct over the Southern Pacific tracks to San Fernando Street; on San Fernando to Olympia; Olympia to the Los Angeles River and over the present bridge as it stands now (1921); to Downey Avenue (now North Broadway); to Pritchard Street; also, from Seventh Street and Alvarado east on Seventh to Grand Avenue; and, from First and Spring Streets east on First to First and Evergreen Avenue, at the southwest corner of Evergreen Cemetery.

The principal power station was at Seventh Street and Grand Avenue, the site where J. W. Robinson's Dry Goods store now (1921) stands.

The east Los Angeles Power House was at the corner of North Broadway and Workman (the southwest corner.)

The Boyle Heights Power House was at First and Chicago Streets, on the land now occupied by the Public Library and the little Park; First Street having been cut through the site since then,

1. The first section of the cable road was put in operation on June 8th, 1889, and routed from Seventh and Grand Avenue, via Seventh; Broadway; First; Spring; Main to Requena and Main Streets.

2. The second section of the cable road was placed in operation from First and Spring Streets to First and Chicago Streets on Saturday, August 3, 1889. (A big banquet was served at the Power House at First and Chicago for all the members of a very extensive Reception Committee consisting of most all the residents of Boyle Heights.)

3. The third section was opened from Main and Requena Streets to North Broadway and Workman Streets, Nov. 1, 1889; from Seventh Street and Grand Avenue to Jefferson Street and Grand Avenue, in November, 1889; and from Seventh Street and Grand Avenue to Seventh and Alvarado Streets, December 9, 1889.

The cable railway proved to be a financial disaster and was closed out at public auction on October 19, 1893, less than four years after the investment had been made. The millions of dollars invested from Chicago being a total loss. The following item, quoted from the Los Angeles Evening Express of October 19, 1893, might well be termed the obituary of the Los Angeles Cable Railway Company.

> "Judge Van Dyke has confirmed the sale of the cable railroad to the electric company and to Clark John Dunsmore falls the task of canceling 173,000 bonds and coupons, representing about $5,000,000 in value. For this the county will be paid $165."

This investment absorbed the entire wealth of C. B. Holmes of Chicago, the promoter, who was considered a wealthy man, and caused him to lose his position as leading Traction Financier in the United States. He was thrown out of every company he had any connection with and died a few years later a poor and broken man.

Also J. F. Crank, S. P. Jewett and others were heavy losers in these lines.

In October, 1890, the Los Angeles City Council, consisting of the following members;

- Bonsall,
- Brown,
- McClain,
- Shaffer,
- Summerland,
- Wirsching, (new President of the Board of Public Utilities),
- Van Dusen and
- Frankenfield, the President,

passed an ordinance over the veto of the Mayor, H. T. Hazard, with one dissenting vote - Theo. Summerland - granting a franchise for an electric railway to B. O. Carr and his assigns over numerous streets of the city, which later were used by the CONSOLIDATED ELECTRIC RAILWAY COMPANY. The promoters were: M. H. Sherman, J. P. Clark, now of Los Angeles, financial backer, the McDonalds who operated the Pacific Bank and the Home Savings Bank of San Francisco, and James Fair, of the Union Iron Works of San Francisco.

The financing of this road resulted eventually in the failure, in 1893, of the Pacific Bank and the Home Savings Bank of San Francisco, controlled by the McDonalds.

The company who built this road and operated it, was organized in Phoenix, Arizona;

- General M. H. Sherman, President;

- E. P. Clark, Vice President and Manager,
- F. V. McDonald, Cashier of the Pacific Bank of San Francisco, Secretary
- Directors:
    - General Sherman;
    - F. V. McDonald;
    - Col. B. O. Carr, Cashier of Peoples' Home Savings Bank of San Francisco;
    - R. H. Pratt, Assistant General Superintendent of the Southern Pacific Railroad, San Francisco;
    - Col. J. M. C. Marble, president California National Bank, Los Angeles;
    - D. A. Dorn, Attorney, San Francisco;
    - J. A. Muir, Assistant Division Superintendent Southern Pacific Railroad, Los Angeles;
    - Captain A. W. Barrett was Superintendent, and
    - Fred Eaton, Chief Engineer.

Construction was commenced December 17, 1890, by tearing up all the old cable line on Second Street between Spring and Olive Streets. The line was constructed to Westlake Park, terminating at Seventh and Alvarado Streets, and routed as follows — mostly through virgin territory, no streets graded, and where there were no streets there were cuts and heavy fills:

From Second and Spring to Olive; to First; to Bonnie Brae; to Ocean View Avenue; to Westlake Avenue; to Sixth Street, to Alvarado; to Seventh Street. The line was placed in operation July 1, l891.

This Company soon acquired title to the DAVIES line to the Santa Fe Station, to the VERNON line, to the old PICO STREET ELECTRIC LINE and with the new and extensive franchises which had been granted them were in a position to proceed with the work and soon constructed what is now known as the UNIVERSITY line. Construction gradually extending up North Broadway to the River, across the River, on Pasadena Avenue to Pasadena Avenue and Daly Street; from Second Street and Spring by way of Spring, Fourth, San Pedro, and Fifth Street to Southern Pacific Station at Central Avenue.

The fast moving electric cars were serious competitors to the slow moving cable cars and drained the financial resources of this Company to such an extent that it was soon in serious financial difficulties. Foreclosure of the property on October 19, 1893 resulted, and the purchase of same by the Consolidated Electric Railway Company, who took over all the cable lines & the horsecar lines. There were being operated at this time 31 cable cars and 19 horsecars, a total of 49 cars.

Street railways in Los Angeles in those days were anything but a safe investment, and although we find that almost all the lines of the city are now (1921) under one control they still were not successful financially.

On March 24th, 1895, M. H. Sherman and associates turned the property over to the care of Morris Tremble, a broker of Chicago, Ill. of the firm of Peabody, Houghtaling & Company, for the benefit of the bondholders. Mr. Trumbull was only in charge of the road a short time and the property was placed in the hands of Mr. F. W. Wood on April 4th, 1895. In August 1895, the property of this Company was sold under foreclosure proceedings and was purchased by the bond holders, who organized a new Company called the LOS ANGELES RAILWAY COMPANY to take over the properties. Mr. F. W. Wood was continued as General Manager.

W. S. Hook came here from Illinois in 1895 and organized the LOS ANGELES TRACTION COMPANY, and commenced to build a system of car lines. The first line starting at the Santa Fe Station, then by way of Third Street to Hill Street, Hill to Eighth Street; Eighth to Figueroa Street; Figueroa to Eleventh Street; Eleventh to Georgia Street; Georgia to Sixteenth Street; Sixteenth to Burlington Avenue; thence on Burlington Avenue, Hoover, Twenty-fourth and Vermont Avenue to Vermont Avenue and Thirty-ninth Street. This line was put in operation from the Santa Fe Station to Sixteenth Street and Burlington Avenue on the 29th day of August, 1895. The construction continued and in a few months the line was completed and in operation to Vermont Avenue and Exposition Boulevard and a year later was extended to Thirty-ninth Street.

Franchises were obtained by the Los Angeles Traction Company, as follows:

From Eighth Street, Lake, Seventh and Commonwealth Avenue to First and Virgil Streets.

From Twenty-fourth Street and Vermont Avenue by way on Twenty-fourth, Normandie and West Adams to Western Avenue.

From Jefferson and Wesley Avenue (now University Avenue) west on Jefferson to Fourth Avenue.

On East Fourth Street and connecting streets from Third and Stephenson Avenue to First and Fresno Streets,

All these lines were built and in operation by 1898.

The Hooks sold their interests in the Los Angeles Traction Company to the Southern Pacific Company who continued to operate these lines until 1910 when they were transferred to the LOS ANGELES RAILWAY.

In January 1896, a Committee representing the Bank of California, William Alvord, Houghtaling & Co, of Chicago, and the Pacific Rolling Mills, Purchased the controlling interest in the MAIN STREET & AGRICULTURAL PARK RAILROAD COMPANY from W. J. Brodrick and Francisco Jesurun, and built a line on San Pedro Street from Fifth south to Thirtieth Street.

The Main Street rolling stock and rails were scrapped and the line entirely rebuilt, and new cars purchased and operation by electricity started on April 1, 1897.

The line built on San Pedro Street was placed in operation on August 1, 1898.

Both the Main and San Pedro Street Lines were transferred to the LOS ANGELES RAILWAY October 1, 1898.

The Los Angeles Railway purchased the Mateo Street Line in April, 1901.

The operation of the cable lines was discontinued in 1896 to be put into operation as electric lines.

Mr. H. E. HUNTINGTON acquired the stock of the Los Angeles Railway Company and took possession of the property on October 1st, 1898. He proceeded at once to re-construct the entire system. In fact, scrapped it all, tearing out all cable lines and the road-bed of all the electric lines, replacing them with new rails and ties and new cars throughout; and extended the lines in every direction where needed and built new lines, and new car houses.

In the meantime, Mr. Huntington had also developed The Pacific Electric Railway Company. In 1910 he disposed of his interests in the Pacific Electric Railway Company and the Redondo Railway Company south of Hawthorne and Vermont Heights, to the Southern Pacific Company; and he acquired the Los Angeles Traction lines within the city and the Temple Street line.

Numerous extensions of lines have been made; a cross-town line built; new car barns constructed; extensive plans of rerouting carried out, in order to keep pace with the demands of the growing population of Los Angeles.

The number of cars in daily operation on January 1st of various years gives a striking illustration of the investment this has required.

TOTAL NUMBER OF CARS OPERATED BY LOS ANGELES RAILWAY on dates shown.	
July 13, 1905	221
January 1, 1906	266
January 1, 1907	319
January 1, 1908	341
January 1, 1909	347
January 1, 1910	377
January 1, 1911	525
(The increase shown between 1910 and 1911 was caused by the taking over from the P.E. the Los Angeles Traction Lines.)	
January 1, 1912	644
January 1, 1913	666
January 1, 1914	738

B. L. Lewis
May 5, 1921

January 1, 1915	712
January 1, 1916	677
January 1, 1917	676
January 1, 1918	719
January 1, 1919	716
January 1, 1920	776
January 1, 1921	813

1907-1993 The Seven Eras of Rapid Transit Planning in Los Angeles

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Yangna - Early Los Angeles Community

According to research by Dr. Harry Kelsey of the Los Angeles County Museum of Natural History, **Governor de Neve,** six months prior to the establishment of the Los Angeles pueblo in 1781, had undertaken preliminary diplomacy with the Gabrielino Indians at the ***Yangna*** settlement (located on what is now the Los Angeles Civic Center). This was to develop friendly relations with the local people before Spanish settlers began moving into the area. *Yangna* was a favorite native trading center. Governor de Neve arranged for the baptisms of dozens of *Yangna* residents and even assumed the role of *padrino* (godparent) for 12 persons. One of the couples sponsored by de Neve, being baptized and remarried, even assumed the names Felipe de Neve and Felipa de Neve. Dr. Kelsey believes that de Neve might have been grooming this couple to serve as a nucleus family for a Christian Indian settlement that he had envisioned. This was not to happen, however, when de Neve was replaced by **Pedro de Fages** later that year. Sadly, in 1828, a German immigrant purchased the land upon which *Yangna* lay and, with the help of Mexican officials, evicted the entire community that had been living there for perhaps two to three thousand years.

Source: *Mexican Los Angeles* by Antonio Rios Bustamante, Floricanto Press, 1992.

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APPENDIX P
Alternatives Documentation

ESA

MIRROR TIMES SQUARE
ALTERNATIVES SIGNIFICANT IMPACTS SUMMARY

Scenario	Number of Impacts		Notes
	Existing + Project	Future + Project	
Project	1	6	Original project
Alternative 1	0	2	**No Project: existing site to 100% occupancy** No impacts in Existing plus Project Two impacts in Future plus Project, V/C increase is less than original project
Alternative 2	1	6	**Reduced density: 20% reduction from original project description** One impact in Existing plus Project, V/C increase is less than original project Six impacts in Future plus Project, all V/C increase is less than original project
Alternative 3	1	6	**All office and residential** One impact in Existing plus Project, V/C increase is greater than original project Six impacts in Future plus Project, five intersections V/C increase greater and one intersection V/C less than original project
Alternative 4	1	5	**Partial Preservation: Remove one tower, 40-50% reduction, existing site to 100% occupancy** One impact in Existing plus Project, V/C increase greater in AM and lower in PM than original project Five impacts in Future plus Project, AM and PM impacted peak hours V/C increase and decrease compared to the original project
Alternative 5	1	2	**Full Preservation: remove both towers, rehabilitate existing site, existing site to 100% occupancy** One impact in Existing plus Project, V/C increase less than original project Two impacts in Future plus Project, V/C increase less than original project

TABLE 1
TIMES MIRROR SQUARE - ORIGINAL TRIP GENERATION
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	1,127 DU	4.20	0.34	19%	81%	0.38	62%	38%	4,733	73	310	383	265	163	428
Less: Internal Capture [b]			*18%*		*3%*	*5%*		*40%*	*43%*	*(852)*	*(2)*	*(15)*	*(17)*	*(107)*	*(70)*	*(177)*
Net External Vehicle Trips										3,881	71	295	366	158	93	251
Office	710	307.288 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,389	422	57	479	78	380	458
Less: Internal Capture [b]			*10%*		*8%*	*43%*		*28%*	*12%*	*(339)*	*(35)*	*(24)*	*(59)*	*(22)*	*(45)*	*(67)*
Less: Transit Credit [c]			*16%*	*25%*			*25%*			*(488)*	*(97)*	*(8)*	*(105)*	*(14)*	*(84)*	*(98)*
Net External Vehicle Trips										2,562	290	25	315	42	251	293
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*31%*		*15%*	*32%*		*40%*	*57%*	*(1,585)*	*(15)*	*(20)*	*(35)*	*(98)*	*(132)*	*(230)*
Less: Transit Credit [c]			*11%*	*25%*			*25%*			*(388)*	*(23)*	*(11)*	*(34)*	*(36)*	*(25)*	*(61)*
Total Driveway Trips										3,139	67	34	101	108	75	183
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,255)*	*(26)*	*(13)*	*(39)*	*(43)*	*(30)*	*(73)*
Net External Vehicle Trips										1,884	41	21	62	65	45	110
Quality Restaurant [h]	931	53.389 ksf	89.95	0.81	55%	45%	7.49	67%	33%	4,802	24	19	43	268	132	400
Less: Internal Capture [b]			*36%*		*76%*	*47%*		*38%*	*62%*	*(1,729)*	*(18)*	*(9)*	*(27)*	*(101)*	*(82)*	*(183)*
Less: Transit Credit [c]			*10%*	*25%*			*25%*			*(307)*	*(2)*	*(3)*	*(5)*	*(42)*	*(13)*	*(55)*
Total Driveway Trips										2,766	4	7	11	125	37	162
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(276)*	*0*	*0*	*0*	*(12)*	*(3)*	*(15)*
Net External Vehicle Trips										2,490	4	7	11	113	34	147
TOTAL PROJECT DRIVEWAY TRIPS										12,348	432	361	793	433	456	889
TOTAL PROJECT EXTERNAL TRIPS										10,817	406	348	754	378	423	801
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										6,994	9	291	300	253	26	279

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook*, 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines*, December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be located directly adjacent to the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines*, December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

TABLE 2
TIMES MIRROR SQUARE ALTERNATIVE 1
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Office	710	552.363 ksf	11.03	1.56	88%	12%	1.49	17%	83%	6,093	759	103	862	140	683	823
Less: Internal Capture [b]			*3%*		*2%*	*25%*		*2%*	*2%*	*(183)*	*(17)*	*(26)*	*(43)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*18%*	*25%*			*25%*			*(1,064)*	*(186)*	*(19)*	*(205)*	*(34)*	*(168)*	*(202)*
Net External Vehicle Trips										4,846	556	58	614	103	504	607
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*10%*		*32%*	*29%*		*8%*	*2%*	*(111)*	*(17)*	*(11)*	*(28)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*16%*	*25%*			*25%*			*(160)*	*(9)*	*(7)*	*(16)*	*(21)*	*(22)*	*(43)*
Total Driveway Trips										840	26	21	47	63	67	130
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(168)*	*(5)*	*(4)*	*(9)*	*(12)*	*(13)*	*(25)*
Net External Vehicle Trips										672	21	17	38	51	54	105
TOTAL PROJECT DRIVEWAY TRIPS										5,686	582	79	661	166	571	737
TOTAL PROJECT EXTERNAL TRIPS										5,518	577	75	652	154	558	712
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										1,695	180	18	198	29	161	190

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook* , 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* , Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines* , December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines* , December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

Original Project Description TG	6,994	9	291	300	253	26	279
Percent Difference	-313%	1900%	-94%	-34%	-89%	519%	-32%

TABLE 3
TIMES MIRROR SQUARE ALTERNATIVE 2
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	902 DU	4.20	0.34	19%	81%	0.38	62%	38%	3,788	58	249	307	213	130	343
Less: Internal Capture [b]			*18%*		*4%*	*5%*		*42%*	*43%*	*(682)*	*(2)*	*(12)*	*(14)*	*(89)*	*(56)*	*(145)*
Net External Vehicle Trips										3,106	56	237	293	124	74	198
Office	710	307.288 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,389	422	57	479	78	380	458
Less: Internal Capture [b]			*9%*		*8%*	*41%*		*22%*	*10%*	*(305)*	*(32)*	*(24)*	*(56)*	*(17)*	*(38)*	*(55)*
Less: Transit Credit [c]			*17%*	*25%*			*25%*			*(524)*	*(98)*	*(8)*	*(106)*	*(15)*	*(86)*	*(101)*
Net External Vehicle Trips										2,560	292	25	317	46	256	302
Supermarket	850	40.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	4,090	84	52	136	193	186	379
Less: Internal Capture [b]			*32%*		*17%*	*36%*		*42%*	*57%*	*(1,309)*	*(15)*	*(19)*	*(34)*	*(82)*	*(106)*	*(188)*
Less: Transit Credit [c]			*11%*	*25%*			*25%*			*(306)*	*(17)*	*(8)*	*(25)*	*(28)*	*(20)*	*(48)*
Total Driveway Trips										2,475	52	25	77	83	60	143
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(990)*	*(20)*	*(10)*	*(30)*	*(33)*	*(24)*	*(57)*
Net External Vehicle Trips										1,485	32	15	47	50	36	86
Quality Restaurant [h]	931	46.475 ksf	89.95	0.81	55%	45%	7.49	67%	33%	4,180	21	17	38	233	115	348
Less: Internal Capture [b]			*34%*		*72%*	*48%*		*35%*	*62%*	*(1,421)*	*(15)*	*(8)*	*(23)*	*(81)*	*(71)*	*(152)*
Less: Transit Credit [c]			*10%*	*25%*			*25%*			*(276)*	*(2)*	*(2)*	*(4)*	*(38)*	*(11)*	*(49)*
Total Driveway Trips										2,483	4	7	11	114	33	147
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(248)*	*0*	*0*	*0*	*(11)*	*(3)*	*(14)*
Net External Vehicle Trips										2,235	4	7	11	103	30	133
TOTAL PROJECT DRIVEWAY TRIPS										10,624	404	294	698	367	423	790
TOTAL PROJECT EXTERNAL TRIPS										9,386	384	284	668	323	396	719
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										5,563	-13	227	214	198	-1	197
Original Project Description TG										6,994	9	291	300	253	26	279
Percent Difference										-26%	-244%	-22%	-29%	-22%	-104%	-29%

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook* , 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* , Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines* , December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines* , December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

TABLE 4
TIMES MIRROR SQUARE ALTERNATIVE 3
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	1,127 DU	4.20	0.34	19%	81%	0.38	62%	38%	4,733	73	310	383	265	163	428
Less: Internal Capture [b]			*2%*		*0%*	*2%*		*3%*	*4%*	*(95)*	*0*	*(6)*	*(6)*	*(8)*	*(6)*	*(14)*
Net External Vehicle Trips										4,638	73	304	377	257	157	414
Office	710	410.677 ksf	11.03	1.56	88%	12%	1.49	17%	83%	4,530	564	77	641	104	508	612
Less: Internal Capture [b]			*2%*		*1%*	*0%*		*8%*	*2%*	*(91)*	*(8)*	*0*	*(8)*	*(8)*	*(10)*	*(18)*
Less: Transit Credit [c]			*18%*	*25%*			*25%*			*(799)*	*(139)*	*(19)*	*(158)*	*(24)*	*(125)*	*(149)*
Net External Vehicle Trips										3,640	417	58	475	72	373	445
TOTAL PROJECT EXTERNAL TRIPS										8,278	490	362	852	329	530	859
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										4,455	93	305	398	204	133	337

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook* , 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* , Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines* , December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines* , December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

6,994	9	291	300	253	26	279
-57%	933%	5%	33%	-19%	412%	21%

TABLE 5
TIMES MIRROR SQUARE ALTERNATIVE 4
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
High-Rise Residential [e]	222,232	677 DU	4.20	0.34	19%	81%	0.38	62%	38%	2,843	44	186	230	159	98	257
Less: Internal Capture [b]			*25%*		*3%*	*5%*		*62%*	*55%*	*(711)*	*(1)*	*(9)*	*(10)*	*(98)*	*(54)*	*(152)*
Net External Vehicle Trips										2,132	43	177	220	61	44	105
Office	710	491.046 ksf	11.03	1.56	88%	12%	1.49	17%	83%	5,416	674	92	766	124	608	732
Less: Internal Capture [b]			*6%*		*6%*	*34%*		*13%*	*7%*	*(325)*	*(38)*	*(31)*	*(69)*	*(16)*	*(44)*	*(60)*
Less: Transit Credit [c]			*17%*	*25%*			*25%*			*(865)*	*(159)*	*(15)*	*(174)*	*(27)*	*(141)*	*(168)*
Net External Vehicle Trips										4,226	477	46	523	81	423	504
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*28%*		*19%*	*41%*		*33%*	*51%*	*(1,431)*	*(20)*	*(26)*	*(46)*	*(80)*	*(117)*	*(197)*
Less: Transit Credit [c]			*12%*	*25%*			*25%*			*(442)*	*(21)*	*(10)*	*(31)*	*(41)*	*(29)*	*(70)*
Total Driveway Trips										3,239	64	29	93	121	86	207
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,295)*	*(25)*	*(11)*	*(36)*	*(48)*	*(34)*	*(82)*
Net External Vehicle Trips										1,944	39	18	57	73	52	125
Quality Restaurant [h]	931	36.100 ksf	89.95	0.81	55%	45%	7.49	67%	33%	3,247	16	13	29	181	89	270
Less: Internal Capture [b]			*38%*		*93%*	*50%*		*40%*	*62%*	*(1,234)*	*(15)*	*(7)*	*(22)*	*(73)*	*(55)*	*(128)*
Less: Transit Credit [c]			*10%*	*25%*			*25%*			*(201)*	*0*	*(2)*	*(2)*	*(27)*	*(9)*	*(36)*
Total Driveway Trips										1,812	1	4	5	81	25	106
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(181)*	*0*	*0*	*0*	*(8)*	*(2)*	*(10)*
Net External Vehicle Trips										1,631	1	4	5	73	23	96
TOTAL PROJECT DRIVEWAY TRIPS										11,409	585	256	841	344	578	922
TOTAL PROJECT EXTERNAL TRIPS										9,933	560	245	805	288	542	830
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										6,110	163	188	351	163	145	308

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook* , 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments* , Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines* , December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines* , December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

Original Project Description TG	6,994	9	291	300	253	26	279
Percent Difference	-14%	1711%	-35%	17%	-36%	458%	10%

TABLE 6
TIMES MIRROR SQUARE ALTERNATIVE 5
VEHICLE TRIP GENERATION ESTIMATE

Land Use	ITE Land Use Code	Size	Trip Generation Rates [a]							Estimated Trip Generation						
				AM Peak Hour			PM Peak Hour				AM Peak Hour Trips			PM Peak Hour Trips		
			Daily	Rate	In%	Out%	Rate	In%	Out%	Daily	In	Out	Total	In	Out	Total
PROPOSED PROJECT																
Office	710	499.863 ksf	11.03	1.56	88%	12%	1.49	17%	83%	5,513	686	94	780	127	618	745
Less: Internal Capture [b]			*5%*		*4%*	*30%*		*6%*	*5%*	*(276)*	*(29)*	*(28)*	*(57)*	*(8)*	*(32)*	*(40)*
Less: Transit Credit [c]			*18%*	*25%*			*25%*			*(943)*	*(164)*	*(17)*	*(181)*	*(30)*	*(147)*	*(177)*
Net External Vehicle Trips										4,294	493	49	542	89	439	528
Supermarket	850	50.000 ksf	102.24	3.40	62%	38%	9.48	51%	49%	5,112	105	65	170	242	232	474
Less: Internal Capture [b]			*10%*		*17%*	*31%*		*12%*	*8%*	*(511)*	*(18)*	*(20)*	*(38)*	*(30)*	*(19)*	*(49)*
Less: Transit Credit [c]			*16%*	*25%*			*25%*			*(736)*	*(22)*	*(11)*	*(33)*	*(53)*	*(53)*	*(106)*
Total Driveway Trips										3,865	65	34	99	159	160	319
Less: Pass-by [d]			*40%*	*40%*			*40%*			*(1,546)*	*(26)*	*(13)*	*(39)*	*(63)*	*(64)*	*(127)*
Net External Vehicle Trips										2,319	39	21	60	96	96	192
Quality Restaurant [h]	931	10.000 ksf	89.95	0.81	55%	45%	7.49	67%	33%	900	4	4	8	50	25	75
Less: Internal Capture [b]			*29%*		*86%*	*43%*		*32%*	*44%*	*(261)*	*(3)*	*(2)*	*(5)*	*(16)*	*(11)*	*(27)*
Less: Transit Credit [c]			*13%*	*25%*			*25%*			*(83)*	*0*	*(1)*	*(1)*	*(9)*	*(4)*	*(13)*
Total Driveway Trips										556	1	1	2	25	10	35
Less: Pass-by [d]			*10%*	*10%*			*10%*			*(55)*	*0*	*0*	*0*	*(2)*	*(1)*	*(3)*
Net External Vehicle Trips										501	1	1	2	23	9	32
TOTAL PROJECT DRIVEWAY TRIPS										8,715	559	84	643	273	609	882
TOTAL PROJECT EXTERNAL TRIPS										7,114	533	71	604	208	544	752
EXISTING USE CREDIT																
Office Space [f]	710	328.418 ksf	11.03	1.56	88%	12%	1.49	17%	83%	3,622	451	61	512	83	406	489
Less: Internal Capture [b]			*4%*		*4%*	*28%*		*3%*	*3%*	*(145)*	*(17)*	*(17)*	*(34)*	*(3)*	*(11)*	*(14)*
Less: Transit Credit [c]			*11%*	*15%*			*15%*			*(382)*	*(65)*	*(7)*	*(72)*	*(12)*	*(59)*	*(71)*
Net External Vehicle Trips										3,095	369	37	406	68	336	404
Bank [g]	912	7.500 ksf	148.15	12.08	57%	43%	24.3	50%	50%	1,111	52	39	91	91	91	182
Less: Internal Capture [b]			*9%*		*22%*	*29%*		*8%*	*2%*	*(100)*	*(11)*	*(11)*	*(22)*	*(7)*	*(2)*	*(9)*
Less: Transit Credit [c]			*10%*	*15%*			*15%*			*(101)*	*(6)*	*(4)*	*(10)*	*(13)*	*(13)*	*(26)*
Total Driveway Trips										910	35	24	59	71	76	147
Less: Pass-by [d]			*20%*	*20%*			*20%*			*(182)*	*(7)*	*(4)*	*(11)*	*(14)*	*(15)*	*(29)*
Net External Vehicle Trips										728	28	20	48	57	61	118
Total Existing External Trips										3,823	397	57	454	125	397	522
NET INCREMENTAL EXTERNAL TRIPS										3,291	136	14	150	83	147	230

Notes:

[a] Source: Institute of Transportation Engineers (ITE), Trip Generation, 9th Edition, 2012.

[b] Internal capture represents the percentage of trips between land uses that occur within the site. This percentage is informed by the Trip Generation for Mixed-Use Development calculation methodology described in Chapter 6 of the ITE *Trip Generation Handbook*, 3rd edition, 2014. Internalization percentages are derived from *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*, Transportation Research Board, 2011. See Attachment B for detailed calculation tables. The daily credit is assumed to be 75% of peak hour credits taken.

[c] The transit credit is based on LADOT's *Transportation Impact Study Guidelines*, December 2016. The guidelines state that up to 25% transit/walk credit may be taken for projects adjacent to a transit station or RapidBus Stop. Projects within 1/4 mile walking distance of a transit station or of a RapidBus stop may take up to a 15% transit/walk credit. The Metro Red/Purple Line Civic Center Station is one block from the project site, and RapidBus routes provide service on Broadway, Spring Street, and 1st Street immediately adjacent to the project site. The future 2nd St/Broadway Regional Connector Station will be co-located with the project site. The daily credit is assumed to be 75% of peak hour credits taken.

[d] The pass-by credit is based on Attachment D of LADOT's *Transportation Impact Study Guidelines*, December 2016.

[e] For flexibility, the trip generation analysis uses the most conservative (highest) rates for high-rise apartments versus high-rise condominiums: ITE code 222 (high-rise apartment) for daily trips and ITE code 232 (high-rise condominium) for peak hour trips. Since the high-rise residences in the ITE database are generally in urban areas with transit service, no additional transit credit was taken to provide a conservative estimate.

[f] 60% of the existing 559.863 ksf floor area (335.918 ksf) is currently occupied. 7.5 ksf of the occupied space is a bank. The remaining 328.418 ksf is office uses. Source: Onni Group.

[g] Daily and AM peak hour rates not available for Walk-In Bank (ITE code 911). Rate for Drive-In Bank (ITE code 912) was used instead.

[h] AM Peak Hour directional distribution not available. Used directional distribution for High-Turnover Restaurant.

Original Project Description TG	6,994	9	291	300	253	26	279
Percent Difference	-113%	1411%	-95%	-50%	-67%	465%	-18%

TABLE 1
TIMES MIRROR SQUARE - ALTERNATIVE 1
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.534	A	0.000	No
	W 2nd Street	PM	0.761	C	0.764	C	0.003	No
2	S Grand Avenue &	AM	0.517	A	0.517	A	0.000	No
	W 1st Street	PM	0.628	B	0.633	B	0.005	No
3	S Olive Street &	AM	0.347	A	0.352	A	0.005	No
	W 1st Street	PM	0.418	A	0.425	A	0.007	No
4	N Hill Street &	AM	0.757	C	0.758	C	0.001	No
	W Temple Street	PM	0.706	C	0.710	C	0.004	No
5	Hill Street &	AM	0.757	C	0.759	C	0.002	No
	W 1st Street	PM	0.760	C	0.768	C	0.008	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.437	A	0.004	No
7	Hill Street &	AM	0.664	B	0.665	B	0.001	No
	W 3rd Street	PM	0.551	A	0.555	A	0.004	No
8	N Broadway &	AM	0.336	A	0.345	A	0.009	No
	Aliso Street	PM	0.403	A	0.411	A	0.008	No
9	N Broadway &	AM	0.620	B	0.628	B	0.008	No
	W Temple Street	PM	0.627	B	0.637	B	0.010	No
10	Broadway &	AM	0.591	A	0.616	B	0.025	No
	W 1st Street	PM	0.630	B	0.649	B	0.019	No
11	S Broadway &	AM	0.701	C	0.735	C	0.034	No
	W 2nd Street	PM	0.784	C	0.793	C	0.009	No
12	S Broadway &	AM	0.474	A	0.475	A	0.001	No
	W 3rd Street	PM	0.457	A	0.460	A	0.003	No
13	S Broadway &	AM	0.283	A	0.286	A	0.003	No
	W 4th Street	PM	0.427	A	0.428	A	0.001	No
14	N Spring Street &	AM	0.260	A	0.264	A	0.004	No
	Aliso Street	PM	0.172	A	0.175	A	0.003	No
15	N Spring Street &	AM	0.424	A	0.434	A	0.010	No
	W Temple Street	PM	0.364	A	0.368	A	0.004	No
16	Spring Street &	AM	0.468	A	0.475	A	0.007	No
	W 1st Street	PM	0.399	A	0.405	A	0.006	No
17	S Spring Street &	AM	0.491	A	0.491	A	0.000	No
	W 2nd Street	PM	0.403	A	0.411	A	0.008	No
18	S Spring Street &	AM	0.427	A	0.428	A	0.001	No
	W 3rd Street	PM	0.304	A	0.309	A	0.005	No
19	S Spring Street &	AM	0.271	A	0.271	A	0.000	No
	W 4th Street	PM	0.347	A	0.351	A	0.004	No
20	N Main Street &	AM	0.355	A	0.359	A	0.004	No
	E Temple Street	PM	0.619	B	0.622	B	0.003	No
21	Main Street &	AM	0.400	A	0.405	A	0.005	No
	1st Street	PM	0.648	B	0.652	B	0.004	No
22	S Main Street &	AM	0.285	A	0.292	A	0.007	No
	2nd Street	PM	0.587	A	0.588	A	0.001	No
23	S Main Street &	AM	0.364	A	0.365	A	0.001	No
	3rd Street	PM	0.443	A	0.443	A	0.000	No
24	Los Angeles Street &	AM	0.482	A	0.486	A	0.004	No
	E 1st Street	PM	0.621	B	0.625	B	0.004	No
25	S Los Angeles Street &	AM	0.711	C	0.715	C	0.004	No
	E 2nd Street	PM	0.627	B	0.628	B	0.001	No
26	N Figueroa Street &	AM	0.771	C	0.780	C	0.009	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.663	B	0.008	No
27	S Beaudry Avenue &	AM	0.685	B	0.689	B	0.004	No
	W 2nd Street	PM	0.651	B	0.660	B	0.009	No
28	S Figueroa Street	AM	0.751	C	0.751	C	0.000	No
	W 3rd Street	PM	0.614	B	0.616	B	0.002	No

TABLE 2
TIMES MIRROR SQUARE - ALTERNATIVE 1
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.670	B	0.011	No
	W 2nd Street	PM	0.974	E	0.977	E	0.003	No
2	S Grand Avenue &	AM	0.821	D	0.824	D	0.003	No
	W 1st Street	PM	0.884	D	0.888	D	0.004	No
3	S Olive Street &	AM	0.517	A	0.518	A	0.001	No
	W 1st Street	PM	0.691	B	0.698	B	0.007	No
4	N Hill Street &	AM	0.894	D	0.896	D	0.002	No
	W Temple Street	PM	0.900	D	0.904	E	0.004	No
5	Hill Street &	AM	1.077	F	1.078	F	0.001	No
	W 1st Street	PM	1.118	F	1.125	F	0.007	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.663	B	0.003	No
7	Hill Street &	AM	0.911	E	0.912	E	0.001	No
	W 3rd Street	PM	0.838	D	0.843	D	0.005	No
8	N Broadway &	AM	0.445	A	0.453	A	0.008	No
	Aliso Street	PM	0.541	A	0.549	A	0.008	No
9	N Broadway &	AM	0.762	C	0.771	C	0.009	No
	W Temple Street	PM	0.860	D	0.870	D	0.010	No
10	Broadway &	AM	0.906	E	0.931	E	0.025	**Yes**
	W 1st Street	PM	1.002	F	1.022	F	0.020	**Yes**
11	S Broadway &	AM	0.998	E	1.032	F	0.034	**Yes**
	W 2nd Street	PM	1.181	F	1.191	F	0.010	**Yes**
12	S Broadway &	AM	0.699	B	0.701	C	0.002	No
	W 3rd Street	PM	0.804	D	0.807	D	0.003	No
13	S Broadway &	AM	0.488	A	0.495	A	0.007	No
	W 4th Street	PM	0.757	C	0.761	C	0.004	No
14	N Spring Street &	AM	0.350	A	0.354	A	0.004	No
	Aliso Street	PM	0.233	A	0.237	A	0.004	No
15	N Spring Street &	AM	0.622	B	0.632	B	0.010	No
	W Temple Street	PM	0.534	A	0.539	A	0.005	No
16	Spring Street &	AM	0.765	C	0.776	C	0.011	No
	W 1st Street	PM	0.733	C	0.740	C	0.007	No
17	S Spring Street &	AM	0.943	E	0.945	E	0.002	No
	W 2nd Street	PM	0.785	C	0.796	C	0.011	No
18	S Spring Street &	AM	0.711	C	0.712	C	0.001	No
	W 3rd Street	PM	0.685	B	0.693	B	0.008	No
19	S Spring Street &	AM	0.519	A	0.520	A	0.001	No
	W 4th Street	PM	0.624	B	0.629	B	0.005	No
20	N Main Street &	AM	0.466	A	0.471	A	0.005	No
	E Temple Street	PM	0.871	D	0.873	D	0.002	No
21	Main Street &	AM	0.588	A	0.593	A	0.005	No
	1st Street	PM	0.852	D	0.856	D	0.004	No
22	S Main Street &	AM	0.560	A	0.564	A	0.004	No
	2nd Street	PM	0.987	E	0.987	E	0.000	No
23	S Main Street &	AM	0.631	B	0.633	B	0.002	No
	3rd Street	PM	0.744	C	0.744	C	0.000	No
24	Los Angeles Street &	AM	0.783	C	0.787	C	0.004	No
	E 1st Street	PM	0.841	D	0.844	D	0.003	No
25	S Los Angeles Street &	AM	0.997	E	1.001	F	0.004	No
	E 2nd Street	PM	1.028	F	1.032	F	0.004	No
26	N Figueroa Street &	AM	0.873	D	0.883	D	0.010	No
	Sunset Blvd/Cesar Chavez	PM	0.760	C	0.768	C	0.008	No
27	S Beaudry Avenue &	AM	0.790	C	0.795	C	0.005	No
	W 2nd Street	PM	0.819	D	0.828	D	0.009	No
28	S Figueroa Street	AM	0.843	D	0.843	D	0.000	No
	W 3rd Street	PM	0.693	B	0.695	B	0.002	No

TABLE 3
TIMES MIRROR SQUARE - ALTERNATIVE 2
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.534	A	0.000	No
	W 2nd Street	PM	0.761	C	0.779	C	0.018	No
2	S Grand Avenue &	AM	0.517	A	0.522	A	0.005	No
	W 1st Street	PM	0.628	B	0.628	B	0.000	No
3	S Olive Street &	AM	0.347	A	0.347	A	0.000	No
	W 1st Street	PM	0.418	A	0.418	A	0.000	No
4	N Hill Street &	AM	0.757	C	0.760	C	0.003	No
	W Temple Street	PM	0.706	C	0.706	C	0.000	No
5	Hill Street &	AM	0.757	C	0.768	C	0.011	No
	W 1st Street	PM	0.760	C	0.762	C	0.002	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.454	A	0.021	No
7	Hill Street &	AM	0.664	B	0.671	B	0.007	No
	W 3rd Street	PM	0.551	A	0.551	A	0.000	No
8	N Broadway &	AM	0.336	A	0.335	A	-0.001	No
	Aliso Street	PM	0.403	A	0.403	A	0.000	No
9	N Broadway &	AM	0.620	B	0.627	B	0.007	No
	W Temple Street	PM	0.627	B	0.627	B	0.000	No
10	Broadway &	AM	0.591	A	0.612	B	0.021	No
	W 1st Street	PM	0.630	B	0.630	B	0.000	No
11	S Broadway &	AM	0.701	C	0.734	C	0.033	No
	W 2nd Street	PM	0.784	C	0.831	D	0.047	**Yes**
12	S Broadway &	AM	0.474	A	0.479	A	0.005	No
	W 3rd Street	PM	0.457	A	0.469	A	0.012	No
13	S Broadway &	AM	0.283	A	0.287	A	0.004	No
	W 4th Street	PM	0.427	A	0.435	A	0.008	No
14	N Spring Street &	AM	0.260	A	0.260	A	0.000	No
	Aliso Street	PM	0.172	A	0.172	A	0.000	No
15	N Spring Street &	AM	0.424	A	0.428	A	0.004	No
	W Temple Street	PM	0.364	A	0.374	A	0.010	No
16	Spring Street &	AM	0.468	A	0.467	A	-0.001	No
	W 1st Street	PM	0.399	A	0.412	A	0.013	No
17	S Spring Street &	AM	0.491	A	0.500	A	0.009	No
	W 2nd Street	PM	0.403	A	0.403	A	0.000	No
18	S Spring Street &	AM	0.427	A	0.434	A	0.007	No
	W 3rd Street	PM	0.304	A	0.304	A	0.000	No
19	S Spring Street &	AM	0.271	A	0.277	A	0.006	No
	W 4th Street	PM	0.347	A	0.347	A	0.000	No
20	N Main Street &	AM	0.355	A	0.357	A	0.002	No
	E Temple Street	PM	0.619	B	0.624	B	0.005	No
21	Main Street &	AM	0.400	A	0.405	A	0.005	No
	1st Street	PM	0.648	B	0.648	B	0.000	No
22	S Main Street &	AM	0.285	A	0.285	A	0.000	No
	2nd Street	PM	0.587	A	0.595	A	0.008	No
23	S Main Street &	AM	0.364	A	0.364	A	0.000	No
	3rd Street	PM	0.443	A	0.450	A	0.007	No
24	Los Angeles Street &	AM	0.482	A	0.481	A	-0.001	No
	E 1st Street	PM	0.621	B	0.621	B	0.000	No
25	S Los Angeles Street &	AM	0.711	C	0.711	C	0.000	No
	E 2nd Street	PM	0.627	B	0.632	B	0.005	No
26	N Figueroa Street &	AM	0.771	C	0.774	C	0.003	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.660	B	0.005	No
27	S Beaudry Avenue &	AM	0.685	B	0.684	B	-0.001	No
	W 2nd Street	PM	0.651	B	0.651	B	0.000	No
28	S Figueroa Street	AM	0.751	C	0.753	C	0.002	No
	W 3rd Street	PM	0.614	B	0.614	B	0.000	No

TABLE 4
TIMES MIRROR SQUARE - ALTERNATIVE 2
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.659	B	0.000	No
	W 2nd Street	PM	0.974	E	0.992	E	0.018	**Yes**
2	S Grand Avenue &	AM	0.821	D	0.821	D	0.000	No
	W 1st Street	PM	0.884	D	0.884	D	0.000	No
3	S Olive Street &	AM	0.517	A	0.527	A	0.010	No
	W 1st Street	PM	0.691	B	0.691	B	0.000	No
4	N Hill Street &	AM	0.894	D	0.898	D	0.004	No
	W Temple Street	PM	0.900	D	0.900	D	0.000	No
5	Hill Street &	AM	1.077	F	1.087	F	0.010	**Yes**
	W 1st Street	PM	1.118	F	1.119	F	0.001	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.681	B	0.021	No
7	Hill Street &	AM	0.911	E	0.918	E	0.007	No
	W 3rd Street	PM	0.838	D	0.838	D	0.000	No
8	N Broadway &	AM	0.445	A	0.444	A	-0.001	No
	Aliso Street	PM	0.541	A	0.541	A	0.000	No
9	N Broadway &	AM	0.762	C	0.769	C	0.007	No
	W Temple Street	PM	0.860	D	0.860	D	0.000	No
10	Broadway &	AM	0.906	E	0.927	E	0.021	**Yes**
	W 1st Street	PM	1.002	F	1.028	F	0.026	**Yes**
11	S Broadway &	AM	0.998	E	1.031	F	0.033	**Yes**
	W 2nd Street	PM	1.181	F	1.228	F	0.047	**Yes**
12	S Broadway &	AM	0.699	B	0.815	D	0.116	**Yes**
	W 3rd Street	PM	0.804	D	0.816	D	0.012	No
13	S Broadway &	AM	0.488	A	0.487	A	-0.001	No
	W 4th Street	PM	0.757	C	0.760	C	0.003	No
14	N Spring Street &	AM	0.350	A	0.350	A	0.000	No
	Aliso Street	PM	0.233	A	0.238	A	0.005	No
15	N Spring Street &	AM	0.622	B	0.626	B	0.004	No
	W Temple Street	PM	0.534	A	0.544	A	0.010	No
16	Spring Street &	AM	0.765	C	0.765	C	0.000	No
	W 1st Street	PM	0.733	C	0.749	C	0.016	No
17	S Spring Street &	AM	0.943	E	0.955	E	0.012	**Yes**
	W 2nd Street	PM	0.785	C	0.785	C	0.000	No
18	S Spring Street &	AM	0.711	C	0.721	C	0.010	No
	W 3rd Street	PM	0.685	B	0.685	B	0.000	No
19	S Spring Street &	AM	0.519	A	0.526	A	0.007	No
	W 4th Street	PM	0.624	B	0.624	B	0.000	No
20	N Main Street &	AM	0.466	A	0.469	A	0.003	No
	E Temple Street	PM	0.871	D	0.875	D	0.004	No
21	Main Street &	AM	0.588	A	0.593	A	0.005	No
	1st Street	PM	0.852	D	0.856	D	0.004	No
22	S Main Street &	AM	0.560	A	0.560	A	0.000	No
	2nd Street	PM	0.987	E	0.991	E	0.004	No
23	S Main Street &	AM	0.631	B	0.630	B	-0.001	No
	3rd Street	PM	0.744	C	0.747	C	0.003	No
24	Los Angeles Street &	AM	0.783	C	0.782	C	-0.001	No
	E 1st Street	PM	0.841	D	0.841	D	0.000	No
25	S Los Angeles Street &	AM	0.997	E	0.997	E	0.000	No
	E 2nd Street	PM	1.028	F	1.028	F	0.000	No
26	N Figueroa Street &	AM	0.873	D	0.877	D	0.004	No
	Sunset Blvd/Cesar Chavez	PM	0.760	C	0.765	C	0.005	No
27	S Beaudry Avenue &	AM	0.790	C	0.789	C	-0.001	No
	W 2nd Street	PM	0.819	D	0.819	D	0.000	No
28	S Figueroa Street	AM	0.843	D	0.845	D	0.002	No
	W 3rd Street	PM	0.693	B	0.693	B	0.000	No

TABLE 5
TIMES MIRROR SQUARE - ALTERNATIVE 3
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.535	A	0.001	No
	W 2nd Street	PM	0.761	C	0.779	C	0.018	No
2	S Grand Avenue &	AM	0.517	A	0.525	A	0.008	No
	W 1st Street	PM	0.628	B	0.632	B	0.004	No
3	S Olive Street &	AM	0.347	A	0.349	A	0.002	No
	W 1st Street	PM	0.418	A	0.424	A	0.006	No
4	N Hill Street &	AM	0.757	C	0.762	C	0.005	No
	W Temple Street	PM	0.706	C	0.709	C	0.003	No
5	Hill Street &	AM	0.757	C	0.771	C	0.014	No
	W 1st Street	PM	0.760	C	0.769	C	0.009	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.455	A	0.022	No
7	Hill Street &	AM	0.664	B	0.673	B	0.009	No
	W 3rd Street	PM	0.551	A	0.555	A	0.004	No
8	N Broadway &	AM	0.336	A	0.340	A	0.004	No
	Aliso Street	PM	0.403	A	0.409	A	0.006	No
9	N Broadway &	AM	0.620	B	0.633	B	0.013	No
	W Temple Street	PM	0.627	B	0.635	B	0.008	No
10	Broadway &	AM	0.591	A	0.633	B	0.042	No
	W 1st Street	PM	0.630	B	0.646	B	0.016	No
11	S Broadway &	AM	0.701	C	0.764	C	0.063	**Yes**
	W 2nd Street	PM	0.784	C	0.834	D	0.050	**Yes**
12	S Broadway &	AM	0.474	A	0.481	A	0.007	No
	W 3rd Street	PM	0.457	A	0.471	A	0.014	No
13	S Broadway &	AM	0.283	A	0.290	A	0.007	No
	W 4th Street	PM	0.427	A	0.435	A	0.008	No
14	N Spring Street &	AM	0.260	A	0.262	A	0.002	No
	Aliso Street	PM	0.172	A	0.174	A	0.002	No
15	N Spring Street &	AM	0.424	A	0.435	A	0.011	No
	W Temple Street	PM	0.364	A	0.376	A	0.012	No
16	Spring Street &	AM	0.468	A	0.471	A	0.003	No
	W 1st Street	PM	0.399	A	0.416	A	0.017	No
17	S Spring Street &	AM	0.491	A	0.504	A	0.013	No
	W 2nd Street	PM	0.403	A	0.409	A	0.006	No
18	S Spring Street &	AM	0.427	A	0.436	A	0.009	No
	W 3rd Street	PM	0.304	A	0.308	A	0.004	No
19	S Spring Street &	AM	0.271	A	0.279	A	0.008	No
	W 4th Street	PM	0.347	A	0.351	A	0.004	No
20	N Main Street &	AM	0.355	A	0.360	A	0.005	No
	E Temple Street	PM	0.619	B	0.625	B	0.006	No
21	Main Street &	AM	0.400	A	0.409	A	0.009	No
	1st Street	PM	0.648	B	0.652	B	0.004	No
22	S Main Street &	AM	0.285	A	0.289	A	0.004	No
	2nd Street	PM	0.587	A	0.595	A	0.008	No
23	S Main Street &	AM	0.364	A	0.365	A	0.001	No
	3rd Street	PM	0.443	A	0.450	A	0.007	No
24	Los Angeles Street &	AM	0.482	A	0.484	A	0.002	No
	E 1st Street	PM	0.621	B	0.625	B	0.004	No
25	S Los Angeles Street &	AM	0.711	C	0.713	C	0.002	No
	E 2nd Street	PM	0.627	B	0.632	B	0.005	No
26	N Figueroa Street &	AM	0.771	C	0.781	C	0.010	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.665	B	0.010	No
27	S Beaudry Avenue &	AM	0.685	B	0.687	B	0.002	No
	W 2nd Street	PM	0.651	B	0.659	B	0.008	No
28	S Figueroa Street	AM	0.751	C	0.755	C	0.004	No
	W 3rd Street	PM	0.614	B	0.616	B	0.002	No

TABLE 6
TIMES MIRROR SQUARE - ALTERNATIVE 3
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.666	B	0.007	No
	W 2nd Street	PM	0.974	E	0.993	E	0.019	**Yes**
2	S Grand Avenue &	AM	0.821	D	0.824	D	0.003	No
	W 1st Street	PM	0.884	D	0.887	D	0.003	No
3	S Olive Street &	AM	0.517	A	0.530	A	0.013	No
	W 1st Street	PM	0.691	B	0.696	B	0.005	No
4	N Hill Street &	AM	0.894	D	0.899	D	0.005	No
	W Temple Street	PM	0.900	D	0.903	E	0.003	No
5	Hill Street &	AM	1.077	F	1.091	F	0.014	**Yes**
	W 1st Street	PM	1.118	F	1.125	F	0.007	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.681	B	0.021	No
7	Hill Street &	AM	0.911	E	0.920	E	0.009	No
	W 3rd Street	PM	0.838	D	0.842	D	0.004	No
8	N Broadway &	AM	0.445	A	0.449	A	0.004	No
	Aliso Street	PM	0.541	A	0.547	A	0.006	No
9	N Broadway &	AM	0.762	C	0.776	C	0.014	No
	W Temple Street	PM	0.860	D	0.868	D	0.008	No
10	Broadway &	AM	0.906	E	0.948	E	0.042	**Yes**
	W 1st Street	PM	1.002	F	1.042	F	0.040	**Yes**
11	S Broadway &	AM	0.998	E	1.061	F	0.063	**Yes**
	W 2nd Street	PM	1.181	F	1.231	F	0.050	**Yes**
12	S Broadway &	AM	0.699	B	0.821	D	0.122	**Yes**
	W 3rd Street	PM	0.804	D	0.817	D	0.013	No
13	S Broadway &	AM	0.488	A	0.491	A	0.003	No
	W 4th Street	PM	0.757	C	0.763	C	0.006	No
14	N Spring Street &	AM	0.350	A	0.352	A	0.002	No
	Aliso Street	PM	0.233	A	0.240	A	0.007	No
15	N Spring Street &	AM	0.622	B	0.633	B	0.011	No
	W Temple Street	PM	0.534	A	0.547	A	0.013	No
16	Spring Street &	AM	0.765	C	0.771	C	0.006	No
	W 1st Street	PM	0.733	C	0.753	C	0.020	No
17	S Spring Street &	AM	0.943	E	0.960	E	0.017	**Yes**
	W 2nd Street	PM	0.785	C	0.795	C	0.010	No
18	S Spring Street &	AM	0.711	C	0.725	C	0.014	No
	W 3rd Street	PM	0.685	B	0.691	B	0.006	No
19	S Spring Street &	AM	0.519	A	0.528	A	0.009	No
	W 4th Street	PM	0.624	B	0.628	B	0.004	No
20	N Main Street &	AM	0.466	A	0.472	A	0.006	No
	E Temple Street	PM	0.871	D	0.877	D	0.006	No
21	Main Street &	AM	0.588	A	0.597	A	0.009	No
	1st Street	PM	0.852	D	0.859	D	0.007	No
22	S Main Street &	AM	0.560	A	0.562	A	0.002	No
	2nd Street	PM	0.987	E	0.991	E	0.004	No
23	S Main Street &	AM	0.631	B	0.632	B	0.001	No
	3rd Street	PM	0.744	C	0.747	C	0.003	No
24	Los Angeles Street &	AM	0.783	C	0.785	C	0.002	No
	E 1st Street	PM	0.841	D	0.843	D	0.002	No
25	S Los Angeles Street &	AM	0.997	E	0.999	E	0.002	No
	E 2nd Street	PM	1.028	F	1.031	F	0.003	No
26	N Figueroa Street &	AM	0.873	D	0.884	D	0.011	No
	Sunset Blvd/Cesar Chavez	PM	0.760	C	0.770	C	0.010	No
27	S Beaudry Avenue &	AM	0.790	C	0.792	C	0.002	No
	W 2nd Street	PM	0.819	D	0.827	D	0.008	No
28	S Figueroa Street	AM	0.843	D	0.846	D	0.003	No
	W 3rd Street	PM	0.693	B	0.694	B	0.001	No

TABLE 7
TIMES MIRROR SQUARE - ALTERNATIVE 4
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE [a]		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.534	A	0.000	No
	W 2nd Street	PM	0.761	C	0.776	C	0.015	No
2	S Grand Avenue &	AM	0.517	A	0.521	A	0.004	No
	W 1st Street	PM	0.628	B	0.632	B	0.004	No
3	S Olive Street &	AM	0.347	A	0.351	A	0.004	No
	W 1st Street	PM	0.418	A	0.424	A	0.006	No
4	N Hill Street &	AM	0.757	C	0.761	C	0.004	No
	W Temple Street	PM	0.706	C	0.709	C	0.003	No
5	Hill Street &	AM	0.757	C	0.767	C	0.010	No
	W 1st Street	PM	0.760	C	0.769	C	0.009	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.450	A	0.017	No
7	Hill Street &	AM	0.664	B	0.669	B	0.005	No
	W 3rd Street	PM	0.551	A	0.555	A	0.004	No
8	N Broadway &	AM	0.336	A	0.343	A	0.007	No
	Aliso Street	PM	0.403	A	0.410	A	0.007	No
9	N Broadway &	AM	0.620	B	0.633	B	0.013	No
	W Temple Street	PM	0.627	B	0.636	B	0.009	No
10	Broadway &	AM	0.591	A	0.631	B	0.040	No
	W 1st Street	PM	0.630	B	0.647	B	0.017	No
11	S Broadway &	AM	0.701	C	0.758	C	0.057	**Yes**
	W 2nd Street	PM	0.784	C	0.824	D	0.040	**Yes**
12	S Broadway &	AM	0.474	A	0.478	A	0.004	No
	W 3rd Street	PM	0.457	A	0.468	A	0.011	No
13	S Broadway &	AM	0.283	A	0.289	A	0.006	No
	W 4th Street	PM	0.427	A	0.434	A	0.007	No
14	N Spring Street &	AM	0.260	A	0.264	A	0.004	No
	Aliso Street	PM	0.172	A	0.174	A	0.002	No
15	N Spring Street &	AM	0.424	A	0.436	A	0.012	No
	W Temple Street	PM	0.364	A	0.375	A	0.011	No
16	Spring Street &	AM	0.468	A	0.474	A	0.006	No
	W 1st Street	PM	0.399	A	0.414	A	0.015	No
17	S Spring Street &	AM	0.491	A	0.499	A	0.008	No
	W 2nd Street	PM	0.403	A	0.410	A	0.007	No
18	S Spring Street &	AM	0.427	A	0.433	A	0.006	No
	W 3rd Street	PM	0.304	A	0.308	A	0.004	No
19	S Spring Street &	AM	0.271	A	0.277	A	0.006	No
	W 4th Street	PM	0.347	A	0.351	A	0.004	No
20	N Main Street &	AM	0.355	A	0.360	A	0.005	No
	E Temple Street	PM	0.619	B	0.624	B	0.005	No
21	Main Street &	AM	0.400	A	0.408	A	0.008	No
	1st Street	PM	0.648	B	0.652	B	0.004	No
22	S Main Street &	AM	0.285	A	0.292	A	0.007	No
	2nd Street	PM	0.587	A	0.593	A	0.006	No
23	S Main Street &	AM	0.364	A	0.365	A	0.001	No
	3rd Street	PM	0.443	A	0.449	A	0.006	No
24	Los Angeles Street &	AM	0.482	A	0.485	A	0.003	No
	E 1st Street	PM	0.621	B	0.625	B	0.004	No
25	S Los Angeles Street &	AM	0.711	C	0.715	C	0.004	No
	E 2nd Street	PM	0.627	B	0.631	B	0.004	No
26	N Figueroa Street &	AM	0.771	C	0.782	C	0.011	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.665	B	0.010	No
27	S Beaudry Avenue &	AM	0.685	B	0.689	B	0.004	No
	W 2nd Street	PM	0.651	B	0.659	B	0.008	No
28	S Figueroa Street	AM	0.751	C	0.753	C	0.002	No
	W 3rd Street	PM	0.614	B	0.616	B	0.002	No

TABLE 8
TIMES MIRROR SQUARE - ALTERNATIVE 4
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.670	B	0.011	No
	W 2nd Street	PM	0.974	E	0.990	E	0.016	**Yes**
2	S Grand Avenue &	AM	0.821	D	0.824	D	0.003	No
	W 1st Street	PM	0.884	D	0.887	D	0.003	No
3	S Olive Street &	AM	0.517	A	0.525	A	0.008	No
	W 1st Street	PM	0.691	B	0.697	B	0.006	No
4	N Hill Street &	AM	0.894	D	0.899	D	0.005	No
	W Temple Street	PM	0.900	D	0.903	E	0.003	No
5	Hill Street &	AM	1.077	F	1.086	F	0.009	No
	W 1st Street	PM	1.118	F	1.125	F	0.007	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.677	B	0.017	No
7	Hill Street &	AM	0.911	E	0.917	E	0.006	No
	W 3rd Street	PM	0.838	D	0.842	D	0.004	No
8	N Broadway &	AM	0.445	A	0.452	A	0.007	No
	Aliso Street	PM	0.541	A	0.548	A	0.007	No
9	N Broadway &	AM	0.762	C	0.775	C	0.013	No
	W Temple Street	PM	0.860	D	0.869	D	0.009	No
10	Broadway &	AM	0.906	E	0.946	E	0.040	**Yes**
	W 1st Street	PM	1.002	F	1.038	F	0.036	**Yes**
11	S Broadway &	AM	0.998	E	1.054	F	0.056	**Yes**
	W 2nd Street	PM	1.181	F	1.221	F	0.040	**Yes**
12	S Broadway &	AM	0.699	B	0.826	D	0.127	**Yes**
	W 3rd Street	PM	0.804	D	0.814	D	0.010	No
13	S Broadway &	AM	0.488	A	0.495	A	0.007	No
	W 4th Street	PM	0.757	C	0.762	C	0.005	No
14	N Spring Street &	AM	0.350	A	0.354	A	0.004	No
	Aliso Street	PM	0.233	A	0.239	A	0.006	No
15	N Spring Street &	AM	0.622	B	0.634	B	0.012	No
	W Temple Street	PM	0.534	A	0.546	A	0.012	No
16	Spring Street &	AM	0.765	C	0.774	C	0.009	No
	W 1st Street	PM	0.733	C	0.751	C	0.018	No
17	S Spring Street &	AM	0.943	E	0.954	E	0.011	**Yes**
	W 2nd Street	PM	0.785	C	0.795	C	0.010	No
18	S Spring Street &	AM	0.711	C	0.719	C	0.008	No
	W 3rd Street	PM	0.685	B	0.692	B	0.007	No
19	S Spring Street &	AM	0.519	A	0.525	A	0.006	No
	W 4th Street	PM	0.624	B	0.628	B	0.004	No
20	N Main Street &	AM	0.466	A	0.472	A	0.006	No
	E Temple Street	PM	0.871	D	0.876	D	0.005	No
21	Main Street &	AM	0.588	A	0.596	A	0.008	No
	1st Street	PM	0.852	D	0.858	D	0.006	No
22	S Main Street &	AM	0.560	A	0.564	A	0.004	No
	2nd Street	PM	0.987	E	0.991	E	0.004	No
23	S Main Street &	AM	0.631	B	0.633	B	0.002	No
	3rd Street	PM	0.744	C	0.746	C	0.002	No
24	Los Angeles Street &	AM	0.783	C	0.786	C	0.003	No
	E 1st Street	PM	0.841	D	0.843	D	0.002	No
25	S Los Angeles Street &	AM	0.997	E	1.001	F	0.004	No
	E 2nd Street	PM	1.028	F	1.031	F	0.003	No
26	N Figueroa Street &	AM	0.873	D	0.885	D	0.012	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.760	C	0.770	C	0.010	No
27	S Beaudry Avenue &	AM	0.790	C	0.794	C	0.004	No
	W 2nd Street	PM	0.819	D	0.827	D	0.008	No
28	S Figueroa Street	AM	0.843	D	0.845	D	0.002	No
	W 3rd Street	PM	0.693	B	0.694	B	0.001	No

TABLE 9
TIMES MIRROR SQUARE - ALTERNATIVE 5
EXISTING PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	EXISTING BASE [a]		EXISTING + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.534	A	0.534	A	0.000	No
	W 2nd Street	PM	0.761	C	0.769	C	0.008	No
2	S Grand Avenue &	AM	0.517	A	0.517	A	0.000	No
	W 1st Street	PM	0.628	B	0.632	B	0.004	No
3	S Olive Street &	AM	0.347	A	0.351	A	0.004	No
	W 1st Street	PM	0.418	A	0.424	A	0.006	No
4	N Hill Street &	AM	0.757	C	0.758	C	0.001	No
	W Temple Street	PM	0.706	C	0.709	C	0.003	No
5	Hill Street &	AM	0.757	C	0.759	C	0.002	No
	W 1st Street	PM	0.760	C	0.768	C	0.008	No
6	Hill Street &	AM	0.397	A	0.397	A	0.000	No
	W 2nd Street	PM	0.433	A	0.441	A	0.008	No
7	Hill Street &	AM	0.664	B	0.664	B	0.000	No
	W 3rd Street	PM	0.551	A	0.555	A	0.004	No
8	N Broadway &	AM	0.336	A	0.342	A	0.006	No
	Aliso Street	PM	0.403	A	0.410	A	0.007	No
9	N Broadway &	AM	0.620	B	0.626	B	0.006	No
	W Temple Street	PM	0.627	B	0.636	B	0.009	No
10	Broadway &	AM	0.591	A	0.610	B	0.019	No
	W 1st Street	PM	0.630	B	0.647	B	0.017	No
11	S Broadway &	AM	0.701	C	0.728	C	0.027	No
	W 2nd Street	PM	0.784	C	0.806	D	0.022	**Yes**
12	S Broadway &	AM	0.474	A	0.474	A	0.000	No
	W 3rd Street	PM	0.457	A	0.463	A	0.006	No
13	S Broadway &	AM	0.283	A	0.285	A	0.002	No
	W 4th Street	PM	0.427	A	0.431	A	0.004	No
14	N Spring Street &	AM	0.260	A	0.263	A	0.003	No
	Aliso Street	PM	0.172	A	0.174	A	0.002	No
15	N Spring Street &	AM	0.424	A	0.432	A	0.008	No
	W Temple Street	PM	0.364	A	0.371	A	0.007	No
16	Spring Street &	AM	0.468	A	0.473	A	0.005	No
	W 1st Street	PM	0.399	A	0.409	A	0.010	No
17	S Spring Street &	AM	0.491	A	0.491	A	0.000	No
	W 2nd Street	PM	0.403	A	0.410	A	0.007	No
18	S Spring Street &	AM	0.427	A	0.428	A	0.001	No
	W 3rd Street	PM	0.304	A	0.308	A	0.004	No
19	S Spring Street &	AM	0.271	A	0.271	A	0.000	No
	W 4th Street	PM	0.347	A	0.351	A	0.004	No
20	N Main Street &	AM	0.355	A	0.358	A	0.003	No
	E Temple Street	PM	0.619	B	0.623	B	0.004	No
21	Main Street &	AM	0.400	A	0.403	A	0.003	No
	1st Street	PM	0.648	B	0.652	B	0.004	No
22	S Main Street &	AM	0.285	A	0.291	A	0.006	No
	2nd Street	PM	0.587	A	0.590	A	0.003	No
23	S Main Street &	AM	0.364	A	0.365	A	0.001	No
	3rd Street	PM	0.443	A	0.445	A	0.002	No
24	Los Angeles Street &	AM	0.482	A	0.485	A	0.003	No
	E 1st Street	PM	0.621	B	0.625	B	0.004	No
25	S Los Angeles Street &	AM	0.711	C	0.714	C	0.003	No
	E 2nd Street	PM	0.627	B	0.629	B	0.002	No
26	N Figueroa Street &	AM	0.771	C	0.778	C	0.007	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.655	B	0.663	B	0.008	No
27	S Beaudry Avenue &	AM	0.685	B	0.688	B	0.003	No
	W 2nd Street	PM	0.651	B	0.659	B	0.008	No
28	S Figueroa Street	AM	0.751	C	0.751	C	0.000	No
	W 3rd Street	PM	0.614	B	0.616	B	0.002	No

TABLE 10
TIMES MIRROR SQUARE - ALTERNATIVE 5
FUTURE YEAR (2023) PLUS PROJECT INTERSECTION LEVELS OF SERVICE AND IMPACT ANALYSIS

NO.	INTERSECTION	PEAK HOUR	FUTURE (2023)		FUTURE (2023) + PROJECT		V/C INCREASE	SIGNIFICANT IMPACT?
			V/C	LOS	V/C	LOS		
1	S Figueroa Street &	AM	0.659	B	0.668	B	0.009	No
	W 2nd Street	PM	0.974	E	0.982	E	0.008	No
2	S Grand Avenue &	AM	0.821	D	0.824	D	0.003	No
	W 1st Street	PM	0.884	D	0.887	D	0.003	No
3	S Olive Street &	AM	0.517	A	0.518	A	0.001	No
	W 1st Street	PM	0.691	B	0.697	B	0.006	No
4	N Hill Street &	AM	0.894	D	0.895	D	0.001	No
	W Temple Street	PM	0.900	D	0.903	E	0.003	No
5	Hill Street &	AM	1.077	F	1.078	F	0.001	No
	W 1st Street	PM	1.118	F	1.125	F	0.007	No
6	Hill Street &	AM	0.489	A	0.489	A	0.000	No
	W 2nd Street	PM	0.660	B	0.668	B	0.008	No
7	Hill Street &	AM	0.911	E	0.911	E	0.000	No
	W 3rd Street	PM	0.838	D	0.842	D	0.004	No
8	N Broadway &	AM	0.445	A	0.451	A	0.006	No
	Aliso Street	PM	0.541	A	0.548	A	0.007	No
9	N Broadway &	AM	0.762	C	0.769	C	0.007	No
	W Temple Street	PM	0.860	D	0.869	D	0.009	No
10	Broadway &	AM	0.906	E	0.925	E	0.019	**Yes**
	W 1st Street	PM	1.002	F	1.028	F	0.026	**Yes**
11	S Broadway &	AM	0.998	E	1.025	F	0.027	**Yes**
	W 2nd Street	PM	1.181	F	1.203	F	0.022	**Yes**
12	S Broadway &	AM	0.699	B	0.699	B	0.000	No
	W 3rd Street	PM	0.804	D	0.809	D	0.005	No
13	S Broadway &	AM	0.488	A	0.493	A	0.005	No
	W 4th Street	PM	0.757	C	0.761	C	0.004	No
14	N Spring Street &	AM	0.350	A	0.353	A	0.003	No
	Aliso Street	PM	0.233	A	0.237	A	0.004	No
15	N Spring Street &	AM	0.622	B	0.630	B	0.008	No
	W Temple Street	PM	0.534	A	0.541	A	0.007	No
16	Spring Street &	AM	0.765	C	0.773	C	0.008	No
	W 1st Street	PM	0.733	C	0.745	C	0.012	No
17	S Spring Street &	AM	0.943	E	0.944	E	0.001	No
	W 2nd Street	PM	0.785	C	0.795	C	0.010	No
18	S Spring Street &	AM	0.711	C	0.712	C	0.001	No
	W 3rd Street	PM	0.685	B	0.692	B	0.007	No
19	S Spring Street &	AM	0.519	A	0.519	A	0.000	No
	W 4th Street	PM	0.624	B	0.628	B	0.004	No
20	N Main Street &	AM	0.466	A	0.469	A	0.003	No
	E Temple Street	PM	0.871	D	0.875	D	0.004	No
21	Main Street &	AM	0.588	A	0.591	A	0.003	No
	1st Street	PM	0.852	D	0.856	D	0.004	No
22	S Main Street &	AM	0.560	A	0.563	A	0.003	No
	2nd Street	PM	0.987	E	0.989	E	0.002	No
23	S Main Street &	AM	0.631	B	0.632	B	0.001	No
	3rd Street	PM	0.744	C	0.745	C	0.001	No
24	Los Angeles Street &	AM	0.783	C	0.785	C	0.002	No
	E 1st Street	PM	0.841	D	0.844	D	0.003	No
25	S Los Angeles Street &	AM	0.997	E	1.001	F	0.004	No
	E 2nd Street	PM	1.028	F	1.031	F	0.003	No
26	N Figueroa Street &	AM	0.873	D	0.880	D	0.007	No
	Sunset Blvd/Cesar Chavez Ave	PM	0.760	C	0.768	C	0.008	No
27	S Beaudry Avenue &	AM	0.790	C	0.793	C	0.003	No
	W 2nd Street	PM	0.819	D	0.827	D	0.008	No
28	S Figueroa Street	AM	0.843	D	0.843	D	0.000	No
	W 3rd Street	PM	0.693	B	0.694	B	0.001	No

Jessie Fan

From: Amanda Heinke <a.heinke@fehrandpeers.com>
Sent: Monday, October 8, 2018 2:01 PM
To: Jessie Fan
Cc: Kimberly D. Comacho
Subject: RE: Times Mirror Square - Traffic Alternatives

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jessie,

Here is the transit information for the Alternatives

Alternatives	AM Net Trips (without Transit Credit)	PM Net Trips (without Transit Credit)	Total Transit Trips	Total Transit Trips
Alternative 1	337	338	118	118
Alternative 2	267	298	93	104
Alternative 3	474	389	166	136
Alternative 4	476	485	167	170
Alternative 5	102	252	36	88

Let me know if you need anything else with this!

-Amanda